Posttraumatic Stress Symptomatology Among Emergency Department Workers Following Workplace Aggression

by Gordon Lee Gillespie, PhD, RN, FAEN, Scott Bresler, PhD, Donna M. Gates, EdD, RN, FAAN, and Paul Succop, PhD

RESEARCH ABSTRACT

Workplace aggression has the potential to adversely affect the psychological health of emergency department (ED) workers. The purpose of this study was to compare posttraumatic stress symptomatology based on verbal and verbal plus physical aggression. A descriptive cross-sectional design was used with a convenience sample (n = 208) of ED workers who completed a three-component survey. Descriptive statistics were computed to compare traumatic stress scores based on type of aggression. Two-way analysis of variance statistics were computed to determine if scores differed on the demographic variables. Fewer than half of the ED workers reported traumatic stress symptomatology; however, workplace aggression has the potential to adversely affect the mental health of ED workers. Occupational health nurses can establish or maintain a nurturing and protective environment open to discussing the personal thoughts, feelings, and behaviors of ED workers related to their experiences of workplace aggression. This open and more positive work environment may aid in reducing the negative impact of posttraumatic stress symptoms among those ED workers who have been victimized. [*Workplace Health Saf* 2013;61(6):247-254.]

Workplace aggression has the potential to adversely affect the psychological health of emergency department (ED) workers and lead to disruptive symptoms of posttraumatic stress or even posttraumatic stress disorder (PTSD). Workplace aggression is an umbrella term including any unwanted verbal harassment, physical threat, or physical assault enacted against ED workers by ED patients or their visitors (Gates, Gillespie, Kowalenko et al., 2011; Gates, Ross, & McQueen, 2006). The purpose of this study was to compare the posttraumatic stress symptomatology of ED workers based on two types of workplace aggression. Implications for occupational health nursing practice are discussed in relation to the study findings.

ABOUT THE AUTHORS

Dr. Gillespie is Assistant Professor and Robert Wood Johnson Foundation Nurse Faculty Scholar and Dr. Gates is Professor Emerita, College of Nursing; Dr. Bresler is Clinical Director, Division of Forensic Psychiatry; and Dr. Succop is Professor, Division of Epidemiology and Biostatistics, Department of Environmental Health, College of Medicine, University of Cincinnati, Cincinnati, OH.

The authors have disclosed no potential conflicts of interest, financial or otherwise.

This study was supported by Grant Number 1R01OH009544-01 from the Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health (CDC-NIOSH). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC-NIOSH.

Address correspondence to Gordon Lee Gillespie, PhD, RN, FAEN, Assistant Professor, College of Nursing, University of Cincinnati, P.O. Box 21-0038, Cincinnati, OH 45014-2401. E-mail: gordon.gillespie@uc.edu.

Received: July 27, 2012; Accepted: March 4, 2013; Posted: May 23, 2013.
doi:10.3928/21650799-20130516-07

BACKGROUND

For decades, the ED has been known to be one of the most dangerous venues in which health care workers are employed. In the 1980s, Henry Ford Hospital in Detroit counted the weapons possessed by admitted patients via metal detectors during a 6-month period; 33

Applying Research to Practice

Emergency department (ED) workers experiencing workplace aggression must be educated about how to personally manage stressful ED environments. Some workers may benefit from psychological interventions as part of their personal stress management plan. Examples of interventions include the use of personal reflection, participation in a defusing intervention, stress inoculation training, and professional counseling.

handguns, 1,324 knives, and 97 mace canisters were detected (Thompson, Nunn, & Kraemer, 1988). It is clear that some ED consumers, especially in inner cities, carry various kinds of weapons. This finding, combined with recently documented increased wait times in the ED (Slade, Dixon, & Semmel, 2010) and more ED patients with known serious psychopathology in need of acute stabilization, suggests that stress in EDs may lead to violence.

Researchers have clearly documented that workplace aggression is a problem for ED workers in the United States (Gacki-Smith et al., 2009; Gates, Gillespie, Kowalenko et al., 2011; Gates et al., 2006; Kansagra et al., 2008). Kansagra et al. (2008) and Kowalenko, Gates, Gillespie, Succop, and Mentzel (2013) reported that workplace aggression occurred in all types of EDs and was not specific to the patient populations served (i.e., adult vs. adult and pediatric), annual census, the presence or absence of security personnel or metal detectors, the number or percent of employees trained in the prevention of workplace violence, and the ED being staffed by medical residents. In a national cross-sectional study of 3,465 emergency nurses, Gacki-Smith et al. (2009) found high frequencies of workplace aggression events: 70% of emergency nurses were victims of verbal harassment and 50% acknowledged experiencing one or more physical assaults. In another study of workplace aggression, 98% (n = 208) of participants reported verbal harassment, 68% (n = 144) were victims of physical threats, and 48% (n = 102) experienced physical assaults (Gates, Gillespie, Kowalenko et al., 2011).

