NCPD 2.5 ANCC Contact Hours

Impact of Trauma-Informed Care Training on Attitudes Among Emergency Department Personnel, Staff Advocates, and Nursing Students

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BACKGROUND: Health care providers may risk retraumatizing patients and intensifying patient distress unless they practice trauma-informed care. As the first line of defense in assisting trauma survivors' physical and emotional recovery, health care providers must use a strengths-based framework that promotes resilience and expands on the trauma survivor's existing resources.

OBJECTIVE: This study aimed to compare the effect of trauma-informed care training on the attitudes of emergency department personnel, staff advocates, and nursing students toward trauma-informed care.

METHODS: This study used a pretest–posttest design. Assessment of attitudes toward trauma-informed care was done before and after trauma-informed care training. Data collection occurred from February 2021 through August 2021. Participants included three cohorts of emergency department staff, advocates for trauma survivors, and nursing students. Attitudes toward trauma-informed care were measured using the Attitudes Related to Trauma-Informed Care (ARTIC) Scale.

RESULTS: A total of 433 participants were studied, including 88 emergency department staff, 123 staff advocates, and 222 nursing students. All three cohorts significantly increased ARTIC Scale scores posttraining ($p < .001$). At preintervention, all three cohorts significantly differed from each other on ARTIC Scale scores ($p < .01$). In contrast, postintervention, ARTIC Scale scores did not significantly differ between nursing students and advocates ($p = .99$). Nursing students showed a significant increase in scores from pre- to postintervention compared with either advocates or emergency department staff.

CONCLUSION: The results strongly suggest that health care providers can improve attitudes toward trauma-informed care after completing training on the principles and application of trauma-informed care.

KEY WORDS: Attitudes, Communication, Emergency department, Environment, Nursing students, Staff advocates, Training, Trauma-informed care, Trauma survivors

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Motor vehicle crashes, gun violence, and conflicts are examples of daily trauma in contemporary society. Certain forms of traumatic events can be recovered from after brief periods of time, and often with support, whereas others can take years to heal from, if ever. Most people will experience trauma at some time during their lives. According to the World Mental Health Surveys of Adults, 70.4% of participants experienced at least one traumatic event (Kleber, 2019). The National Center for PTSD (posttraumatic stress disorder) states that within the U.S. population, more than half will experience at least one traumatic event during their life span (U.S. Department of Veterans Affairs, 2023). Health care providers who work in trauma facilities are the first line of defense in aiding trauma survivors' physical and emotional recovery. To be effective, they must comprehend the effects of trauma on the individual and utilize a framework with a strengths-based perspective

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KEY POINTS

- Trauma-informed care provides a holistic approach, which helps decrease the risk of clinicians unintentionally retraumatizing patients while providing care.
- Little has been published on trauma center efforts to address trauma-informed care.
- This study found that trauma-informed care training significantly enhances the attitudes of trauma providers toward the use of trauma-informed care.

that promotes resilience and builds on the trauma survivor's existing resources to support them in crisis (Elliott et al., 2005; Substance Abuse and Mental Health Services Administration [SAMSHA], 2014). In addition, trauma facilities must implement trauma-informed care protocols that cultivate awareness, sensitivity, and responsiveness among health care providers (Fleishman et al., 2019).

A trauma survivor's physical and mental health may be adversely affected by an accumulated lifetime exposure to trauma. Retraumatization can occur when a trauma survivor responds to inquiries about their medical history or may experience emotional distress while receiving treatment for an injury (Buettel & Abram, 2022; Koury & Green, 2019). Nurses who do not use a trauma-informed care approach risk amplifying the discomfort and pain trauma survivors experience during a clinical encounter. Health care providers must be educated on trauma and its consequences to protect survivors from further traumatization. The trauma-informed care approach enables the health care provider to assume that all patients coming into their care have experienced trauma to some degree. They should instruct patients on developing techniques to help them regain a sense of control and provide emotional support that aids in their recovery (Buettel & Abram, 2022; Cochran, 2019; SAMSHA, 2014). A trauma-informed approach should be taken in all interactions with trauma survivors due to the pervasiveness of violence encountered and the incidence of victimization. Nurses have a unique opportunity to lead the health care industry in recognizing the effects of trauma on patient health. They are well positioned to advocate for the universal application of trauma-informed care principles and incorporation into clinical practice to help trauma survivors recover from traumatic experiences (Cochran, 2019; Roberts et al., 2019).

