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The Effects of a Violence Assessment Checklist on the Incidence of Violence for Emergency Department Nurses

Sarah Knapp
Valparaiso University

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**THE EFFECTS OF A VIOLENCE ASSESSMENT CHECKLIST ON THE INCIDENCE OF
VIOLENCE FOR EMERGENCY DEPARTMENT NURSES**

by

SARAH KNAPP

EVIDENCE-BASED PRACTICE PROJECT REPORT

Submitted to the College of Nursing

of Valparaiso University,

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in partial fulfillment of the requirements

For the degree of

DOCTOR OF NURSING PRACTICE

2013

Sarah Knapp 4-26-13
Student Date

Julie Beatty 4-26-13
Advisor Date

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DEDICATION

I would like to dedicate this project report to my husband Bill and son Logan for supporting me during this adventure. I would have not been successful without their love and patience. I would also like to dedicate my work to my mom Kathy who taught me the values of hard work and courage for standing up for what you believe in.

ACKNOWLEDGMENTS

I would first like to acknowledgments my advisor Dr. Julie Brandy for her words of wisdom and guidance during this project. Kari Evans, who encouraged me to join her in this journey to become an advanced practice nurse; thank you for being an editor for numerous projects, a sound board to ideas and dilemmas faced along the way, and most of all your friendship. I would also like to acknowledge the emergency department nurses; thank you for your assistance and encouragement to make this project a success.

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ABSTRACT

Workplace violence (WV) is commonplace in American culture, and nurses working in emergency departments (ED) are not immune to its effects. Violence against emergency department nurses is prominent in current nursing literature, and a cause for major concern. Regrettably there is no consistent tool being used to assess for potential patient violence specific to the emergency department. Current assessment tools have been developed and are commonly used in the mental health arena. This evidence-based practice project concentrated on answering the clinical question of whether or not a violence risk assessment checklist reduced the incidence of violence and increased perception of safety of WV experienced by emergency department nurses. Erickson, Tomlin and Swain's (1983) Modeling and Role-Modeling (MRM) Theory was employed as the theoretical framework to support implementation for this EBP project. Answers to the clinical question noted above were provided following the implementation of the Bröset Violence Checklist (BVC) by a convenience sample of nurses employed in a community hospital system in Indiana. Data were collected using pre and post intervention staff assessment surveys. Data were analyzed using descriptive statistics and by paired *t*-test, allowing for a comparison of the mean pre and post-education staff assessment scores. Results demonstrated a clinically significant improvement in five types of violence experienced by nurses: names called, kicked, pushed, threatened with physical harm and yelled at. There was no statistically significant increase in the perception of overall safety from WV after the implementation of the BVC ($p > .05$). However, there was a statistically significant decrease of overall violence experienced by nurses after the educational intervention ($p < .05$). The findings suggest that the use of the BVC resulted in a decreased incidence of violence towards emergency department nurses. Results from this evidence-based practice project indicate the BVC could be effective in other clinical areas to decrease the incidence of patient violence.

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CHAPTER 1

INTRODUCTION

Background

In nursing literature there are numerous definitions of workplace violence. The Emergency Nurses Association (ENA) adopted the definition “Workplace violence can be defined as an act of aggression, physical assault, emotional or verbal abuse, coercive or threatening behavior that occurs in a work setting and causes physical or emotional harm” (Emergency Nurses Association, 2010).

Workplace violence is commonplace in American culture, and unfortunately the healthcare arena is not immune to its effects. The Bureau of Labor Statistics (2007) reported 60% of workplace assaults occurred in healthcare settings and most assaults were performed by patients. Violence against nurses in emergency departments is cause for major concern and is prominent in current nursing literature. Nurses and nursing assistants are the largest group of healthcare workers who experience violence, and emergency department nurses have the highest rate of physical assaults of all nurses (Crilly, et al. 2004).

Violence in emergency departments is a very real and dangerous problem. Emergency department nurses are working on the front lines of violence. Allen (2009) reported patients may not be aware of their behavior due to illness or injury leading to inappropriate behavior. Howard & Gilboy (2009) reported factors such as location of the emergency department, patient volume and lengthy wait times may contribute to the incidence of violence. In addition, behavioral patients arrive in emergency departments for treatment of acute mental illness and have to await placement in an inpatient setting. Persons abusing alcohol and drugs, including prescription medications, have the potential to be violent in emergency departments.

Statement of Problem

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Unfortunately, the true incidence of violence in emergency departments across the United States is unknown; there is no standard definition of workplace violence and there are no requirements in place for reporting violence. Furthermore, Gates et al. (2011) reported most nurses do not report violence to their employer, assuming violence is expected and considered part of the job. Reporting violence may be seen as a sign of incompetence or may result in retaliation by management.

Currently hospitals have limited resources related to workplace violence. Often there is no standard for reporting violence; instead physical injuries related to violence are reported with an incident report. Unfortunately incident reports are not completed for every physical injury related to violence caused by patients. Nurses in emergency departments have verbalized descriptions of violent acts as well as their desire to create a safer work environment.

Purpose of EBP Project

The purpose of this evidence-based practice project is to implement a violence risk assessment in the form of the Bröset Violence Checklist (BVC) to identify potential patient violence and reduce the incidence of violence acts for emergency department nurses. The PICOT question addressed was: In an emergency department how does implementation of the Bröset Violence Checklist compared with the current practice improve emergency nurses' incidence of violence and perception of safety in a six week period?

Significance of the Project

As assaults in emergency departments continue to rise, interventions and preventative measures are urgently needed. Healthcare organizations need to endorse safety, security and training to be confident that each and every nurse is protected and feels safe while at work. The Bröset Violence Checklist functions to assist nurses in evaluating risk for potential patient violence in the emergency department. The goal of applying the Bröset Violence Checklist in the emergency department was to decrease the number of violent acts committed by patients.

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Creating an educational offering for the nurses to learn the Bröset Violence Checklist and apply it to practice can decrease costs to the hospital by reducing the number of violent acts.

Decreasing violence can lead to a reduction in life-threatening and life-affecting hazards experienced by emergency department nurses.

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CHAPTER 2

THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

Chapter two evaluates the theoretical framework, EBP model and review of literature (ROL). Erickson, Tomlin and Swain's (1983) Modeling and Role-Modeling (MRM) Theory was employed as the theoretical framework for this EBP project. Implementation of this project was guided by the ACE Star Model of Knowledge Transformation®. Search engines, key words, inclusion and exclusion criteria used in the literature search will also be discussed. The literature was then critically appraised to support the EBP project as well as provide a guideline for the use of a violent risk checklist in the emergency department.

Theoretical Framework

The theoretical framework for this project was the Modeling and Role-Modeling (MRM) Theory (Erickson et al., 1983). MRM is a theory that functions as a foundation for research, education and practice in nursing and has been traditionally used to describe the nurse-client relationship. The MRM Theory was adapted for this project to describe the relationship between the project manager and emergency department nurses.

Concepts related to the project manager. The concepts of the MRM Theory that are related to the project manager include facilitation, nurturance and unconditional acceptance. Through facilitation, the project manager assisted emergency department nurses in the identification and development of their strengths as they moves towards health, or a desired goal (Erikson et al., 1983). Nurturance is delivered through interpersonal communication and involves the project manager understanding the emergency department nurse's model of his or her world (Erikson et al, 1983). Through nurturance the project manager moves emergency department nurses toward health or a desired goal. Unconditional acceptance, celebrating the uniqueness and importance of each individual, facilitated resources needed to assist emergency department nurses in developing their own potential (Erikson et al, 1983).

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Concepts related to the emergency department nurse. A holistic perspective is highlighted in the MRM Theory as all aspects of the individual are emphasized. The concepts of the MRM Theory that are related to emergency department nurses are person and environment. The individual is a holistic being, having various interactive subsystems consisting of biological, cognitive, psychological, and social subsystems. The project manager focused on the integrated, dynamic relationships between the subsystems of emergency department nurses during planning of the EBP project. The concept of environment includes the emergency department nurses' individual stressors and resources, both internal and external sources (Erikson et al., 1983). Both the person and environment were identified and respected by the project manager to facilitate the success of the education for the ED nurses.

Concepts shared by the project manager and the emergency department nurse. Modeling is the process explored by the project manager to seek and understand the unique model of the emergency department nurse's world from his or her perspective; this can be viewed as a building block of mutual respect. Role-modeling is a process by which the project manager recognizes emergency department nurses' unique model and plans interventions that attain, maintain or promote health that are based on the emergency department nurses' model of their world (Erikson et al, 1983). For the sake of this project modeling and role-modeling involved both the project manager and the ED nurses as modeling and role-modeling cannot be fully achieved without the awareness of the other's views and insights.

The aim of this project was for the project manager to use the Modeling and Role-Modeling Theory to guide the education of the Bröset Violence Checklist to registered nurses at two emergency departments in Indiana. The MRM Theory has a wide range of applicability and can cover a broad range of phenomenon found in nursing. A limitation of the MRM Theory is the assumption people are at the point where they are ready for change; this might have been

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an obstacle faced during the education of the Bröset Violence Checklist if ED nurses feel violence risk assessment is not a necessity in their job performance.

Evidence Based Project Model of Implementation

The ACE Star Model. To guide this evidence based practice project the ACE Star Model of Knowledge Transformation® was used. The ACE Star Model provides a framework to depict how diverse forms of knowledge travel through several cycles and, combined with other knowledge, are integrated into practice. This user-friendly model assisted in organizing and applying evidence-based practice to the emergency department setting.

Knowledge Discovery. Stephens (2004) reported knowledge transformation is essential before outcomes of research can be applied in clinical decision making. During the first stage of the cycle, new knowledge is generated by research studies. Research findings regarding a violence risk assessment checklist provided the basis for a literature search for articles related to the following PICOT question: In an emergency department how does implementation of the Bröset Violence Checklist compared with the current practice improve emergency nurses' incidence of violence and perception of safety in a six-week period? Primary inquiries build the body of research about clinical actions.

Evidence Summary. As a unique step to evidence based practice, evidence summary synthesizes knowledge from the body of research to depict a single, meaningful account of the discipline. By combining findings from primary research bias is isolated, chance effects are reduced in the conclusions, and reliability and reproducibility of research findings is strengthened. Stevens (2004) reported "The most stable and generalizable knowledge is discovered through systematic processes that control bias, namely, the research process". In addition evidence summary incorporates existing knowledge on clinical care, policy formation, economic design and economic decisions. Evidence summary also provides a basis for continual updates with new evidence in the literature.

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Translation. While knowledge exists in research, it is also apparent in a variety of forms including clinician expertise and patient preferences. Stevens (2004) reported “Knowledge derives from a variety of sources. In healthcare, sources of knowledge include research evidence, experience, authority, trial and error and theoretical principles”. Information obtained exhibited best practice established with empirical research that is supplemented with clinician expertise. Evidence is interpreted and combined with other sources of knowledge to develop a standard of care that was presented to ED management and nurses and integrated into practice. The result was a clinical recommendation for a violence risk assessment checklist that was presented to emergency department nurses during educational sessions and was posted in the department as a visual reminder during the implementation period.

Integration. Integration involves individual and organizational changes through a variety of channels. According to Stevens (2004) while planning for the implementation, one must consider cost efficiency, usefulness for the clinician, and timeliness in order to reduce barriers to change. The evidence discovered in the transformation process was put into action; clinical recommendation for implementation of the BVC for emergency department nurses to evaluate for potential patient violence was implemented in two emergency departments at a hospital based in Indiana.

Evaluation. In order to verify the success of evidence-based practice, the evaluation was assessed by the project manager’s reporting of self-assurance in the ability to apply EBP. In addition the emergency department nurses’ incidence of violence and perception of safety of WV before and after the education regarding the Bröset Violence Checklist was assessed.

Literature search

With the assistance of a research librarian, a literature search of the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medline, PsycINFO, and Academic Search Premier were searched using the key words violence or aggression and emergency department

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or emergency room and workplace violence. Search limiters applied included scholarly, peer reviewed journals and those printed in English. Abstracts found on search results were reviewed for applicability to the proposed project. Full texts were examined to verify appropriate content of the evidence. Inclusion criteria for the ROL included original research written in English using any research design with or without an intervention that were conducted in North America, Australia or Europe and published from January 2005 to May 2012. Systematic reviews were also reviewed and considered for this project. To be included in the review the primary focus of the study had to be related to workplace violence in the emergency department. Exclusion criteria included commentaries, or a focus other than violence in emergency departments. Table 2.1 summarizes this search.