Workplace aggression results in several negative outcomes that can be mitigated by attentive, skilled occupational health nurses. One common outcome of ED aggression is victimized ED workers resigning their positions or leaving health care altogether. Gacki-Smith et al. (2009) found that more than one third of their sample considered leaving the ED after being victimized by aggressors. This desire to leave may be related to feeling unsafe or being fearful in the ED after experiencing workplace aggression (Gacki-Smith et al., 2009; Gates, Gillespie, Kowalenko et al., 2011; Gillespie, Gates, Miller, & Howard, 2010; Kansagra et al., 2008). Some individuals victimized by workplace aggression also reported anger, helplessness, isolation, negative attitudes toward their employer, psychosomatic complaints, and decreased work productivity (Alden, Regambal, & Laposa, 2008; Gates, Gillespie, & Succop, 2011; Gillespie et al., 2010; Schat & Frone, 2011). Occupational health nurses can assess and intervene early for victims considering an employment change or adopting the negative attributes of victimization.

Posttraumatic stress is a problem affecting a considerable portion of health care providers. Kolkow, Spira, Morse, and Grieger (2007) studied a sample of military health care providers who returned from providing health care in a combat zone. The researchers found that 6.9% (n = 7) screened positive for a "subclinical" case of PTSD and another 9.8% (n = 9) were positive for meeting diagnostic criteria of PTSD. Studies with civilian health care worker samples have found similar frequencies of PTSD. Chan and Huak (2004) showed that 8.8% (n = 5) of physicians and 8% (n = 34) of nurses had PTSD. Hodgetts, Broers, Godwin, Bowering, and Hasanovic (2003) found that 18% (n = 18) of family physicians were diagnosed with PTSD after providing medical care during the war in their native lands of Bosnia and Herzegovina.

Research addressing the relationship between ED workers and symptoms of posttraumatic stress is extremely limited. Alden et al. (2008) studied this relationship in the context of workplace aggression. They found that posttraumatic stress symptoms were more severe when the aggression was directed toward the participant versus witnessing an aggressive incident.

Although it is clear that posttraumatic stress is a significant problem for health care workers, it is not known how pervasive the problem is among ED workers or if posttraumatic stress varies based on the type of workplace aggression. Further, it is not known if particular ED workers experience a disproportionate degree of posttraumatic stress symptoms. For occupational health nurses to develop an intervention specifically targeting high-risk occupational groups within the ED setting, an assessment of posttraumatic stress was needed. This article reports data from a baseline survey of a larger quasi-experimental study under way to address the problem of posttraumatic stress symptomatology related to workplace aggression.

METHODOLOGY

A descriptive cross-sectional design was used with a convenience sample of workers from six hospital-based EDs in the midwestern United States. The study sites included two Level-I trauma centers, two urban EDs, and two suburban EDs. Institutional Review Board approvals were secured prior to study initiation.

Recruitment flyers were placed in the mailboxes of 800 ED workers. Convenience sampling yielded 213 employees (26.6%) for this study. Five participants were excluded due to no recent experience of workplace aggression. Additional information related to the study sites and sampling is available in a related article (Gates, Gillespie, Kowalenko et al., 2011).

Instrumentation

Participants completed a three-part survey: demographic questionnaire, baseline workplace aggression survey, and PTSD Checklist—Civilian Version (PCL-C) (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Surveys were returned by mail to the study team and double entered into a spreadsheet. Data were then compared for entry reliability. The baseline workplace aggression survey was used to assess for Criterion A, the experience of personal trauma, as described in the diagnostic criteria for PTSD in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR; American Psychiatric Association, 2000). Aggressive events included verbal and physical aggression. This instrument was previously used by Gates et al. (2006) and requires a description of the workplace aggression incident(s). Participants reported the frequency of each type of workplace aggression during the preceding 6 months.