Table 2.1

Review of Literature for WV

Search Engine	Total Results	Full Text Articles Reviewed	Relevant to Project	Duplicates	Included in Project
CINAHL	28	28	9	9	9
Medline	38	21	12	11	12
PsycINFO	14	6	6	6	6
Academic Search Premier	45	21	10	6	10

A second search of CINAHL, Medline, PsycINFO and Academic Search Premier of the Bröset Violence Checklist and aggression or violence was also conducted. Search limiters applied included scholarly, peer reviewed journals and those printed in English. Abstracts found on search results were reviewed for applicability to the proposed project. Full texts were examined to verify appropriate content of the evidence. Inclusion criteria for the review of literature included original research written in English using any research design with or without an intervention that were conducted in North America, Australia or Europe and published from January 2000 to December 2011. To be included in the review the primary focus of the study

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had to be the application of the Bröset Violence Checklist. Exclusion criteria included commentaries, or a different focus other than the use of the Bröset Violence Checklist. Table 2.2 summarizes this search.

Table 2.2

Review of Literature for BVC

Search Engine	Total Results	Full Text Articles Reviewed	Relevant to Project	Duplicates	Included in Project
CINAHL	5	5	4	3	4
Medline	13	13	10	9	10
PsycINFO	10	10	8	8	8
Academic Search Premier	15	15	9	9	9

Saturation was achieved with 19 studies. Since there is no harmony regarding what is useable evidence for evidence-based practice, a hierarchy is utilized to categorize sources of evidence according to the strength of evidence provided. Each study was appraised using the Polit and Beck Evidence Hierarchy (Polit & Beck, 2008). This hierarchy organizes evidence into seven levels with one being the strongest evidence and seven being the weakest. Evidence chosen for this project is summarized in Table 2.3

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Table 2.3

Hierarchy of Evidence

Hierarchy of Evidence (Polit & Beck, 2008)	Articles included in project
Level I: a. systematic review of randomized controlled trials (RCTs) b. systematic review of non-randomized trials	0
Level II: a. single RCT b. Single nonrandomized trial	1
Level III: Systematic review of correlational/observational studies	3
Level IV: Single correlational/observational study	9
Level V: Systematic review of descriptive/qualitative/physiologic studies	1
Level VI: Single descriptive/qualitative/physiologic study	5
Level VII: Opinions of authorities, expert committees	0

Review of Literature

Workplace violence in emergency departments. Research reveals workplace violence in emergency departments is escalating and can carry a negative effect on nurses worldwide (Anderson, FitzGerald & Luck, 2010; Benham, Tillotson, Davis & Hobbs, 2011; Gates, Gillespie, Smith, Rode, Kowalenko & Smith, 2011; Gates, Gillespie & Succop, 2011; Gillespie, Gates, Miller, & Howard, 2010; Howard & Gilboy, 2009; Kerrison & Chapman, 2007; Luck, Jackson & Usher, 2009; Pich, Hazelton, Dundin & Kable, 2010; Taylor & Rew, 2010). A summarization of evidence can be found in appendix H.

A prospective cross-sectional online survey conducted by Behnam et al. (2011) revealed 78% of emergency department physicians and residents had experienced violence over a 12 month period. Verbal threats were the most common type of violence reported followed by physical violence followed by outside confrontations and stalking. In spite of the high incidence

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of WV experienced by participants there are few prevention measures available including screening for weapons and training including workshops on violence and self-defense training.

Howard & Gilboy (2009) used a cross-sectional design to explore WV in the emergency department and review staff perceptions of safety. Audits of the National Emergency Department Safety Study revealed 3,461 attacks were reported over a five year period; however the true incidence of violence in emergency departments is unknown due to no standard definition of WV and no formal process for reporting violence. Despite the number of attacks 73% of staff reported they felt safe most of the time or always and 8% reported they never or rarely feel safe while working in the ED.

A literature review conducted by Pich et al. (2010) emphasized workplace violence in emergency departments is an epidemic that is affecting nurses worldwide. Concepts of patient-related violence were examined in a review of 53 papers associated with patient-related violence in the emergency department. The definition of workplace violence was reviewed as was types of violence, risk factors, and results of violence. In addition, prevention measures and control of violence were also examined. Results concluded verbal abuse is the most common form of abuse with 82% of nurses being subjected to some form of verbal abuse. Physical abuse can range in behaviors but the most common form is being pushed. Risk factors for patients demonstrating violent behavior include history of violence, substance and alcohol abuse, diagnosis of a serious medical illness, excess waiting times and time of day. Prevention and control of violence includes safety measures consisting of controlled access to the ED, personal alarms, locked doors and security cameras. Violence prevention and education are helpful tools to tackle workplace violence; however due to lack of intervention studies on the effects of prevention and education, many studies question their effectiveness due to lack of best practices developed through research.

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Impact on productivity. Workplace violence in the ED carries a negative impact on healthcare workers. Gates, Gillespie & Succop (2011) cross-sectional design study investigated how workplace violence in emergency departments affects work productivity and symptoms of post traumatic stress disorder (PTSD) for staff members. A survey was sent to a randomized sample of 3,000 emergency department nurses who are members of the Emergency Nurses Association and consisted of four sections: (a) a narrative of a single workplace violent event that caused the most stress, (b) the Impact of Events Scale-Revised which assesses the presence and magnitude of post-traumatic stress during the 7 days after an event, (c) the Healthcare Productive Survey which measured perceived changes in productivity at work after an exposure to a stressful event and (d) a demographic survey. Two hundred and sixty-four surveys were returned and were used for the study. During the study 17% of participants reported Health Productivity Survey scores feasible for PTSD and may be prone to symptoms such as distressing emotions, withdrawal from patients, difficulty concentrating, absenteeism and job changes. While ED nurses often report the continuance of a normal pace of work and the provision of competent care, they report more turmoil remaining cognitively and emotionally focused working after a violent act.

Gillespie et al. (2010) described WV that occurred in a pediatric emergency department. Participants reported a 50-50% split between verbal and physical violence. Verbal violence occurred more often from family members (82%) than patients (18%); however, physical violence occurred more from patients (76%) than family members (24%). The impact of violence was also discussed with nearly every participant experiencing negative consequences from WV including physical responses of increased pulse and hyperarousal to psychological responses of fear, frustration and anger. While some participants reported no effect on productivity many reported a diminished ability to focus. Decreased productivity and poor hospital image were also described by participants.

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Interventions and strategies to reduce and/or prevent violence. An integrative review of literature conducted by Anderson et al. (2010) critiqued evidence that supports interventions proposed to minimize workplace violence against ED nurses. Interventions were categorized as workplace environment, practices and policies and individual and collective skills. Results confirmed existing research varies in the quality and appropriateness, feasibility and meaningfulness to minimize WV. The research continues to define the problem without addressing solutions. This identifies a gap in research in what interventions can assist the management of violence in emergency departments.

Using an action research model Gates, Gillespie, Smith et al. (2011) reported whether strategies being designed for planned interventions for WV in emergency departments were pertinent, acceptable, practical, and comprehensive. Focus groups were used to gather data pre-assault, assault and post-assault time frames and intervention strategy themes for patients, visitors, employees, managers and the work environment against violence. Strategies including education and training pre-assault, nonviolent crisis intervention training during an assault and debriefing and mandatory reporting post-assault were supported by participants; however very few exist in current workplace settings.

Luck et al. (2009) used an instrumental case study to identify strategies nurses use to decrease, avert and prevent violence in the emergency department. During participant observation and interviews with emergency department nurses' five attributes were identified (being safe, being available, being respectful, being supportive, and being responsive) that nurses' use when patients, family or friends showed a potential for violence. While these attributes do not work 100% of the time researchers discovered during 290 hours of observation that they did successfully reduce and prevent the potential for violence on various occasions. Communication skills found within these attributes assist in establishing a safe environment and therapeutic nurse-patient relationship that assists to reduce or prevent violent acts.

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Taylor & Rew (2010) conducted a systematic literature review to identify characteristics of intervention studies regarding workplace violence in the emergency department to guide best practice in the clinical setting. While reviewing 16 original research articles the authors concluded no steady definition of workplace violence existed in the literature. Furthermore none of the studies reviewed used the same instrument to measure workplace violence in the ED setting. The majority of studies evaluated occurrence, incidence, or amount of workplace violence in the ED. Qualitative research focused on incidents that can lead to violence and how nurses define workplace violence as well as measureable observable behavior that can predict violence in the ED. In spite of the prevalence of workplace violence, most staff surveyed reported feeling safe most of the time while at work. Lack of interventional studies results in scarce evidence to support best practices guided through research. This leads to current practices which have little, if any, evidence based support for or against their use.

Violence and mental illness. Qualitative research conducted by Kerrison & Chapman (2007) reported concerns of emergency department staff had in caring for patients in the ED with mental illness. The emergency department is frequently a gateway into the acute mental health system. Behavior problems, often fueled by drug and alcohol abuse increase the potential for aggression and violence in an emergency department. Improper assessment and triage of patients can lead to extended length of stays. Focus groups and semi-structured interviews were used to gather data regarding staff concerns in caring for patients with mental illness who present to the emergency department. One main concern of the staff was that nurses were not equipped with resources to assess and manage patients, increased length of stay and the aggressive behavior of patients and visitors presenting with alcohol and substance abuse. Results demonstrated the ED staff had lack of both knowledge and confidence in assessing and treating mental health patients. With aggression and violence increasing in emergency departments and lack of education and training programs regarding the care of

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psychiatric patients there is a growing cause for concern regarding nurses' safety in the workplace.

The Bröset Violence Checklist

The Bröset Violence Checklist was developed by Almvik & Woods (1998) using empirical data gathered by Linaker and Busch-Iverson (1995) and measures six items: confusion, irritability, boisterousness, physical threats, verbal threats and attacking objects. The six items are numerically scored for their presence with either 0 = absent or 1 = present. Interpretation of the scoring is as follows: 0= the risk of violence is small, 1-2 the risk of violence is moderate and >2 the risk of violence is high and preventative measures should taken. Research indicates that the Bröset Violence Checklist is an effective tool nurses can employ to predict the short-term potential for violence in psychiatric patients (Abderhalden, Needham, Miserez, Almvik, Dassen, Haug & Fisher, 2004; Abderhalden, Needham, Dassen, Halfens, Haug & Fisher, 2006; Abderhalden, Needham, Dassen, Halfens, Haug & Fisher, 2008; Almvik, Woods & Rassmussen, 2000; Almvik, Woods & Rassmussen, 2007; Björkdahl, Olsson, & Palmstierna, 2006; Clarke, Brown & Griffith, 2010; Vaaler, Iversen, Morken, Flovig, Palmstierna & Linaker, 2011, Woods, 2008).

Abderhalden et al. (2004) measured the accuracy of the predictive properties of the Bröset Violence Checklist against patient aggression and violence in six acute wards of psychiatric hospitals in Switzerland. The Bröset Violence Checklist was administered by nurses at the end of every shift allowing for two ratings every 24 hours. A total of 47 aggressive acts were reported during the study. It was found that 64.3% of all patients who committed a physical attack scored a 3 or higher on the Bröset Violence Checklist. In contrast, of all shifts without an aggressive attack in 93.9% of all patients the Bröset Violence Checklist score was 0-2.

Building evidence to support use of the Bröset Violence Checklist in practice, Abderhalden et al. (2006) implemented two prospective cohort studies to determine whether combining the

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Bröset Violence Checklist with a subjective clinical-risk assessment using a visual analog scale (VAS) would generate improvement in the prediction of violence. Results showed the BVC-VAS was both a user friendly and accurate tool for the short-term prediction of violence; the addition of the VAS did not alter the accuracy of the Bröset Violence Checklist. Sensitivity was 64.3% and specificity was 93.9% yielding a positive predictive value.

A random controlled trial conducted by Abderhalden et al. (2008) investigated the dependability of the Bröset Violence Checklist to decrease the incidence of violence in psychiatric wards over a three month period. Data obtained revealed intervention wards using the Bröset Violence Checklist saw a substantial reduction of reported patient aggression and violence as compared to the control ward which saw little change. The use of the Bröset Violence Checklist had an adjusted risk reduction of 41% and reduced the need for coercive measures by an adjusted risk reduction of 27%.

Clinical validity and reliability of the Bröset Violence Checklist was examined during a cohort study managed by Almvik, Woods and Rassmussen (2000). The Bröset Violence Checklist was used with 109 patients in four inpatient psychiatric wards during a three month period. The results signified the Bröset Violence Checklist is a practical tool in predicting violence in the next 24 hour period. Sensitivity and specificity of the Bröset Violence Checklist indicated 63% accuracy in predicting violence will occur in the next 24 hour period and 92% accuracy that violence will not occur. Almvik and colleagues reported the Bröset Violence Checklist appears to be a promising tool for the prediction of violence.

The geriatric setting was the focus of the Almvik et al. (2007) prospective cohort study that examined the clinical validity and predictive value of the Bröset Violence Checklist. Eighty-two patients from a special care unit and geriatric psychiatric wards were observed over a three month period. It was found that patients are more likely to have a higher score on the Bröset Violence Checklist prior to an aggressive or violent episode; 74.6% had a Bröset Violence

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Checklist score above 2 as opposed to 0.5% of the non-violent patients. Almvik and colleagues concluded the Bröset Violence Checklist can aid caregivers in predicting aggressive behavior.

A retrospective case study conducted by Björkdahl, Olsson and Palmstierna (2006) evaluated the Bröset Violence Checklist in the short-term prediction of violence. Nurses assessed patients for violence using the Bröset Violence Checklist three times daily during their admission in an inpatient psychiatric setting. Violence and aggression were reported with a Staff Observation of Aggression Scale-Revised (SOAS-R). It was found that a positive score on the Bröset Violence Checklist was significantly associated with the increased risk for severe violence. The authors concluded the Bröset Violence Checklist is an easy and effective tool for assessing increased risk for violence in a psychiatric intensive care unit.

Clarke and Brown's (2010) cohort study evaluated the ability of the Bröset Violence Checklist to assist healthcare workers in the early identification of patients with the potential for violence. Forty-eight admitted patients of a psychiatric intensive care unit were assessed during the first 72 hours of admission using the Bröset Violence Checklist during the three month trial. Questionnaires were completed by six full-time nurses responsible for completing the Bröset Violence Checklists during the trial. Data collected showed the Bröset Violence Checklist items of physical threats and irritability were the strongest predictors of violence during the first admission day which dropped significantly during days two and three. The authors reported the Bröset Violence Checklist offered staff an instrument to quantify the potential for violence and aggression among known and unknown patients. Results found the Bröset Violence Checklist was accepted well by staff members and use of the Bröset Violence Checklist remained in practice after a five-year follow-up.

Patient and environmental predictive factors for violence were assessed during the cohort study conducted by Valler et al. (2011). Two different inclusion periods were implemented during the study; in 2000 a randomized sample of 56 patients who were segregated in a

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psychiatric intensive care unit (PICU) versus the general population and in 2001 a non-randomized sample of 62 patients who were allowed a choice between the PICU and the general population. The Bröset Violence Checklist was administered by nurses during the admission process. Violence and aggression were reported with a SOAS-R. It was found that the Bröset Violence Checklist was suitable for predicting short-term aggression and violent acts in the PICU setting in comparison between the SOAS-R incidents and the non-SOAS-R incidents with a statistical significance of $P = .002$. Valler and colleagues stated the Bröset Violence Checklist is a short and practical tool that is easy to administer in routine care.

Woods et al. (2008) conducted a pilot study to describe the usefulness of the Bröset Violence Checklist and Staff Observation of Aggression Scale Revised in practice. Nurses evaluated each patient using the Bröset Violence Checklist once a shift. Nurses then filled out a questionnaire to evaluate how useful they found the Bröset Violence Checklist with encouraging results. Within the small sample of responses three out of five nurses found the Bröset Violence Checklist to be helpful in some contexts; however, this cannot be generalized to the entire staff as a whole. While no statistical analysis was conducted, there was an observable trend of higher Bröset Violence Checklist scores associated with a violent incident reported with a Staff Observation of Aggression Scale Revised form; similar results have been reported in previous Bröset Violence Checklist studies.

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Construct Evidence-Based Practice

With the groundwork of appraised literature, the proposed evidence-based practice project formed the foundation of the suggested best practice model. In addition, the appraised literature provided a basis to answer the clinical question. These suggestions will be reviewed in the following sections.

Synthesis of Critically Appraised Literature

Study findings from the appraised literature contribute to the realization of violence towards emergency department nurses and the negative impact it carries on employers, employees, and visitors. Because nurses working in emergency departments are on the front-lines of violence they have reported being harassed, threatened, and seriously injured by hostile patients. Employees who experience violence may suffer physical injury, chronic pain, and disability. Psychological and emotional problems may also develop including post traumatic stress disorder, loss of sleep, anger, frustration, role stress, reduced feelings of safety and worry of possible assaults in the future. Exposure to violence may lead to job dissatisfaction, a decline in productivity, absenteeism and frequent job changes (Gates, Gillespie & Succop, 2011). Violence has a negative impact on healthcare costs through insurance claims, the need for additional security, and staff replacement. The greatest strategy for controlling violence in the emergency department is prevention. Nurses need education on violence assessment to identify violent behaviors to minimize the incidence of violence.

Education regarding a violence risk assessment to assist in identifying violent behaviors offers a means to reduce the incidence of violence. Kerrison & Chapman (2007) reported the emergency department is a gateway into the acute mental health system. Pich et al. (2010) reported a link between mental illness including substance abuse and an increased risk for violence with a two to three increased chance of violence from the general population.

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Unfortunately there is no standardized tool used to assess for potential patient violence in emergency departments. Assessment tools that have been developed have been utilized in the mental health arena. Almvik and colleagues (2000) discussed the Bröset Violence Checklist that assesses confusion, verbal threats, irritability, boisterousness, physical threats and attacks on objects as either present or absent. If a patient exhibits two or more of these behaviors he or she is more likely to be violent in the next 24 hours. Study findings from the appraised literature reveal the Bröset Violence Checklist is a predictable and accurate tool to assess for the risk of violence with a sensitivity of 64.3% and a specificity of 93.9%. Multiple studies in the literature showed the Bröset Violence Checklist was an easy and effective tool for assessing increased risk for violence for psychiatric patients (Almvik et al., 2007; Almvik, Woods & Rasmussen, 2000; Björkdahl, Olsson & Palmstierna, 2006; Clarke & Brown, 2010; Valler et al., 2011). Therefore, the greatest strategy for controlling violence in the emergency department is prevention; the implementation of the Bröset Violence Checklist is one small step in securing a violence-free emergency department. Preventing violence would create the perception of a safety buffer to both customers and staff. It was anticipated prior to implementing the EBP project nurses who are educated to properly utilize the Bröset Violence Checklist would be able to assess for violence and minimize the incidence of violence. This would create a safer working environment.

Best Practice Recommendations

After the synthesis of literature, best practice recommendation is to implement the Bröset Violence Checklist to assess for potential patient violence in the emergency department. Education was based on the Bröset Violence Checklist developed by Almvik & Woods (1998) (see appendix E). After researching the Bröset Violence Checklist it was determined there is an e-learning module (Bröset Violence Checklist-BVC, n.d.) for the project manager to educate nurses on how to implement the Bröset Violence Checklist into practice. Instructions were

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provided on how to manual score the six items on the checklist: Confusion, Irritability, Boisterousness, Verbal Threats, Physical Threats, and Attacks on Objects. The goal of the intervention was to increase emergency department nurses' awareness of violence risk prediction to identify patients who have a potential for violence. In turn, the incidence of violence will improve. The education of emergency department nurses provided opportunity to meet the desired goal.

Answering the Clinical Question

Data collected during the review of current literature produced best practice recommendation and assisted in responding to the clinical question: how does implementation of the Bröset Violence Checklist versus current practice affect emergency nurses' incidence of violence and perception of safety in a six week period? Implementation of the planned evidence-based project provided more data to aid in answering this question.

CHAPTER 3

IMPLEMENTATION OF PRACTICE CHANGE

The fourth step in the ACE Star Model of Knowledge Transformation® is integration (Stephens, 2004); chapter three will discuss how evidence discovered in the transformation process was applied to an action plan for implementation of the Bröset Violence Checklist into clinical practice.

Sample and Setting

A community hospital in Indiana with a main emergency department as well as a smaller satellite emergency department was the setting for this evidence-based practice project. Annual patient volume between both facilities is approximately 52,000 patients (R. Sego, personal communication, July 18, 2012). Participants included a convenience sample from 71 registered nurses employed either full or part-time in the two emergency departments. Recruiting nurses occurred by obtaining individual consent during on-site educational opportunities.

Presently the facility does not employ any proactive measures to thwart workplace violence. The hospital has several policies regarding workplace violence including a “zero tolerance” for threatening or violent behavior; however, the policy is directed towards employees and does not include patients or visitors (K. Evans, personal communication, September 21, 2012). In addition standard practice instructs employees to immediately report any incidence of violence, aggression or threats to a supervisor, a member of the Senior Leadership Council, Crisis Management Team, Human Resource Representative or a representative of the President’s office (K. Evans, personal communication, September 21, 2012). Currently no algorithm or standardized form exists for reporting violence.

Planning

Groundwork for the project started with a discussion of the proposed evidence-based practice project with the director and manager of the emergency departments who agreed to

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implement the clinical recommendation. Collaboration with the director and manager took place to coordinate dates and times for the educational opportunities. An e-learning module was emailed to all emergency department nurses prior to the educational opportunities along with a brief description of the project. On-site education occurred for nurses during a four day period in November 2012.

Permission to use the Bröset Violence Checklist was obtained during communication with its creator, Dr. Roger Almvik (R. Almvik, personal communication, July 18, 2012) (See appendix A). In addition an e-learning training program for the Bröset Violence Checklist (Bröset Violence Checklist-BVC, n.d.) and Power Point presentation was provided by Dr. Almvik to facilitate training and implementation into practice.

Outcomes

Two major outcomes were evaluated during this evidence-based practice project. Consistent with the supporting evidence for the use of the Bröset Violence Checklist, the primary outcome was the decrease of violence and aggression from patients experienced by nurses. In addition the perception of safety in relation to workplace violence was evaluated using a Likert scale.

Intervention

Handouts notifying the nurses of upcoming education and possible participation were posted in the two emergency departments prior to educational sessions (See appendix B). To help create a social atmosphere a snacks were provided by the project manager during the educational sessions. During the week prior to the implementation period the project manager was able to recruit nurses. At the beginning of the educational sessions, participating nurses signed the consent form and completed a pre-education staff assessment survey which provided a nominal measurement of the incidence of violence experienced by each participating nurse (Appendix C). Immediately after the pre-intervention survey was completed, use of the

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Bröset Violence Checklist was explained by the project manager to nurses as a group with a short power point presentation (appendix D) as well as an approximate 10 minute e-learning module on the Bröset Violence Checklist (Bröset Violence Checklist-BVC, n.d.). Nurses were provided with the link to the free e-learning module to use as a refresher as needed. In addition handouts were posted in the department during the six week implementation of the Bröset Violence Checklist as a visual reminder for the nurses. (See appendix E). During project implementation, the project manager made site visits every week to monitor the application of the Bröset Violence Checklist in practice and answer any questions or concerns nurses encountered. In addition the project manager's email address was provided so that questions or concerns were addressed by the project manager. At the end of the implementation timeline, the project manager returned to each emergency department to ask participating nurses to voluntarily complete an identical staff assessment survey.

Recruiting Sample

Registered nurses were recruited using a convenience sample. Posting handouts to notify staff members of upcoming educational sessions and possible participation allowed the project manager to recruit participants. Nurses still applied the Bröset Violence Checklist during the six-week period without completing the pre and post education staff assessment survey. Inclusion criteria included registered nurses 18 years and older who work full or part time in either the main or satellite emergency department at the hospital. Exclusion criteria will include non-nursing staff in the emergency department and all employees from other departments.

Data

Measures. Lack of any proactive measures against patient violence in the emergency department at the healthcare facility identified the need for the evidence-based practice project. Literature supports the use of the Bröset Violence Checklist a best practice change to reduce the incidence of violence in the workplace. Collection of data occurred in the form of an identical

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pre and post-intervention staff assessment survey (See appendix C). The staff assessment survey gathered baseline data regarding violence experienced per participating nurse along with his or her perception of safety. A six-week follow up survey with pre-intervention comparison evaluated current incidence and perception of overall safety from WV to baseline data obtained before the education regarding the Bröset Violence Checklist.