The PCL-C is a 17-item self-report inventory used to assess symptoms of the DSM-IV-TR-defined PTSD criteria (Blanchard et al., 1996). In addition to the experience of personal trauma (Criterion A), three additional criteria are required to qualify for a diagnosis of PTSD: re-experiencing (Criterion B), avoidance (Criterion C), and hyperarousal (Criterion D) (American Psychiatric Association, 2000). The re-experiencing of a traumatic event is exemplified by the presence of nightmares, flashbacks, and an extreme physiological reaction when reminded of the traumatic event (American Psychiatric Association, 2000). Avoidance occurs when an individual becomes increasingly isolated from others, lacking interest in work functions, not showing love to others, having a gloomy outlook of the future, and deliberately avoiding thoughts, feelings, conversations, activities, places, and people that are reminders of the traumatic event (American Psychiatric Association, 2000). Hyperarousal is demonstrated by insomnia, irritability, difficulty concentrating, and ease of startling (American Psychiatric Association, 2000). The PCL-C is a screening tool with demonstrated diagnostic efficiency used to identify individuals with significant symptoms of posttraumatic stress, including war veterans returning from combat (Bliese et al., 2008), community-dwelling veterans seeking treatment for PTSD (Keen, Kutter, Niles, & Krinsley, 2008), and patients seeking treatment in the community (Walker, Newman, Dobie, Ciechanowski, & Katon, 2002). The PCL-C has strong reliability, with Cronbach's alpha coefficients ranging from 0.85 to 0.94 and a total scale coefficient of 0.87. The PCL-C also has sound convergent validity with other instruments previously identified to have strong reliability and validity for assessment of PTSD (Ruggiero, Del Ben, Scotti, & Rabalais, 2003). The National Center for PTSD (2010), Walker et al. (2002), Blanchard et al. (1996), and Ruggiero et al. (2003) provided recommendations for specific cutoff screening scores to confirm a diagnosis of PTSD. A lower cutoff score (25) is used for screening and maximizes the identification of individuals who may need posttraumatic stress therapy. A higher cutoff score (50) was recommended for more definitive diagnosis of individuals with PTSD, minimizing the number of false-positives. Both sensitivity (0.94) and specificity (0.86) were highest when the cutoff score was 44. Based on these studies, cutoff scores for the current study were established at 25 (early risk), 44 (subclinical risk), and 50 (probable risk) for PTSD.

Data Analysis

Participants were dichotomized as experiencing verbal aggression only or experiencing verbal and physical aggression by patients and visitors. Items on the PCL-C were summed to yield a PCL-C score. Participant PCL-C scores were categorized as 0 to 24 (low risk of PTSD), 25 to 43 (early risk of PTSD), 44 to 49 (subclinical risk of PTSD), and 50+ (probable PTSD) to describe participant manifestation of posttraumatic stress symptomatology. Participants' results were then compared by type of aggression to determine if they had a minimum number of symptoms with sufficient severity to be considered clinically meaningful for each criterion. Finally, a two-way analysis of variance (ANOVA) was computed to determine statistical differences between type of aggression and demographic variables using the summative PCL-C score as the outcome measure. Alpha was set at $p < .05$.

RESULTS

Study participants (n = 208) primarily were White (n = 180, 86.5%), female (n = 148, 71.2%), baccalaureate or graduate education prepared (n = 135, 64.9%), nurses (n = 118, 56.8%), working day shift hours (n = 67, 32.2%), and employed in a general ED (n = 130, 62.5%). Participants' mean age was 37.2 years, ranging from 20 to 65 years. The mean years of ED experience was 6.6, ranging from being a novice (recently completing orientation) to an expert with up to 35 years of experience. At the time surveyed, all participants (n = 208, 100%) had experienced verbal workplace aggression during the preceding 6 months of their employment. A large portion of the sample had also experienced physical threats or assaults from patients and visitors (n = 159, 76.4%). Detailed descriptions and analyses of these violent events have been previously reported (Gates, Gillespie, Kowalenko et al., 2011).

Most participants were deemed to have a minimal risk for later developing PTSD (n = 28, 57.1% subsequent to experiencing verbal aggression alone; n = 92, 57.9% for verbal/physical aggression). The remaining participants yielded a PCL-C score sufficient for them to be categorized as "at risk" for later developing symptoms of PTSD (Table 1).

Most participants had no symptoms of posttraumatic stress (59.2% following verbal aggression, 60.4% following verbal/physical aggression). The most frequently occurring criterion for PTSD was re-experiencing. The least frequently occurring criterion for PTSD was avoidance. Table 1 provides additional details on posttraumatic stress symptomatology based on PTSD criterion.