Collection. There were a variety of means to collect data for the evidence-based practice project. Consent forms (See appendix F) were obtained before staff assessment surveys or any educational opportunity. The project manager collected data from pre and post-intervention staff assessment forms. All data was coded and secured in a locked box to maintain confidentiality of all participants.

Management and analysis. The influence of education regarding the Bröset Violence Checklist and the incidence and perception of safety of the emergency department nurses were measured using an identical pre and post-education staff assessment survey. Results of pre and post intervention staff assessment surveys allowed the project manager to compare results before and after the education of the Bröset Violence Checklist to interpret if a change occurred. Descriptive statistics analyzed data. Paired *t*-test was used to compare pre and post-education staff assessment surveys for each participant.

Protection of Human Subjects

The foundation of the clinical recommendation required protection of human subjects; there were several methods employed to protect the subjects and their rights. In the early stages of planning, the project manager completed training through the National Institutes of Health that included education regarding the Belmont report with emphasis on the protection of human subjects. The project manager agreed with the ethical principles concerning research involving humans as subjects as discussed in the Belmont report.

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(The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). In addition prior to the implementation of the clinical recommendation approval from the Institutional Review Boards at Valparaiso University and the healthcare facility were obtained. Methods to minimize risks to participants were developed. Informed consent was provided to all participants with emphasis on no penalties would occur due to declining to participate or withdrawing from the project at any time. Participants were encouraged to contact the project manager at any time with questions or concerns via email. Confidentiality was maintained through coding the staff assessment surveys and the key for the coding was secured in a locked drawer with no access from any other sources.

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CHAPTER 4

FINDINGS

The purpose of this EBP project was to answer the clinical question: In an emergency department does the implementation of the Bröset Violence Checklist compared with the current practice improve emergency nurses' incidence of violence and perception of safety in a six-week period? This question was answered using by using descriptive statistics to analyze data collected from pre and post implementation staff assessment surveys.

Sample Characteristics

Baseline data for this EBP were collected using a staff assessment survey administered to registered nurses working in the emergency department before the education and implementation of the Bröset Violence Checklist. After the completion of the six-week implementation period, an identical survey was repeated. Through evaluation of the data, it was the goal of the project manager that the incidence of violence and perception of safety would improve after the implementation of the Bröset Violence Checklist, thus indicating the intervention was effective.

A total of eight education sessions were offered between the two campuses regarding the education of the Bröset Violence Checklist. Thirty-five registered nurses volunteered to participate in the pre-intervention staff assessment survey. Nurses who were not able to attend the educational sessions were provided with a poster regarding the EBP project, copies of the power point presentation regarding the BVC, and a link via email to the e-learning module for the BVC. Demographic data was not collected from the registered nurses. Twenty-seven nurses completed post-intervention staff assessment surveys seven weeks after the education sessions were offered.

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Statistical Testing

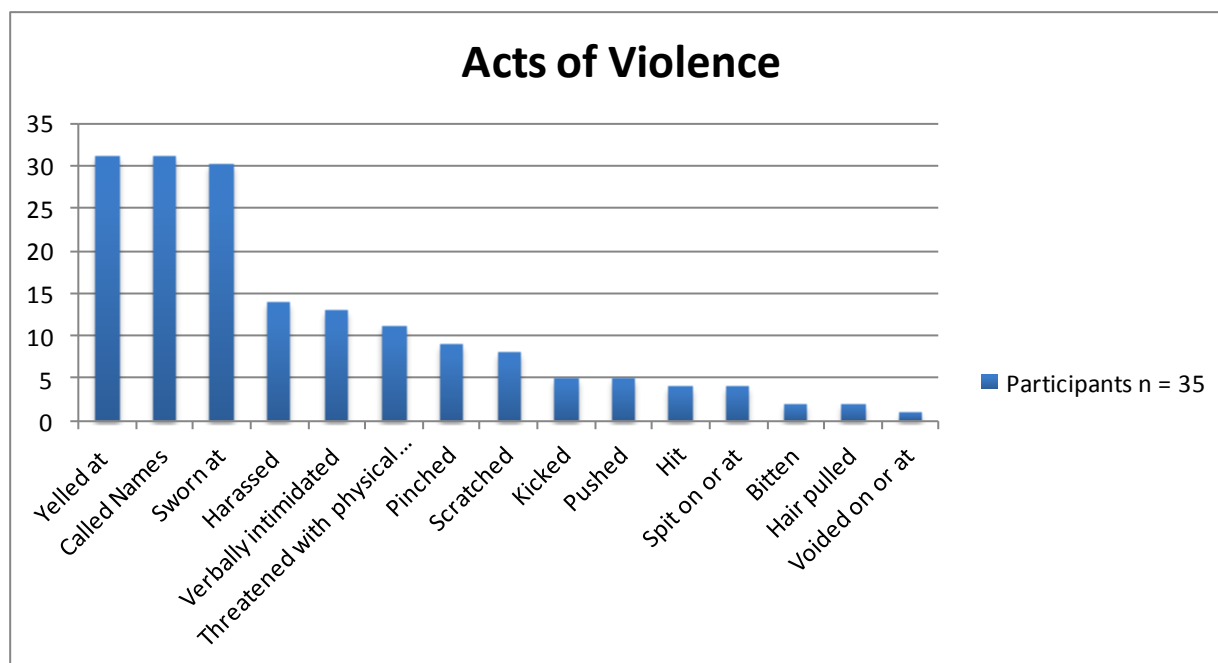
Statistical and descriptive analyses of the data collected were performed to answer the PICOT question. An analysis was performed in order to make comparisons between the pre and post intervention staff assessment surveys. A more complete examination of the implications regarding the educational intervention will be discussed in Chapter 5.

Experiencing at least one workplace violence act was reported by all participants of the pre-intervention staff assessment survey. Being yelled or shouted at ($n = 31$), called names ($n = 31$) and sworn or cursed at ($n = 30$) were the most common types of violence reported among the 35 respondents. Other violence acts reported were harassed with sexual language ($n = 14$), verbally intimidated ($n = 13$), threatened with physical harm ($n = 11$), pinched ($n = 9$), scratched ($n = 8$), kicked ($n = 5$), pushed ($n = 5$), hit ($n = 4$), spit on or at ($n = 4$), bitten ($n = 2$), hair pulled ($n = 2$), and voided on or at ($n = 1$). There were no scores for yes reported on the pre-intervention staff assessment survey for the acts of sexually assaulted, shot or stabbed (see figure 4.1)

Figure 4.1

Incidence of Violence Pre-intervention

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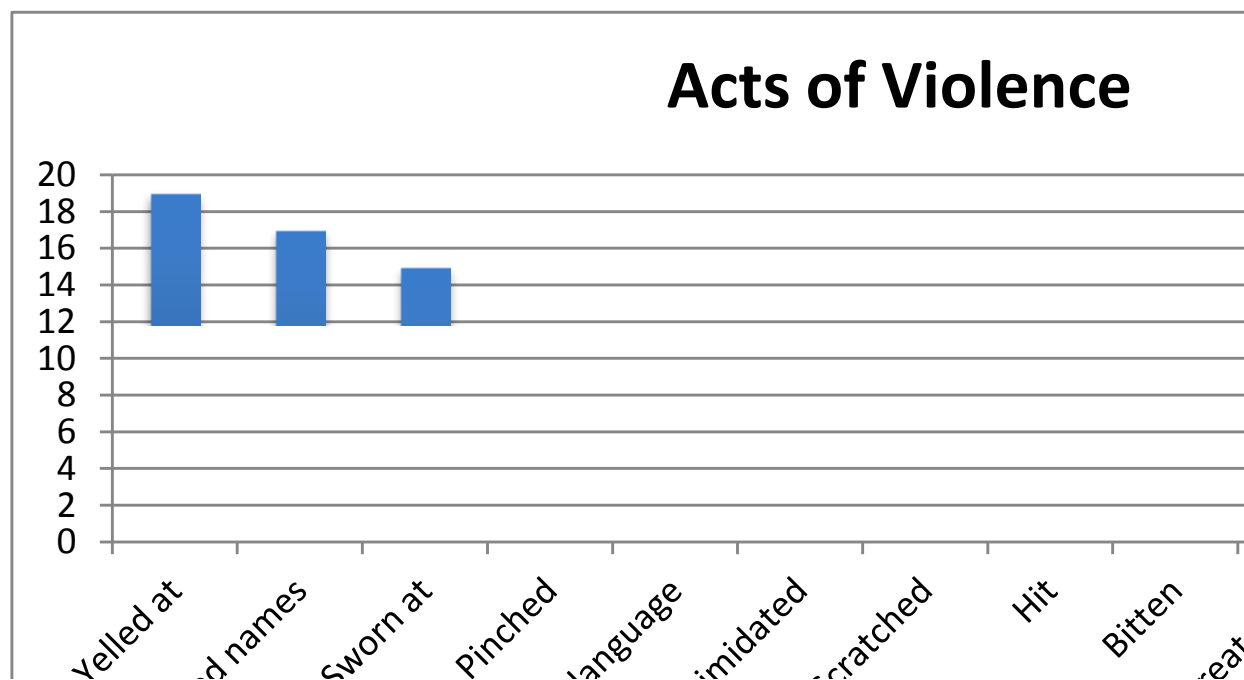


At least one act of workplace violence was also reported by 24 of the 27 participants of the post-intervention staff assessment survey. Again, being yelled or shouted at ($n = 19$), called names ($n = 17$) and sworn or cursed at ($n = 15$) were the most common types of violence reported among the 27 participants. Other violence acts reported were being pinched ($n = 7$), harassed with sexual language ($n = 6$), verbally intimidated ($n = 6$), scratched ($n = 4$), hit ($n = 2$), bitten ($n = 1$) and threatened with physical harm ($n = 1$). There were no scores for yes reported on the post-intervention staff assessment survey for the acts of hair pulled, kicked, pushed, being spit on or at, voided on or at, sexually assaulted, shot or stabbed (see figure 4.2).

Figure 4.2

Post-Intervention Incidence of Violence

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Although statistical significance cannot be calculated using the categorical data (1 = yes, 2 = no) collected, a clinically significant difference was noted in the number of individual violence acts reported by participants. When looking at the means for each act of violence, a mean closer to one would equate an answer scored as yes while a mean closer to two would equate an answer scored as no. To begin with the mean for the variable of names called improved from the pre-intervention score of 1.11 ($sd = .323$) to the post intervention score of 1.37 ($sd = .492$), kicked from 1.86 ($sd = .355$) to 2.00 ($sd = .000$), pushed from 1.86 ($sd = .355$) to 2.00 ($sd = .000$), threatened with physical harm from 1.69 ($sd = .471$) to 1.96 ($sd = .192$) and yelled at from 1.11($sd = .323$) to 1.30 ($sd = .323$). Scores for these five variables indicated clinically significant improvement, or decrease in incidence of violence experienced by emergency department nurses after the implementation of the BVC.

Table 4.3

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Mean Scores for Violent Acts

Pre-Intervention	N	Mean	Std. Deviation
Names called	35	1.11	.323
Kicked	35	1.86	.355
Pushed	35	1.86	.355
Threatened with physical harm	35	1.69	.471
Yelled at	35	1.111	.465

Post-Intervention	N	Mean	Std. Deviation
Names called	27	1.37	.492
Kicked	27	2.00	.000
Pushed	27	2.00	.000
Threatened with physical harm	27	1.96	.192
Yelled at	27	1.30	.465

The results of the question regarding overall feelings of safety in the emergency department were examined by using a paired samples *t*-test. For the question of overall safety in the emergency department a Likert scale was used to question nurses over a continuum regarding feelings of safety with 1 being extremely safe to 5 being extremely unsafe, with the highest possible score of 5. Using IBM SPSS Statistics 21 a paired-samples *t*-test was calculated to compare the mean pre staff assessment survey score to the mean post staff assessment survey score (see Table 4.4). The mean pre-intervention staff assessment survey score was 2.83 (*sd* = .822) and the mean for the post-intervention staff assessment survey score was 2.78 (*sd* = .751). There was no statistically significant difference found between the pre and post staff assessment surveys concerning perception of safety in the emergency

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department ($t(26) = 1.36, p > .05$). This indicates education regarding the BVC did not improve the perception of safety in the emergency department.

There was a statistically significant difference found regarding the overall incidence of violence experienced by nurses in the emergency department. An analysis was performed using IBM SPSS Statistics 21. Each violent reported by nurses was recorded into SPSS. The total number of violent acts recorded on the pre-intervention staff assessment survey was compared

Table 4.4

Feelings of Overall Safety from Workplace Violence

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Safe from WV pre – Safe from WV post	.222	.847	.163	-.113	.557	1.36	26	.185

to the total number of violent acts recorded on the post-intervention staff assessment surveys. A paired-samples t test was calculated to compare the mean pre staff assessment survey to the mean post staff assessment survey. The mean on the pre-intervention staff assessment survey was 5.0000 ($sd = 2.63$), and the mean on the post-intervention staff assessment survey was 2.889 ($sd = 1.76$). A significant difference was found between the pre and post intervention staff assessment survey ($t(26) = 3.783, p < .05$) (see Table 4.5) indicating a significant increase in retained knowledge regarding the Bröset Violence Checklist in assessing for the potential for violence in the patient population.

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Table 4.5

Overall Incidence of Violence

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair Total 1 Mean_pre - Total Mean_post	2.11111	2.90004	.55811	.96389	3.25833	3.783	26	.001

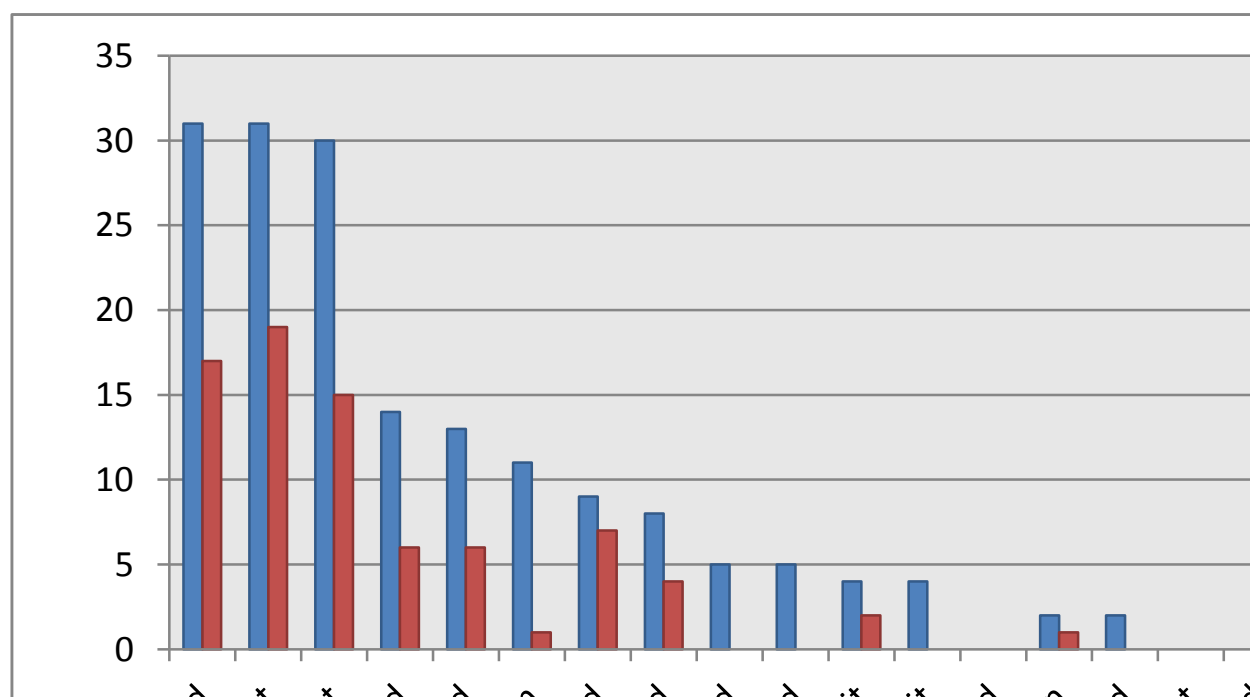
Outcomes

At this Indiana emergency department, does the implementation of a violence risk checklist verses the current practice of no proactive measures improve the incidence of violence and perception of safety for emergency department nurses? This was the PICOT question that has driven this EBP project. The incidence of violence and overall perception of safety were measured using an identical pre and post-intervention staff assessment survey. Results showed a clinically significant improvement in five types of violence experienced by nurses: names called, kicked, pushed, threatened with physical harm and yelled at. No significant difference was found in other types of violence experienced by nurses or the perception of safety in the emergency department. A statistically significant improvement was also found in the overall incidence of violence experienced by emergency department nurses. The data collected during the EBP project supported the PICOT question; the implementation of a violence risk checklist did improve the incidence of violence for emergency department nurses. The decrease in violence during the six-week implementation period supports the use of the Bröset Violence Checklist in practice (see table 4.6).

Figure 4.6

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Comparison of Violence Pre and Post Intervention



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CHAPTER 5

DISCUSSION

The purpose of this evidence based practice project was to decrease the incidence of violence and increase the perception of safety for emergency department nurses through education and application of the Bröset Violence Checklist. Based on recommendations found in the literature, the Bröset Violence Checklist was chosen as the most appropriate violence risk assessment tool to be applied in an emergency department setting. The use of an identical pre and post intervention staff assessment survey allowed for comparison of the incidence violent acts and nurses' perception of safety. Results from this project suggest that education and implementation regarding the Bröset Violence Checklist was appropriate for decreasing the incidence of violence. However, the perception of safety was not altered with use of the Bröset Violence Checklist.

Explanation of Findings

Data for this project were collected using identical pre and post intervention staff assessment surveys. Using pre-intervention staff assessment survey data as a baseline, data were analyzed using IBM SPSS Statistics 21. Outcomes evaluated included the incidence of violence before the education regarding the BVC, incidence of violence after education of the BVC, mean scores for each act of violence, feelings of overall safety, and overall incidence of violence. The data collected from pre intervention staff assessment surveys was compared to data collected from post intervention staff assessment surveys to determine whether education and application of the BVC decreased the incidence of violence and feelings of safety for emergency department nurses.

Pre intervention incidence of violence. All 35 participants of the pre intervention survey experienced at least one workplace violent act. Being yelled or shouted at ($n = 31$), called names ($n = 31$) and sworn or cursed at ($n = 30$) were the most common types of violence

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reported among the 35 participants. Outcomes from this EBP project were similar to those found in the literature. Behnam and colleagues (2011) reported verbal threats were the most common type of violence reported followed by physical violence followed by outside confrontations and stalking. By using descriptive statistics the growing concern of violence in the emergency department was identified (Behnam et al., 2011; Pich et al., 2010).

Post intervention incidence of violence. The majority of participants of the post intervention staff assessment survey experienced at least one workplace violent act. Twenty-four of the 27 participants reported experiencing violence. Being yelled or shouted at ($n = 19$), called names ($n = 17$) and sworn or cursed at ($n = 15$) were the most common types of violence reported. Pich and colleagues (2010) reported verbal abuse is the most common form of abuse with 82% of nurses being subjected to some form of verbal abuse during their literature review of research concerning patient-related violence against emergency department nurses. Results from this evidence-based practice project again had similar results to what has been reported in the literature (Behnam et al., 2011; Pich et al., 2010).

Mean scores for violent acts. Following analysis of the data, a clinically significant difference was noted in the number of individual violence acts reported by participants. When looking at the reported mean for each act of violence, a mean closer to one would equate an answer scored as yes while a mean closer to two would equate an answer scored as no. For the variable of names called the mean improved from the pre-intervention score of 1.11 ($sd = .323$) to the post intervention score of 1.37 ($sd = .492$), kicked from 1.86 ($sd = .355$) to 2.00 ($sd = .000$), pushed from 1.86 ($sd = .355$) to 2.00 ($sd = .000$), threatened with physical harm from 1.69 ($sd = .471$) to 1.96 ($sd = .192$) and yelled at from 1.11 ($sd = .323$) to 1.30 ($sd = .323$). Scores for these five variables indicated clinically significant improvement, or decrease in incidence of violence experienced by emergency department nurses after the implementation of the BVC. Similar results were found in the literature regarding the decrease in violent acts after

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the use of the BVC. Reports from a RCT conducted by Abderlahden and colleagues (2008) reported intervention wards using the Bröset Violence Checklist saw a substantial reduction of reported patient aggression and violence as compared to the control ward that saw little change.

Feelings of overall safety. Through the analysis of a paired samples *t* test, results of the overall feelings of safety from pre-intervention staff assessment survey mean of 2.83 (*sd* = .822) to post-intervention staff assessment survey of 2.78 (*sd* = .751) were not found to be statistically significant ($t(26) = 1.36, p > .05$). One possible reason for this result may be attributed to different perceptions of safety per individual nurse. Results from this evidenced-based practice project are similar to the reviewed literature. Howard & Gilboy (2009) reported data from the National Emergency Department Safety Study. Final analysis included more than 3,461 attacks were reported by participants over a five year period. Perception of safety was assessed using a 5 point Likert scale to answer questions regarding safety in emergency departments. Despite the number of violent attacks, 73% of staff reported they felt safe most of the time or always and 8% reported they never or rarely feel safe while working in the ED.

Overall incidence of violence. A paired sample *t*-test comparing the total number of violent acts between pre and post-intervention staff assessment surveys demonstrated a statistically significant difference regarding overall incidence of violence experienced by nurses in the emergency department. The mean scores between the pre intervention staff assessment survey 5.0000 (*sd* = 2.63) and the post intervention staff assessment survey 2.889 (*sd* = 1.76) demonstrated improvement of violence ($t(26) = 3.783, p < .05$). Data indicated a significant increase in retained knowledge regarding the Bröset Violence Checklist in assessing for potential patient violence. Similar results were found in the literature regarding decreased violence after implementing the BVC. Almvik and colleagues (2007) reported patients are more likely to have a higher score on the Bröset Violence Checklist prior to an aggressive or violent act. Of the 82 patients in special care and geriatric psychiatric units 74.6% had a Bröset

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Violence Checklist score above 2 as opposed to 0.5% of the non-violent patients. The authors concluded the Bröset Violence Checklist could aid caregivers in predicting aggressive behavior.

On the whole findings of this evidence-based practice project answered the PICOT question. Results showed a clinically significant improvement in five types of violence experienced by nurses: names called, kicked, pushed, threatened with physical harm and yelled at. A statistically significant improvement was also found in overall incidence of violence experienced by emergency department nurses. Perception of safety in the emergency department did not improve; however, this may be attributed to variations in what is considered a safe work environment.

Evaluation of the Applicability of the Theoretical and EBP Framework

Two frameworks led the development, implementation, and analysis of this evidence-based practice project: the Modeling-Role Modeling Theory and the ACE Star Model of Knowledge Transformation®. The Modeling-Role Modeling Theory was used the theoretical basis for this project. The ACE Star Model of Knowledge Transformation® was used to guide the implementation and evaluation of this evidence-based practice project.

Modeling and Role Modeling. Erickson et al. (1983) Modeling and Role-Modeling (MRM) Theory was employed as the theoretical framework for this EBP project. The MRM Theory was adapted for this project to describe the relationship between the project manager and the emergency department (ED) nurses.

Concepts related to the project manager. The concepts of the MRM that are related to the project manager include facilitation, nurturance, and unconditional acceptance. Utilization of the MRM Theory for this project allowed for the project manager to assist the emergency department nurse in the identification and development of his or her strengths as he or she moves towards health, or a desired goal. Through nurturance the project manager communicated with the emergency department nurse to understand the model of his or her

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world. By using unconditional acceptance, the project manager facilitated resources needed to assist the emergency department nurse in developing his or her own potential.

Concepts related to the emergency department nurse. Concepts of the MRM Theory that are related to the emergency department nurses are person and environment. The emergency department nurse is a holistic being, having various interactive subsystems consisting of biological, cognitive, psychological, and social subsystems. The project manager focused on the integrated, dynamic relationships between the subsystems of the emergency department nurse during planning of the EBP. The concept of environment includes the emergency department nurses' individual stressors and resources, both internal and external sources. The project manager identified and respected both the person and environment during the education and implementation of the EBP.

Concepts shared by the project manager and the emergency department nurse. Modeling and Role-Modeling are concepts communicated by the project manager and emergency department nurse. Modeling is the process explored by the project manager to seek and understand the unique model of the emergency department nurse's world from his or her perspective; this may viewed as a building block of mutual respect. Role-modeling is a process by which the project manager recognized the emergency department nurse's unique model and planned interventions that attain, maintain or promote health that are based on the emergency department nurses' model of their world. For the sake of this project modeling and role-modeling involved both the project manager and the ED nurse as modeling and role-modeling cannot be fully achieved without the awareness of the other's views and insights.