The two-way ANOVA showed no significant ($p >$ .05) differences for mean PCL-C scores when groups were compared by type of aggression (verbal only, verbal/physical) and demographic variables (gender, race,

Table 1

Sample Description and Posttraumatic Stress Disorder Scores

	Verbal Aggression Only		*Verbal/Physical Aggression*	
PTSD Criteria	**N**	***(%)***	**N**	***(%)***
Posttraumatic stress symptomatology based on PCL-C score				
No posttraumatic stress (0 to 24)	28	(57.1)	92	(57.9)
Criteria met for early risk of PTSD (25 to 43)	20	(40.8)	57	(35.8)
Criteria met for subclinical risk of PTSD (44 to 49)	0	(0)	5	(3.1)
Criteria met for probable risk of PTSD (50+)	1	(2)	5	(3.1)
Posttraumatic stress symptomatology based on PTSD criterion[a]				
No criterion manifestation	29	(59.2)	96	(60.4)
Re-experiencing (Criterion B)	18	(36.7)	36	(28.9)
Avoidance (Criteria C)	1	(2)	12	(7.5)
Hyperarousal (Criteria D)	8	(16.3)	37	(23.3)

Note. *PTSD = posttraumatic stress disorder; PCL-C = PTSD Checklist—Civilian Version.* [a]*Participants could exhibit more than one criterion.*

educational attainment, occupational role, shift worked, patient population, ED setting). Table 2 lists descriptive data, *F* statistics, and *p* values for the group comparisons.

DISCUSSION

The diagnosis of PTSD requires individuals to experience events that result in, or have the potential to result in, serious injury to themselves or others (American Psychiatric Association, 2000). In addition, the traumatic event, by definition, must lead to intense fear, helplessness, or horror for the individuals involved (American Psychiatric Association, 2000). In this sample of ED employees, study findings demonstrated that verbal aggression alone as well as verbal and physical aggression rarely lead to subclinical risk or probable risk of PTSD.

Only 40% of the sample manifested at least one PTSD criterion. The criterion most commonly reported was re-experiencing, followed by hyperarousal and then avoidance. Alden et al. (2008) reported similar findings for participants who were the direct victims of workplace aggression: re-experiencing the violent event, followed by hyperarousal and avoidance of stimuli associated with the event. The fact that a minority of ED workers exhibited posttraumatic stress symptomatology may reflect the normality of the stress response experienced by ED workers. It may also demonstrate that some ED workers could benefit from relaxation training provided by occupational health nurses or professional psychotherapy interventions such as stress inoculation.

The re-experiencing of workplace aggression has a direct effect on ED workers' ability to adequately perform their work. Gates, Gillespie, and Succop (2011) found that re-experiencing a physically violent event in the workplace was significantly and negatively associated with ED workers' ability to meet the cognitive demands of their work (r = -0.26, $p < .0001$). The researchers further reported that ED workers' ability to be supportive and communicate with each other following physical assaults and threats was also hampered (r = -0.16, p = .02). ED workers are focused on providing care to patients regardless of the patients' potential for verbal or physical aggression. When a patient arrives at the ED who reminds the worker of a previously violent patient, the ED worker is not permitted to refuse to provide health care for this patient. Federal regulations such as the Emergency Medical Treatment and Active Labor Act require that all patients receive an adequate screening examination and appropriate interventions (Gates, Gillespie, Smith et al., 2011). The only alternative for these ED employees is to turn care over to another ED worker. This option may not be available for all ED workers (Gillespie et al., 2010). For example, the ED physician working at the time of the aggression may be the only health care provider on duty, leaving the victimized physician the only source of health care for the patient who resembles a former aggressor. These recurrent exposures may lead victimized ED workers to re-experience the violence each time they encounter details that resemble the previous violent event, such as the appearance or demeanor of the previously violent patient and the room where the event occurred. Further exacerbating the re-experiencing phenomenon is the victimized employee's coworkers inquiring about the details of the event. The ED worker's continual retelling of the "story" may force the ED worker to repeatedly re-experience the aggression. The retelling could persist for several days with coworkers, administrators, employee health professionals, safety and security officers, and risk managers, all of whom may further in-

Table 2

Posttraumatic Stress Disorder Scores Based on Demographic Variables

	Verbal Aggression			Verbal/Physical Aggression				
Variable	N	*(%)*	*PCL-C Score*	N	*(%)*	*PCL-C Score*	*GLM* (F)	p
Gender							1.241	.296
Male	10	(20.4)	27.5	50	(31.4)	24.4		
Female	39	(79.6)	24.3	109	(68.6)	26.7		
Race							0.850	.547
African American	2	(4.1)	29	7	(4.4)	27.4		
Asian	3	(6.1)	23.5	9	(5.7)	19.3		
White	43	(87.8)	24.7	137	(86.2)	26.1		
Other/multiple races	1	(2)	28	6	(3.8)	28.2		
Educational attainment							0.761	.652
High school or equivalent	1	(2)	17	1	(0.6)	17		
Some college	9	(18.4)	22.7	22	(13.8)	27		
Associate degree	5	(10.2)	30.2	35	(22)	27		
Baccalaureate degree	15	(30.6)	27.1	58	(36.5)	25.9		
Graduate/professional degree	19	(38.8)	23.3	43	(27)	25.1		
Occupational role							1.441	.190
Nurse	25	(51)	26.2	93	(58.5)	26.7		
Physician/physician assistant	12	(24.5)	24.5	33	(20.8)	24.8		
Social worker	3	(6.1)	28.7	5	(3.1)	34		
Unlicensed assistive personnel	9	(18.4)	20.7	28	(17.6)	23.8		
Shift worked[a]							0.763	.619
Day hours	20	(40.8)	25.5	47	(29.7)	26.9		
Evening hours	5	(10.2)	28.4	26	(16.5)	23.9		
Night hours	6	(12.2)	28.2	29	(18.4)	26.2		
Variable hours	18	(36.7)	22.3	56	(35.4)	26.2		
Patient population[a]							0.928	.464
Adult only ED	11	(22.4)	27.6	55	(34.8)	26.5		
Psychiatric only ED	2	(4.1)	27.5	9	(5.7)	30.3		
General ED	36	(73.5)	24	94	(59.5)	25.3		
ED setting							0.530	.754
Level-I trauma center	27	(55.1)	25.5	102	(64.2)	26.2		
Urban ED	11	(22.4)	26.8	32	(20.1)	26.2		
Suburban ED	11	(22.4)	21.7	25	(15.7)	25.1		

Note. *ED = emergency department; GLM = General Linear Model; PCL-C = PTSD Checklist—Civilian Version. Not all percentages total 100% due to rounding.* [a]*Missing data for one participant who experienced verbal/physical aggression.*

crease the re-experience not only while at work but also when at home.

Hyperarousal was reported by 23% of the sample experiencing verbal/physical aggression. It is possible that the symptoms of hyperarousal are not higher due to the culture of emergency care. In the ED, workers are required to shift their focus minute by minute from the care of non-urgent patients to severely ill or injured patients and back again (Hu, Chen, Chiu, Shen, & Chang, 2010). The ability to quickly and consistently shift fo-

cus may afford the ED workers a heightened ability to be hyperaroused during or immediately after a violent event and then shift their entire focus to another patient. The hyperarousal symptoms may be resolved during the time the ED workers focus their attention away from the aggressive patient or visitor. Additionally, some employees may be partially immune to stressful situations through conditioning after past experiences with violent patients and visitors as well as severely injured patients with deformities and body mutilations. The fact that all but the four excluded participants experienced recent verbal aggression and nearly 76% reported recent physical aggression reflects the common nature of aggression against ED employees. Over time, these workers may believe that workplace aggression is part of their jobs (Gates et al., 2006) and learn to proactively cope and manage their hyperarousal symptoms (Gillespie et al., 2010). ED workers not immune and unable to cope will likely leave the ED. Anecdotally, it is known that some ED managers label ED workers who "couldn't hack it" in the ED after violent events as "weak," and these "weak links" are sometimes shunned by their coworkers, resulting in these workers leaving the ED and seeking alternative employment. The workers themselves may even question their fitness and competence to continue current employment. This potential change in departments or employees leaving the organization leaves only the most resilient workers in the ED to participate in studies.

Avoidance was the least frequently occurring criterion for posttraumatic stress, similar to what Alden et al. (2008) found in their study with ED workers. This finding may be a result of the workflow of the ED. For example, many ED workers are not able to avoid the environment in which the event occurred and must continue providing clinical care to other potentially violent patients. ED workers, depending on department staffing and guidelines, cannot reassign other potentially violent patients to another worker. These standards of practice may actually buffer the potential negative aspects associated with the posttraumatic stress symptomatology of avoidance by giving ED workers time to manage their stress reaction and minimize the associated symptomatology. In addition, the retelling of the event to employee health professionals and other significant individuals in the workplace may be perceived by the victims as a form of support in resolving their posttraumatic stress symptoms related to avoidance (Catlette, 2005).