Adaptation of a violence risk checklist as compared to current practice of no proactive measure to predict violence took place without resistance from the emergency department nurses. After speaking with participants after the implementation of the BVC, the addition of a checklist initiated at by the triage nurse and maintained by the primary nurse did not appear to

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create additional stressors to the emergency department nurses. The project manager kept an open and inviting environment during the EBP and encouraged nurses to ask questions and give feedback. Retained knowledge of the BVC was assessed through identical pre and post intervention staff assessment surveys. Nurses did accomplish retained knowledge regarding the BVC in assessing for the potential for violence in the patient population. This was evident by means of a significant decrease in the overall incidence of violence between the pre and post intervention staff assessment surveys. However, the perception of safety did not change with the use of the BVC; this may be related to the lack of a standardized definition of a safe work environment.

The MRM Theory served as an appropriate theory to guide this evidence-based practice project. A proactive change in predicting patient violence occurred as the project manager used modeling and role modeling to improve the environment for emergency department nurses. The health of the emergency department nurses improved with the decrease in violent acts they encountered during the implementation of the BVC.

ACE Star Model of Knowledge Transformation®. The ACE Star Model of Knowledge Transformation® provided a five step process to direct this evidence-based practice project (Stephens, 2004). Step one included knowledge discovery; during the first stage of the cycle, new knowledge was generated by investigating violence in the emergency department and any specific violence risk assessment tools used primarily in the emergency department. Research findings regarding violence in the emergency department and violence risk assessment tools provided the basis for the PICOT question. It was found, during this investigation, research defines the problem of workplace violence in the emergency department without addressing solutions. This distinguishes a gap in research in what interventions can assist in the management of violence in emergency departments. In addition, very few violence risk assessment tool exists specific to emergency departments. Lack of interventional studies

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resulted in limited evidence to support best practice guidelines; current practice have little, if any, evidence based support for or against their use.

Step two included evidence summary. This distinctive step to evidence based practice synthesized knowledge from the body of research to depict a single, meaningful account of the discipline. For this evidence-based practice project, research was integrated from both nursing and psychology disciplines. By synthesizing findings from primary research, bias was isolated, chance effects were reduced in the conclusions, and reliability and reproducibility of research findings was strengthened. Additionally evidence summary incorporated existing knowledge on clinical care, policy formation, economic design, and economic decisions to assist in making this evidence-based practice project successful.

Translation is the next step in the ACE Star Model of Knowledge Transformation®. Information was obtained exhibiting best practice standards for employing a violence risk checklist in the emergency department. Practice recommendations were established with the best research that was supplemented with 12 years emergency department experience of the project manager. Evidence was interpreted and combined with other sources of knowledge to develop a standard of care. The result consisted of a clinical recommendation for a violence risk assessment checklist that was presented to emergency department nurses during educational offerings and posted throughout the department as a reminder during a six-week implementation period.

Integration, the fourth step of knowledge discovery, involved individual and organizational changes through a variety of channels. Meetings with the emergency department manager and facilitator as well as the Institutional Review Board at the facility allowed for planning of the EBP project and consideration of usefulness of the project, cost effectiveness, time restraints and barriers to change. The evidence discovered in the transformation process was put into action; the clinical recommendation for use of the Bröset Violence Checklist for

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emergency department nurses to use as a tool to evaluate for potential patient violence was implemented in two emergency departments for a six-week period from November to December 2012.

Evaluation is the last step in the ACE Star Model of Knowledge Transformation®. In order to verify the success of evidence-based practice, the evaluation assessed incidence of violence experienced by emergency department nurses before and after education regarding the Bröset Violence Checklist. In addition, the perception of overall safety for WV in the emergency department was evaluated before and after the education of the BVC. One method to strengthen the evaluation process would have been to assess the emergency department nurses at the end of the implementation period to ascertain progress made with the EBP project and where improvements could have been made. This additional assessment would have strengthened the evaluation of this project.

Strengths and Limitations of the EBP project

Strengths. There were several strengths to this evidence-based practice project. First, the data supports the use of a violence risk checklist to predict patient violence in the emergency department setting. This knowledge may lead to future research that can aide in providing evidence-based interventions to manage violence in emergency departments. Second was the simplicity of education; the free e-learning module and power point presentation provided by Dr. Roger Almvik, creator of the Bröset Violence Checklist, provided straightforward education regarding the applicability of the BVC in the ED setting. In addition the free education materials offered a cost-effective means to make this evidence-based practice project possible. Lastly this project could be replicated at other emergency departments or clinical areas in the hospital as part of a violence-reduction plan. The BVC is an excellent tool to be used in a hand-off report as the emergency department patient is admitted into an inpatient setting. Further

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projects could be implemented to track when violent acts occur, demographic data on the violent patient, and how violence is reported in a healthcare system.

Limitations. After evaluating this evidence-based practice project, several limitations were discovered. To begin with additional staff including physicians, aides, medics, registration clerks and unit secretaries could have been included in the project to broaden the pool of participants. However, due to the larger number of potential participants, the decision not to include additional emergency department staff was initially made by the project manager. Nurses were chosen as they have the most patient contact while in the emergency department. This resulted in a small sample size that could have presented a level of response bias that may weaken the ability to generalize conclusions to the total population of emergency department nurses.

Secondly, the design of the pre and post intervention staff assessment surveys caused limitations to the project. By using a checklist that only provided categorical data, measurement regarding the frequency of violent acts could not be recorded. By using a Likert scale to measure how often violent acts pre and post intervention occurred, the project manager could have assessed the frequency of violence before and after the implementation of the BVC. This could have led to a better understanding of how often nurses experience violence in the emergency department.

Lastly, and possibly the biggest limitation of the EBP project, was the wait for Institutional Review Board (IRB) approval at the healthcare facility. Due to pending changes within the healthcare system, the IRB did not meet for several months in the late summer and early fall of 2012. In addition finding a date where IRB members and the project manager could meet was extremely difficult nearly putting a halt to the progress of the project. Regardless of limitations to this project, data supports using the BVC to decrease the incidence of violence for emergency department nurses.

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Implications for the Future

Practice. Implementation of the Bröset Violence Checklist in the emergency department will change the current practice for emergency department staff. Not only should nurses be educated, but all emergency department staff that has direct patient contact can be included to assist in identifying behaviors that can predict patient violence. In addition, other clinical areas could be included in implementing the BVC to ensure continuity of care. The BVC may be used during the hand-off report from one staff member to another to warn of the potential for violence. Utilization of the hospital educator can assist in ensuring a yearly competency is maintained regarding the education and applicability of the BVC.

Theory. Use of a violence risk checklist, the BVC for this evidence-based practice project, decreased overall violence experienced by emergency department nurses and shows clinical significance in decreasing types of violence. The MRM Theory was applicable to this project; the goal of improved health, or decreased violence, was attainable with the use of the BVC. Erikson and colleagues (1983) reported the MRM is a theory that functions as a foundation for research, education, and practice in nursing. Application of the MRM theory would be suitable for future research and education regarding the applicability of the BVC in other clinical areas.

Research. Nursing research confirmed existing literature varies in quality and appropriateness of interventions to aide against workplace violence in emergency departments. During the review of literature, lack of interventional studies based in emergency departments resulted in scarce evidence to support best practice. To be able to continue this evidence-based project, evidence had to be found in the psychiatry realm. Further research is desperately needed to fill the gap for interventions to assist the management of violence in emergency departments.

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Education. The leadership team, specifically in this Indiana hospital, should be informed on the impact of workplace violence and its negative effects on productivity, safety and overall image of the facility. Additionally, the benefits of employing a violence risk checklist, in this instance the BVC, to reduce the incidence of violence should be reviewed and suggested as best practice. Future education programs regarding the BVC should include all hospital associates who have direct patient contact. Staff members must be educated with empirical evidence of decreasing the incidence of patient violence. It is said there is safety in numbers; with increased observation, potential for patient violence can be identified before violence erupts.

Conclusion

The evaluation of this evidence-based practice project supports the clinical question of whether a violence risk checklist decreases the incidence of violence for emergency department nurses. Review of literature identified a gap in research and the desperate need for interventions to reduce violence in emergency departments. Results demonstrated a clinically significant improvement in five types of violence experienced by nurses and a statistically significant improvement in overall violence experienced by nurses. The perception of overall safety from WV did not improve with the implementation of the BVC; these results are similar to findings in existing literature. This evidence-based practice project may lead to a variety of future projects to address the crisis of violence in emergency departments and interventions to improve the safety and health of staff members.

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BIOGRAPHICAL MATERIAL**Sarah Knapp**

Sarah Knapp graduated from Purdue University North Central with an associate's degree in the science of nursing in 1998, and with a bachelor's degree in the science of nursing from Valparaiso University in 2000. She started her career as a telemetry nurse at St. Anthony Memorial Hospital. She then moved to Porter Regional Hospital's Portage and Valparaiso emergency departments, where she has spent the last 12 years creating her niche. She is currently enrolled at Valparaiso University to acquire a doctorate of nursing practice (DNP) degree in May of 2013. Sarah is a member of the Midwestern Nursing Research Society (MNRS). She will be presenting a poster representing her DNP project titled "The Effects of a Violence Assessment Checklist on the Incidence of Violence for Emergency Department Nurses" at the MNRS conference in March 2013. Sarah became interested in violence in the emergency department during her career, and hopes to continue to be a voice for emergency department nurses who experience patient violence in the future.

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ACRONYM LIST

BVC: Bröset Violence Checklist

EBP: Evidence-Based Practice

ED: Emergency Department

ENA: Emergency Nurses Association

IRB: Institutional Review Board

MRM: Modeling-Role Modeling Theory

WV: Workplace violence

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Appendix A**Email Correspondence from Dr Almvik**

7/14/12

Good evening Dr. Almvik,

My name is Sarah Knapp and I am a graduate student obtaining my Doctorate of Nursing Practice at Valparaiso University in the United States. In order to graduate we need to develop and implement an evidence-based project. My focus is violence in the emergency department. I have been an emergency department nurse for the past 11 years and have both witnessed and experienced violence and its long-term effects on nurses. While conducting a review of the literature I was disappointed to see both the gap in literature and lack of evidence-based tools have been developed to assess for the potential of violence in patients who are admitted to the emergency department. While conducting a literature review I examined the Broset Violence Checklist that has been used in the inpatient psychiatric setting and would like to implement the BVC as a violence risk assessment tool nurses can use to predict violence in emergency department patients. The goal of the intervention is to increase emergency department nurses' awareness of violence risk prediction to identify patients who have a potential for violence to minimize the risk of harm. I am writing to ask your permission to use the BVC for my project that will be implemented in the fall of 2012 in two emergency departments in Northwest Indiana. My research will be discussed in a DNP project report that will be submitted for approval to Valparaiso University before I graduate in the spring of 2013. I appreciate your time and consideration and welcome your approval for the success of my evidence-based project.

Thank you,
Sarah Knapp, RN, BSN
Graduate Student, Valparaiso University

7/18/12

Roger Almvik <roger.almvik@ntnu.no>

Dear Sarah

Thanks for your interest in the BVC and of course you have my approval to use it in your research. I am attaching a number of files including few articles (among them 2 randomised controlled trials). We have just released an e-learning program for the BVC

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which can be seen by following this link: <http://goo.gl/fc9Co> This simple but informative online program should give a full training in how to use the BVC, making implementation and training problem-free and of no costs :)

Good luck and please keep me informed about how things are going

best wishes

Roger

Dr. Roger Almvik
Research Director, Dr. Philos, RN, RMN
St. Olavs University Hospital, Forensic Dept Bröset,
Centre for Research & Education in Forensic Psychiatry
NTNU, Institute of Neuro Medicine
PO 1803 Lade, N-7440 Trondheim, Norway
roger.almvik@ntnu.no, tel [+4745468880](tel:+4745468880)

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Appendix B

Notification of Staff Education

Coming Soon to an Emergency Department Near You...



An educational opportunity to assess for the **risk of violence** in emergency department patients. Learn what the Bröset Violence Checklist is and how to apply it in everyday practice.

Presented by Sarah Knapp, BSN, RN, VU Graduate Student.

Nurses, please consider participating in this exciting evidence-based practice project that will change the way violence is viewed in the emergency department. The goal of this project is to increase awareness of violence risk prediction to identify patients who have a potential for violence to minimize the risk of harm.