Nearly all participants in the sample experienced several personal traumas: verbal and physical aggression from patients and visitors. Thirty-six percent of the sample that experienced physical aggression scored between 25 and 43 on the PCL-C, indicating they were exhibiting symptoms that may later manifest as PTSD. Six percent of participants who experienced physical aggression scored high enough on the PCL-C (44+) to suggest posttraumatic stress symptoms severe enough for a subclinical or probable diagnosis of PTSD. This percentage of ED workers was considerably lower than percentages reported in other studies of health care workers. Hodgetts et al. (2003) reported that 18% of the family physicians in their study scored high enough on the PCL-C to have PTSD; these family physicians were providing medical care during a time of civil unrest in their native countries. Their exposure to and risk for violence did not stop when they exited the workplace; instead, it continued 24 hours per day even when "safe" at home. Chan and Huak (2004) revealed that more than 8% of physicians and nurses at one health center in Singapore had PCL-C scores high enough to be diagnosed with PTSD. Participants in their study (46% of physicians, 41% of nurses) also reported witnessing a health care worker being badly injured or killed. These violent events resulted in many employees being terrified to go to work. The severity of the workplace aggression in the study by Chan and Huak (2004) likely led to higher numbers experiencing PTSD manifestations. The percentage of health care workers in the study by Kolkow et al. (2007) was also higher than that in the current study. Sixteen percent of the health care workers in that study demonstrated subclinical or probable PTSD when measured with the PCL-C. The higher numbers reported are likely similar to those reported by Hodgetts et al. (2003); both samples of health care workers were exposed to war-related trauma.

Differences in the findings for subclinical and probable cases of PTSD may also be related to substantive differences in the work environments across studies. The ED requires a strong collaborative team approach to manage work-related stress (Creswick, Westbrook, & Braithwaite, 2009). Researchers have reported that ED workers commonly use their professional groups to solve problems, seek medication advice, and socialize (Creswick et al., 2009). The strong social network and support available to ED workers in this study may account for the lower prevalence of posttraumatic stress symptoms across all demographic groups. This network may allow the victims of workplace aggression in the ED to effectively cope with the personal trauma and mediate against posttraumatic stress symptomatology, especially that of avoidance.

By not directly addressing the needs of ED workers who have symptoms of PTSD but not the full criteria for such a diagnosis, the unnecessary attrition of competent, highly trained ED workers may occur in their effort to protect themselves. Many ED workers believe they are expected to just "get over" workplace aggression without assistance (Gates, Gillespie, Smith et al., 2011), which may possibly lead to further attrition. Such ED worker attrition is costly and disrupts the development of cohesive, trusting relationships among teams of ED workers (Creswick et al., 2009). These workers may even change employers altogether, as events of aggression in the workplace breed discontent and undermine trust in the organization as a whole. It seems likely that this transfer from the ED or resignation may also partially account for the relatively low percentage of workers with subclinical or probable PTSD; that is, ED workers with PTSD do not remain in the ED and are thus not found by studies such as this one.

Limitations

Study enrollment used convenience sampling. Enrolled participants may be different from ED workers

who did not enroll. The temporality of the event was not identified, so some participants may be experiencing acute stress disorder symptoms (i.e., experienced the event less than 30 days ago) versus posttraumatic stress symptoms that are more remote (i.e., experienced the event 6 months ago). Participants may also be experiencing posttraumatic stress symptoms resulting from a historical stressor and not the recent event of workplace aggression. The data were also self-reported and not collected or verified by an independent mental health clinician. Other personal traumas in the participants' lives may be equally responsible for causing the posttraumatic stress symptomatology (e.g., rape, death of a family member). Finally, the use of the PCL-C for gauging symptoms of posttraumatic stress inherently has limitations. It is a self-report measure and, as such, is subject to biases and idiosyncratic interpretation potentially affecting its validity. It does not account for symptoms that may have differentially impacted individuals. Only more in-depth assessment tools such as the Clinician-Administered PTSD Scale (Blake et al., 1995) or a thorough in-depth clinical interview by a well-trained clinician can determine such information and specifically pinpoint the link between a traumatic event and posttraumatic stress symptomatology.

IMPLICATIONS FOR OCCUPATIONAL HEALTH NURSING PRACTICE

As shown in this study, no specific demographic group was determined to have significantly greater posttraumatic stress than its comparison group(s). Therefore, interventions provided or facilitated by occupational health nurses should be offered to foster resilience among all ED workers who experience workplace aggression.

A priority component of an aggression management program developed by occupational health nurses is the establishment of guidelines to manage the aftermath of workplace aggression. Guidelines must be developed collaboratively with ED leaders, educators, and other employee health professionals. One aspect of the guidelines is the notification of employee health following all events. The notification may come from risk management or employees directly involved in the event. During the initial assessment of ED workers, occupational health nurses should screen for signs of acute stress disorder. If signs are minimal, the employee can be monitored in employee health as needed. If signs are moderate or severe, a referral to the employee assistance program for psychological assessments and counseling may be warranted. If workers exhibit any signs of suicidal ideation or extreme depression, an immediate referral to the ED is indicated.

Jackson, Firtko, and Edenborough (2007) described the use of personal reflection as one strategy to increase resilience. While in the employee health clinic, occupational health nurses can instruct affected ED workers to journal their personal experiences of workplace aggression, specifically detailing the aggressive workplace encounter, what the experience meant to them, and the outcome they wished would have occurred. This strategy may be especially useful for those workers choosing not to seek the assistance of a professional psychotherapist. Occupational health nurses should monitor these ED workers to assess the usefulness of this strategy and to determine if additional interventions are needed.

Occupational health nurses can collaborate with ED educators to develop and host seminars on posttraumatic stress symptomatology. Training modules can include the signs of traumatic stress, how to personally manage traumatic stress, and contact information for professional counseling (e.g., employee health, employee assistance program). Occupational health nurses can also train hospital chaplains, ED charge nurses, attending physicians, and other department administrators to lead a brief defusing intervention after aggressive events to prevent negative posttraumatic stress symptomatology among ED workers (Gates, Gillespie, Smith et al., 2011; Gillespie et al., 2010). The defusing facilitator can then refer the affected employees to employee health for psychological screening examinations. Workers are then more attuned to the presence of posttraumatic stress in others and encourage coworkers to seek the assistance of employee health when symptoms are identified.

Another strategy to prevent the negative insult of posttraumatic stress symptoms is stress inoculation training (Meichenbaum, 2007), a form of cognitive-behavioral therapy in which occupational health nurses expose ED workers to pseudoaggressive situations in a safe environment. During the training, workers learn to reframe aggressive events as challenges to be managed and overcome. As the training continues, ED workers imagine situations that include more toxic levels of aggression and are provided opportunities to apply their training. Occupational health nurses can provide immediate feedback on ED workers' performance. Stress inoculation training has already shown moderate success in both military (Hourani et al., 2011) and civilian (Kawaharada et al., 2009) populations.

CONCLUSION

Workplace aggression will continue to adversely affect the mental health of some ED workers, placing them at risk for developing PTSD. The ED may be protective against developing PTSD for some; however, for others the symptoms of posttraumatic stress related to re-experiencing and hyperarousal persist. The occupational health nurse can develop training and guidelines to manage the aftermath of workplace aggression. It is important that occupational health nurses continue to assess, treat, and refer ED workers as needed for psychological distress related to workplace aggression. Research should be conducted to determine the effectiveness of an occupational health nurse-led intervention for preventing or reducing posttraumatic stress symptoms among ED workers.

REFERENCES

Alden, L. E., Regambal, M. J., & Laposa, J. M. (2008). The effects of direct versus witnessed threat on emergency department healthcare workers: Implications for PTSD Criterion A. *Journal of Anxiety Disorders, 22*(8), 1337-1346.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders. Fourth edition. Text revision.* Washington, DC: Author.

Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S., & Keane, T. M. (1995). The development of the Clinician-Administered PTSD Scale. *Journal of Traumatic Stress, 8*(1), 75-90.

Blanchard, E. B., Jones-Alexander, J., Buckley, T. C., & Forneris, C. A. (1996). Psychometric properties of the PTSD Checklist (PCL). *Behaviour Research and Therapy, 34*(8), 669-673.

Bliese, P. D., Wright, K. M., Adler, A. B., Cabrera, O., Castro, C. A., & Hope, C. W. (2008). Validating the primary care posttraumatic stress disorder screen and the posttraumatic stress disorder checklist with soldiers returning from combat. *Journal of Consulting and Clinical Psychology, 76*(2), 272-281.

Catlette, M. (2005). A descriptive study of the perceptions of workplace violence and safety strategies of nurses working in level I trauma centers. *Journal of Emergency Nursing, 31*(6), 519-525.

Chan, A. O., & Huak, C. Y. (2004). Influence of work environment on emotional health in a health care setting. *Occupational Medicine (London), 54*(3), 207-212.

Creswick, N., Westbrook, J. I., & Braithwaite, J. (2009). Understanding communication networks in the emergency department. *BMC Health Services Research, 9*(247), 1-9.

Gacki-Smith, J., Juarez, A. M., Boyett, L., Homeyer, C., Robinson, L., & MacLean, S. L. (2009). Violence against nurses working in US emergency departments. *Journal of Nursing Administration, 39*(7-8), 340-349.