Dates	Times	Locations
Monday, November 12, 2012	0630-0830 1830-2030	Main ED
Tuesday, November 13, 2012	0630-0830 1830-2030	Satellite ED
Wednesday, November 14, 2012	0630-0830 1830-2030	Main ED
Thursday, November 15, 2012	0630-0830 1830-2030	Satellite ED

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Appendix C

Staff Assessment Survey

From the actions listed, please indicate whether you have experienced a particular action from a patient while working in this emergency department in the **past six weeks**.

	Yes	No
Bitten		
Called names		
Hair pulled		
Harassed with sexual language or innuendo		
Hit (punched, slapped, jabbed, etc)		
Kicked		
Pinched		
Pushed or shoved		
Scratched		
Sexually assaulted		
Shot or shot at		
Spit on or at		
Stabbed		
Sworn or cursed at		
Threatened with physical harm		
Verbally intimidated		
Voided on or at		
Yelled or shouted at		
Other (please describe)		

Rate how safe you feel from workplace violence during **the past six weeks**; please circle only one choice.

Extremely Safe	Safe	Neither safe or unsafe	Unsafe	Extremely Unsafe
1	2	3	4	5


(ENA, n.d.)

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Appendix D

BVC Power Point Presentation

Brøset Violence Checklist



~ A prediction instrument hitting Bulls Eye ?

BVC - Variables

- ◆ Confused
- ◆ Irritable
- ◆ Boisterous
- ◆ Physically threatening
- ◆ Verbally threatening
- ◆ Attacking objects

Interpretation of BVC score/research hypothesis

- ~ Score = 0 Risk of violence is small
- ~ Score = 1-2 The risk of violence is moderate. Preventative measures should be taken
- ~ Score > 2 The risk of violence is very high. Preventative measures should be taken and plans about how to manage an attack made.

Interpretation and operationalisation

- ◆ **Confused** - Appears obviously confused and disorientated. May be unaware of time, place or person.
- ◆ **Irritable** - Easily annoyed or angered. Unable to tolerate the presence of others.
- ◆ **Boisterous** - Behaviour is overtly "loud" or noisy. For example slams doors, shouts out when talking etc.
- ◆ **Physically threatening** - Where there is a definite intent to physically threaten another person. For example the taking of an aggressive stance; the grabbing of another persons clothing; the raising of an arm, leg, making of a fist or modelling of a head-butt directed at another.

Interpretation and operationalisation

- ◆ **Verbally threatening** - A verbal outburst which is more than just a raised voice; and where there is a definite intent to intimidate or threaten another person. For example verbal attacks, abuse, name-calling, verbally neutral comments uttered in a snarling aggressive manner.
- ◆ **Attacking objects** - An attack directed at an object and not an individual. For example the indiscriminate throwing of an object; banging or smashing windows; kicking, banging or head-butting an object; or the smashing of furniture.

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Appendix E**The Bröset Violence Checklist****Interpretation and Operationalisation****Interpretation of scoring:**

- Score = 0 The risk of violence is small
- Score = 1-2 The risk of violence is moderate. Preventive measures should be taken.
- Score > 2 The risk of violence is very high. Preventive measures should be taken
In addition, a plan should be developed to manage the potential violence.

Operationalisation of behaviours/items:

Confused	Appears obviously confused and disorientated. May be unaware of time, place or person.
Irritable	Easily annoyed or angered. Unable to tolerate the presence of others.
Boisterous	Behaviour is overtly "loud" or noisy. For example slams doors, shouts out when talking etc.
Physically threatening	Where there is a definite intent to physically threaten another person. For example the taking of an aggressive stance; the grabbing of another persons clothing; the raising of an arm, leg, making of a fist or modelling of a head-butt directed at another.
Verbally threatening	A verbal outburst which is more than just a raised voice; and where there is a definite intent to intimidate or threaten another person. For example verbal attacks, abuse, name-calling, verbally neutral comments uttered in a snarling aggressive manner.
Attacking objects	An attack directed at an object and not an individual. For example the indiscriminate throwing of an object; banging or smashing windows; kicking, banging or head-butting an object; or the smashing of furniture.

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Appendix F

The Effects of the Bröset Violence Checklist on Violence against Emergency Department Nurses

Informed Consent Form

I understand that I am being asked to participate in an evidence-based practice project at XXX hospital in Northwest Indiana. This evidence-based practice project will evaluate the effects of education regarding the Bröset Violence Checklist on violence against emergency department nurses. If I agree to participate in the evidence-based practice project, I agree to take a pre and post staff assessment survey and may have to complete up to a 30 minute long education on the Bröset Violence Checklist and its application in practice. No identifying information will be included on the pre and posttests. There are minimal risks associated with the evidence-based practice project which is defined as no greater than those ordinarily encountered in daily life or during routine physical or psychological tests or procedures. I understand that all information remains confidential, data is not shared with management, and my job performance and raise will not be affected by any input I put into this evidence-based practice project.

I realize that I may not participate in the evidence-based practice project if I am not a registered nurse 18 years and older who works full or part time in either the main or satellite emergency department at the XXX hospital.

I realize that the knowledge gained from this evidence-based practice project may help me or other emergency department nurses in the future.

I realize that my participation in this evidence-based practice project is completely voluntary, and I may withdraw from the evidence-based practice project at any time I wish. I understand that if I decide not to participate in this evidence-based practice project, I will continue to be treated in the usual and customary fashion.

I understand that all data from the evidence-based practice project will be kept confidential. However, this information may be used in nursing publications or presentations.

If I need to, I can contact Sarah Knapp, Valparaiso University School of Nursing any time during the evidence-based practice project via email at sarah.knapp@valpo.edu or by telephone at 219-405-0750.

The evidence-based practice project has been explained to me. I have read and understand this consent form, all of my questions have been answered, and I agree to participate. I understand that I will be given a copy of this signed consent form.

Signature of subject

Date

Signature of witness

Date

Signature of Investigator

Date

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Appendix G

Review of Literature for Workplace Violence

Citation	Purpose	Sample	Design	Measurement	Results/Findings	Level of Evidence
Anderson, L., FitzGerald, M., & Luck, L. (2010). An integrative literature review of interventions to reduce violence against emergency department nurses. <i>Journal of Clinical Nursing</i> , 19, 2520-2530.	“To critique the evidence that underpins interventions intended to minimize workplace violence directed against emergency department nurses, to inform researchers and policy makers regarding the design, development, implementation and evaluation of emergency nursing anti-violence and counter-violence	10 primary research studies were reviewed	Integrative review of interventions to reduce violence against nurses in the emergency department	Interventions to minimize workplace violence that could direct clinicians: 1. Workplace environment 2. Practices and polices 3. Individual and collective skills sets	Existing research varies in quality and the appropriateness, feasibility and meaningfulness of interventions to minimize workplace violence against emergency department nurses. The research continues to define the problem instead of addressing solutions. The review identifies a gap in research in what interventions can assist in the management of violence in emergency departments.	III

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	interventions”.					
Behnam, M., Tillotson, R.D., Davis, S.M., & Hobbs, G.R. (2011). Violence in the emergency department: a national survey of emergency medicine residents and attending physicians. <i>Journal of Emergency Medicine</i> , 40, 565-579.	To evaluate the incidence of violence nationwide in emergency departments	263 completed on-line surveys from emergency department residents and attending physicians enrolled in allopathic emergency medicine residency programs in the United States	Prospective cross-sectional on-line survey	A survey of 34 multiple choice questions and four free-response questions regarding violence over a 12 month period.	Results show a majority of participants (78%) had experienced violence over a 12 month period. In spite of the high incidence of WV experienced by participants there are few prevention measures available including screening for weapons and training including workshops on violence and self-defense training.	IV
Gates, D., Gillespie, G., Smith, C., Rode, J., Kowalenko, T., Smith, B. (2011). Using action research to plan a violence prevention program for emergency departments. <i>Journal of Emergency</i>	To determine whether the strategies being designed for planned interventions were pertinent, acceptable, practical and comprehensive.	97 emergency department employees consisting of nurses, physicians, patient care techs, paramedics, security and radiology techs.	Phenomenology study	12 focus groups gathered data regarding pre-assault, assault and post-assault time frames and analyzed intervention strategy themes for patients, visitors, employees, managers and the work	Violence in the emergency department is increasing and is a concern for employees and visitors alike. Strategies for pre-assault, assault and post-assault were supported by the participants but very few exist in the current workplace.	VI

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<i>Nursing</i> , 37, 32-39.				environment against violence.		
Gates, D., Gillespie, G.L., & Succop, P. (2011). Violence against nurses and its impact on stress and productivity. <i>Nursing Economic\$, 29</i> , 59-66.	To examine how violence from patients and visitors is related to the emergency department (ED) nurses' symptoms of post traumatic stress disorder (PTSD) and work productivity.	Randomized sample of 3,000 nurses who work in the ED and are members of the Emergency Nurses Association (ENA). 264 completed surveys were evaluated.	Cross-sectional design.	<p>Four section survey:</p> <p>1. A narrative sample of recent workplace violence that was stressful.</p> <p>2. Impact of Events Scale-Revised to assess the extent of PTSD up to 7 days after the event.</p> <p>3. Healthcare Productivity Survey (HPS) to measure the perception of change in productivity at work after a stressful event.</p> <p>4. Demographic and occupational</p>	Exposure to a violent episode was significantly related to decreased productivity in the HPS. Employees with PTSD symptoms after a violent event continue to maintain their pace and provide competent care at work; however, they have difficulty remaining cognitively and emotionally focused while working.	IV

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				<p>survey.</p> <p>IV: patient and visitor violence in the emergency department</p> <p>DV: work productivity for ED nurses</p>		
<p>Gillespie, G.L., Gates, D., Miller, M., & Kunz Howard, P.K. (2010). Violence against healthcare workers in a pediatric emergency department. <i>Advanced Nursing Journal</i>, 32, 68-82.</p>	<p>To describe the workplace violence (WV) that occurred in a pediatric emergency department (ED) and the negative effect of WV on employees.</p>	<p>Purposeful sampling of 31 ED physicians, nurses and allied healthcare professionals.</p>	<p>Case study</p>	<p>Interviews, observations, photographs and archival records including ED policies, hospital policies, and staff education.</p>	<p>Negative consequences of WV were experienced by almost every participant. Physical responses including a stress response of increased heart rate and hyperarousal were noted as well as psychological responses of fear, frustration and anger. Decreased productivity and poor hospital image were also described by participants.</p>	<p>VI</p>
<p>Howard, P.K. & Gilboy, N. (2009). Workplace</p>	<p>To explore emergency department (ED) workplace</p>	<p>Purposeful sampling of 3,518 medical directors of</p>	<p>Cross-sectional design</p>	<p>Audits of the National Emergency Department</p>	<p>More than 3,461 attacks were reported over a five year period from participants. 73%</p>	<p>VI</p>

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violence. <i>Advanced Emergency Nursing Journal</i> , 31, 94-100.	violence (WV) and review staff perceptions of safety.	emergency departments, administrators, nurses, physicians, and nurse managers.		Safety Study. IV: incidents of workplace violence DV: perceptions of safety of employees	of staff reported they felt safe most of the time or always and 8% reported they never or rarely feel safe in the ED.	
Kerrison, S.A. & Chapman, R. (2007). What general emergency nurses want to know about mental health patients presenting to their emergency department. <i>Accident and Emergency Nursing</i> , 15, 48- 55.	To investigate the concerns of emergency department (ED) nursing staff had in caring for patients who present to the ED with a mental illness.	Purposeful sampling of 17 participants; 5 ED nurses and 12 subject matter experts from psychiatric staff, clinical staff in the ED, educators and a rural nurse representative.	Phenomenology study	Focus group with ED nurses and structured interviews with subject matter experts	ED staff had a lack of knowledge and confidence in assessment and treatment of mental health patients. With aggression and violence increasing in the ED and lack of educational and training programs regarding the care of psychiatric patients nurses are concerned regarding their safety in the workplace.	VI
Luck, L., Jackson, D. & Usher, K. (2009). Conveying caring: Nurse attributes to avert violence in the ED.	To identify strategies nurses use to reduce, avert and prevent violence.	20 emergency department (ED) nurses employed at a 33 bed regional Australian emergency department.	Instrumental case study	Informal field interviews, semi-structured interviews, participant observation and researcher journaling were	Five attributes were identified that ED nurses used in everyday practice: 1. Being safe 2. Being available 3. Being respectful	V