Gates, D., Gillespie, G., Kowalenko, T., Succop, P., Sanker, M., & Farra, S. (2011). Occupational and demographic factors associated with violence in the emergency department. *Advanced Emergency Nursing Journal, 33*(4), 303-313. doi:10.1097/TME.0b013e3182330530

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. *Journal of Emergency Nursing, 37*(1), 32-39. doi:10.1016/j.jen.2009.09.013

Gates, D. M., Gillespie, G. L., & Succop, P. (2011). Violence against nurses and its impact on stress and productivity. *Nursing Economic$, 29*(2), 59-66.

Gates, D. M., Ross, C. S., & McQueen, L. (2006). Violence against emergency department workers. *Journal of Emergency Medicine, 31*(3), 331-337.

Gillespie, G. L., Gates, D. M., Miller, M., & Howard, P. K. (2010). Violence against healthcare workers in a pediatric emergency department. *Advanced Emergency Nursing Journal, 32*(1), 68-82. doi:10.1097/TME.0b013e3181c8b0b4

Hodgetts, G., Broers, T., Godwin, M., Bowering, E., & Hasanovic, M. (2003). Post-traumatic stress disorder among family physicians in Bosnia and Herzegovina. *Family Practice, 20*(4), 489-491.

Hourani, L. L., Kizakevich, P. N., Hubal, R., Spira, J., Strange, L. B., Holiday, D. B., . . . & McLean, A. N. (2011). Predeployment stress inoculation training for primary prevention of combat-related stress disorders. *Journal of CyberTherapy & Rehabilitation, 4*(1), 101-116.

Hu, Y. C., Chen, J. C., Chiu, H. T., Shen, H. C., & Chang, W. Y. (2010). Nurses' perception of nursing workforce and its impact on the managerial outcomes in emergency departments. *Journal of Clinical Nursing, 19*(11-12), 1645-1653. doi:10.1111/j.1365-2702.2009.02999.x

Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing, 60*(1), 1-9.

Kansagra, S. M., Rao, S. R., Sullivan, A. F., Gordon, J. A., Magid, D. J., Kaushal, R., . . . Blumenthal, D. (2008). A survey of workplace violence across 65 U.S. emergency departments. *Academic Emergency Medicine, 15*(12), 1268-1274.

Kawaharada, M., Yoshioka, E., Saijo, Y., Fukui, T., Ueno, T., & Kishi, R. (2009). The effects of a stress inoculation training program for civil servants in Japan: A pilot study of a non-randomized controlled trial. *Industrial Health, 47*(2), 173-182.

Keen, S. M., Kutter, C. J., Niles, B. L., & Krinsley, K. E. (2008). Psychometric properties of PTSD Checklist in a sample of male veterans. *Journal of Rehabilitation Research & Development, 45*(3), 465-474.

Kolkow, T. T., Spira, J. L., Morse, J. S., & Grieger, T. A. (2007). Posttraumatic stress disorder and depression in health care providers returning from deployment to Iraq and Afghanistan. *Military Medicine, 172*(5), 451-455.

Kowalenko, T., Gates, D. M., Gillespie, G. L., Succop, P., & Mentzel, T. (2013). Prospective study of violence against ED workers. *American Journal of Emergency Medicine, 31*(1), 197-205. doi:10.1016/j.ajem.2012.07.010

Meichenbaum, D. (2007). Stress inoculation training: A preventative and treatment approach. In P. M. Lehrer, R. L. Woolfolk, & W. E. Sime (Eds.), *Principles and practice of stress management* (pp. 497-518). New York, NY: Guilford Press.

National Center for PTSD. (2010, June). *Using the PTSD Checklist (PCL).* Retrieved from www.ptsd.va.gov/professional/pages/assessments/ptsd-checklist.asp

Ruggiero, K. J., Del Ben, K., Scotti, J. R., & Rabalais, A. E. (2003). Psychometric properties of the PTSD Checklist–Civilian Version. *Journal of Traumatic Stress Studies, 16*(5), 495-502.

Schat, A., & Frone, M. R. (2011). Exposure to psychological aggression at work and job performance: The mediating role of job attitudes and personal health. *Work and Stress, 25*(1), 23-40.

Slade, E. P., Dixon, L. B., & Semmel, S. (2010). Trends in the duration of emergency department visits, 2001-2006. *Psychiatric Services, 61*(9), 878-884.

Thompson, B. M., Nunn, J., & Kraemer, I. (1988). Disarming the department: Weapon screening and improved security to create a safer ED environment. *Annals of Emergency Medicine, 17,* 419.

Walker, E. A., Newman, E., Dobie, D. J., Ciechanowski, P., & Katon, W. (2002). Validation of the PTSD checklist in an HMO sample of women. *General Hospital Psychiatry, 24*(6), 375-380.