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<i>International Journal of Nursing Practice</i> , 15, 205-212.				employed to gather data for the study.	4. Being supportive 5. Being responsive These attributes assist in establishing a safe environment and therapeutic nurse-patient relationship to reduce or prevent violence.	
Pich, J., Hazelton, M., Dundin, D. & Kable, A. (2010). Patient-related violence against emergency department nurses. <i>Nursing and Health Sciences</i> , 12, 268-274.	To explore the concept of patient-related violence against nurses with a focus on the emergency department (ED).	53 papers associated with patient-related violence in the ED.	Systematic review of patient-related violence in the emergency department.	Search of literature in June 2008 using online data bases including CINAHL, Medline and Journals@Ovid. Concepts of patient-related violence were examined: 1. Definition of violence 2. Types of violence 3. Risk factors 4. Results of violence 5. Prevention and control of	Workplace violence is an epidemic that is affecting nurses worldwide. Verbal abuse is the most common form of abuse with 82% of nurses have been subjected to some form of verbal abuse. Physical abuse can range in behaviors but the most common form is being pushed. Risk factors for violence include history of violence, substance and alcohol abuse, diagnosis of a serious medical illness, excess waiting times and time of day have also been reported to have a link to violence. Prevention	III

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				violence	and control of violence includes safety measures consisting of control of access to the ED, personal alarms, locked doors and security cameras. Violence prevention and education are effective tools to combat workplace violence. It is vital to encourage nurses into the profession and create a work environment that supports and protects nurses.	
Taylor, J.L. & Rew, L. (2010). A systematic review of the literature: Workplace violence in the emergency department. <i>Journal of Clinical Nursing</i> , 20, 1072-1085.	To identify characteristics of intervention studies that guide best practice in the clinical setting regarding workplace violence (WV) in the emergency department (ED).	16 original research articles using research design with or without an intervention	Systematic literature review	Literature search using four online databases including CINAHL, Medline, PsycInfo and Dissertations and Theses Full Text Database from March-June 2009.	There was no steady definition of workplace violence found in the literature; none of the studies reviewed used the same instrument to measure WV in the ED setting. The majority of studies measured occurrence, incidence, or amount of WPV in the ED. Qualitative research focused on incidents that can lead to WV and how nurses define WV and	III

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					measurable observable behavior that can predict WV in the ED. Despite the prevalence of WV, most staff surveyed felt safe most of the time while at work. Lack of interventional studies results in insufficient evidence to support best practices guided through research. This leads to current practices to prevent and control violence have little, if any, evidence based endorsement for or against their use.	
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Appendix H

Review of Literature for Brøset Violence Checklist

Citation (APA)	Purpose	Sample	Design	Measurement	Results/Findings	Level of Evidence
Abderhalden, C., Needham, I., Miserez, B., Almvik, R., Dassen, T., Haug, H.J., & Fisher, J.E. (2004). Predicting inpatient violence in acute psychiatric wards using the Brøset Violence Checklist: a multicentre prospective cohort study. <i>Journal of Psychiatric and Mental Health Nursing</i> , 11, 422-427.	<p>To validate the Brøset Violence Checklist (BVC) using standard diagnostic test validation procedures.</p> <p>Secondary aims included:</p> <ol style="list-style-type: none"> 1. To elucidate whether more detailed assessment of the observed six behavioral categories would improve the predictive abilities of the instrument 2. To investigate the 	219 admitted patients to acute wards of six psychiatric hospitals in Switzerland.	Prospective cohort study	<p>IV: accuracy of the Broset Violence Checklist</p> <p>DV: patient aggression or violence</p>	<p>64.3% sensitivity; of all patients who committed a physical attack scored a 3 on the BVC.</p> <p>93.9 specificity; of all shifts without any aggressive patients, the BVC score was 0-2.</p>	IV

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	association between scores on the German and intense preventative measures directed towards reducing the risk of violent behaviors.					
Abderhalden, C., Needham, I., Dassen, T., Halfens, R., Haug, H.J., & Fisher, J.E. (2006). Predicting inpatient violence using an extended version of the Brøset Violence Checklist (BVC): instrument development and clinical application. BMC Psychiatry, 6, doi: 10.1186/1471-222X-6-17.	To determine whether combining the Brøset Violence Checklist (BVC) with a subjective clinical-risk assessment (VAS) would generate an improvement in risk prediction over either process alone.	<p>The first sample consisted of 219 admitted patients to six acute psychiatric wards in Switzerland within three hospitals in a two-month span.</p> <p>The second sample consisted of 300 admitted patients of two acute psychiatric</p>	Two independent prospective cohort studies	<p>IV: accuracy of the Brøset Violence Checklist with the addition of the Visual Analog Scale (VAS) of 10cm in length of “no risk” to “very high risk”.</p> <p>DV: patient aggression or violence reported with a Staff Observation of Aggression Scale Revised</p>	The BVC-VAS was a user friendly and accurate tool for short-term prediction of violence in acute psychiatric wards. The addition of the VAS did not alter the accuracy of the BVC. Sensitivity of the BVC was 64.3%; specificity was 93.9% yielding a positive predictive value	IV

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		wards (one rural, one urban) in a six-month period.		(SOAS-R).	of 11.1%. The BVC-VAS amounted to an AUCROC of 0.94 (95-CI 0.90 to 0.98).	
Abderhalden, C., Needham, I., Dassen, T., Halfens, R., Haug, H.J., & Fisher, J.E. (2008). Structured risk assessment and violence in acute psychiatric wards: randomized control trial. <i>British Journal of Psychiatry</i> , 193, 44-50.	To assess whether a structured risk assessment decreases the incidence of violence and coercion.	2,364 patients admitted to 14 psychiatric wards in Switzerland. During a three month baseline data phase and a three month intervention period. Randomization occurred prior to inclusion via a computer generated random number list. Four wards had structured risk assessment (BVC) five wards to a waiting-list control arm, and five wards	Prospective multi-center randomized cluster controlled trial	IV: The use of a structured risk assessment tool (BVC) for the short-term risk of violence in an acute psychiatric ward. IV: No use of the BVC for the short-term risk of violence in an acute psychiatric ward. DV: incidence rates of violence and coercion in the patient population comparing	Using a structured risk assessment tool (BVC) substantially reduced events of patient aggression and violence and the need for coercive measures by staff. The decline in aggression as reported by the SOAS-R report declined significantly in the control ward (RR = 0.59, 95% CI 0.41-83) than in the intervention arm (RR = 0.85, 95% CI 0.64-1.13). It is suggested that a	II

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		were the preference group.		with the intervention period.	structured risk assessment may be a straightforward and cost-effective way of decreasing violence in an acute psychiatric ward.	
Almvik, R., Woods, P., Rasmussen, K. (2000). The Brøset Violence Checklist: sensitivity, specificity, and interrater reliability. <i>Journal of Interpersonal Violence</i> , 15, 1284-1296.	To determine the clinical validity and reliability of the Brøset Violence Checklist (BVC) and to examine the differences between the violent and non-violent persons as well as to study the effectiveness of the variables in predicting violence.	All admitted patients (52 men and 57 women) in four acute wards at four different hospitals during a 2 month period in southern Norway in 1997.	Cohort Study	IV: The accuracy of the BVC in the clinical setting. DV: patient aggression or violence reported with a Staff Observation of Aggression Scale Revised (SOAS-R).	The BVC is discerning the violent from the non-violent acts; it is 63% accurate a violent episode with occur and 92% accurate it will not in a 24 hour period. The interrater reliability of the BVC was satisfactory with an overall kappa value of 0.44.	IV
Almvik, R., Woods, P., & Rasmussen, K. (2007).	To determine the clinical	A total of 82 patients were	Prospective Cohort Study	IV: validity of the BVC in a	Patients are more likely to	IV

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Assessing risk for imminent violence in the elderly: the Brøset Violence Checklist. <i>International Journal of Geriatric Psychiatry</i> , 22, 862-867.	validity of the BVC in the geriatric setting and to report the predictive value of a risk assessment tool.	included in the study: a geriatric sample consisting of 23 males and 19 females and a special care unit sample consisting of 13 males and 27 females admitted to either two different special care units for patients with dementia or geriatric psychiatric wards over a three month period.		geriatric setting DV: violent or non-violent behaviors reported with a Staff Observation of Aggression Scale Revised (SOAS-R).	have a higher score on the BVC prior to an aggressive or violent incident. With patients who had a SOAS-R report completed during a shift, 74.6 had a BVC above 2 as opposed to 0.5% of the non-violent patients. ($p < 0.001$). The BVC can aid caregivers in predicting aggressive behavior.	
Björkdahl, A., Olsson, D., & Palmstierna, T. (2006). Nurses' short-term prediction of violence in acute psychiatric intensive care. <i>Acta Psychiatrica Scandinavica</i> , 113, 224-229.	To evaluate the short-term predictive capacity of the Brøset Violence Checklist (BVC) completed by	All patients admitted to the 10 bed psychiatric intensive care unit in Stockholm, Sweden for more than 24	Retrospective case study. Audits of medical records including the BVC for each eight hour shift during	IV: The accuracy of the BVC in the psychiatric intensive care setting. DV: patient aggression or	Using Cox regression, a score of 1 on the BVC increases the hazard of a violent or aggressive incident by 5.99,	VI

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	nurses in a psychiatric intensive care unit.	hours over a 3 month period. The sample population consisted of 36 females and 37 males.	the length of stay for the patient. All violent incident reports with the Staff Observation Aggression Scale Revised (SOAS-R) were also reviewed.	violence reported with a Staff Observation of Aggression Scale Revised (SOAS-R).	a score of 2 or more increases the hazard by 4.35. A positive score on any of the items in the BVC was amid the strongest predictors of severe violence in the next 24 hour period.	
Clarke, D.E., Brown, A.M., Griffith, P. (2010). The Brøset Violence Checklist: clinical utility in a secure psychiatric intensive care setting. <i>Journal of Psychiatric and Mental Health Nursing</i> , 17, 614-620.	To evaluate the ability of the Brøset Violence Checklist (BVC) to assist health care workers in early identification of patients with the potential for violence in order to implement the least restrictive interventions to reduce the impact of violence.	Convenience sample of 48 admitted patients of a psychiatric intensive care unit; 19 women and 29 men over a 3 month period.	Cohort study	IV: BVC's ability to assess a patient's behavior to predict a violent or aggressive occurrence DV: Nurses' ability to identify patients with a potential for violence.	Multiple regression analysis reported physical threats and irritability on the BVC were the strongest predictors of the total BVC score on day 1, accounting for 90% of the variance. The prevalence of irritability dropped to 35% by day 2; and physical and verbal threats	IV

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					were no more frequent than other behaviors.	
Vaaler, A.E., Iversen, V.C., Morken, G., Flovig, J.C., Palmstierna, T., & Linaker, O.M. (2011). Short-term prediction of threatening and violent behaviour in an acute psychiatric intensive care unit based on patient and environmental characteristics. BMC Psychiatry, 11, www.biomedcentral.com/1471-244x/11/44.	To investigate clinically relevant patient and environmental-related predictive factors for threats and violence in the first three days in a PICU population based on evaluations done at admittance.	Inclusion one: in 2000 a non-randomized sample of 56 patients was in a segregated PICU in a psychiatric department in Norway. Inclusion two: in 2001 a non-randomized sample of 62 patients were allowed a choice between PICU and the general population in a psychiatric department in Norway.	Cohort study	IV: use of the BVC in an acute psychiatric facility DV: threatening and violent behavior as reported on the Staff Observation Scale-Revised (SOAS-R) form	The BVC was suitable for predicting short-term aggression and violent acts in the PICU setting. (P=.002 in comparison between SOAS incidents and non-SOAS incidents).	IV
Woods, P., Ashley, C., Kayto, D., & Heusdens, C. (2008). Piloting violence and incident	To describe how useful the Brøset	Convenience sample of 93 admitted	Cohort Study	IV: Nursing knowledge of an	A variable relationship occurred	IV

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reporting measures on one acute mental health inpatient unit. <i>Issues in Mental Health Nursing</i> , 29, 455-469.	Violence Checklist (BVC) and Staff Observation Scale-Revised (SOAS-R) are in practice and to describe the data from the BVC and SOAS-R.	patients of a mental health inpatient unit in Saskatchewan, Canada in May of 2006.		assessment tools including the BVC and SOAS-R in an inpatient unit of a mental health ward. DV: The prediction of violent or aggressive behavior in the mental health population.	between BVC items and whether an incident occurred; similar results have been reported in previous BVC studies. No statistical analysis was conducted during this pilot study.	
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