Not all trauma care practitioners have fundamental training in trauma-informed care communication skills (Fischer et al., 2019). Providers engaging in this mode of communication need to reflect on how their own biases and experiences might influence their interactions with trauma survivors. The American Association for the Surgery of Trauma (2023) recommends that health care facilities provide safe and effective healing settings for trauma survivors and have them be active participants in their care to reduce the likelihood of further traumatization. Trauma-informed patient care procedures and training programs are a means by which to accomplish these goals (Grossman et al., 2021).

Several studies have addressed the outcomes of implementing trauma-informed care training programs. In a mixed-methods study by Hall et al. (2016), researchers evaluated the efficacy of trauma-informed training for emergency department (ED) nurses. On the day of the training, the participants completed a pre- and post-education questionnaire, and 3 months later, two focus group interviews on the efficacy and benefits of trauma-informed care were conducted. The results showed that ED nurses were more confident in their communication skills and current practice using trauma-informed care principles. Hall et al. (2016) found that participants' understanding of trauma-informed care principles and using a person-centered approach improved because of participation in trauma-informed training.

In another study by Dueweke et al. (2019), researchers studied the outcome of trauma-informed care training for pediatric residents in primary care settings. Results revealed increased favorable attitudes and perceived competence toward using trauma-informed care principles in clinical practice among study participants. A decrease in perceived barriers to real-time implementation of trauma-informed care in everyday practice was also found (Dueweke et al., 2019).

In a study by Buxton et al. (2023), researchers examined the impact of a peer-to-peer "train the trainers" program on trauma-informed care practices among medical students and residents in a surgical residency program. They participated in three 2-hr sessions facilitated by a national expert in trauma-informed care. Results indicated a significant increase in practitioners' confidence in implementing trauma-informed care principles. There was an increased desire to enhance interactions and communication with patients and colleagues, increase awareness, and mitigate trauma in their environments (Buxton et al., 2023).

TRAUMA-INFORMED CARE FRAMEWORK

Trauma-informed care is a patient-centered approach that considers the health care provider's actions and the trauma survivor's unique experience (Fleishman et al., 2019; Hopper et al., 2010; SAMSHA, 2014). Using the trauma-informed care framework facilitates safe, equitable, and efficient interaction with trauma survivors and empowers them to participate actively in their health care plan (Wathen et al., 2021). The trauma-informed framework comprises four core tenets known as the four Rs: *Realizing* the impact of trauma, *Recognizing* the signs and symptoms of trauma in survivors, *Responding* by completely integrating trauma

knowledge into patient care, and *Resisting* retraumatization of trauma survivors (SAMSHA, 2014). Within the framework, there are six core principles that health care providers can implement to provide clear and direct communication and a sense of *felt* safety for the trauma survivor. The six core principles of trauma-informed care include (1) safety, (2) trustworthiness and transparency, (3) peer support, (4) collaboration and mutuality, (5) empowerment, voice, and choice, and (6) gender, historical, and cultural concerns (SAMSHA, 2014).

OBJECTIVE

The study aimed to compare the effect of trauma-informed care training on the attitudes of ED personnel, staff advocates, and nursing students toward trauma-informed care.

METHODS

Design

This study used a pretest-posttest design. Attitudes toward trauma-informed care were assessed before and after trauma-informed care training. We compared attitude scores across three cohorts: ED staff, staff advocates, and nursing students. The study's quantitative findings will inform quality improvement initiatives at trauma centers. Institutional review board approval (IRB#1593881-1) was obtained from The University of Texas at El Paso and the University Medical Center of El Paso.

Research Questions

Three research questions guided the study.

1. What are the baseline attitudes of nursing students and health care providers regarding trauma-informed care?
2. What are the attitudes of nursing students and other health care providers before and after attending an in-service training on trauma-informed care?
3. Is there a difference in nursing students' and health care providers' perceived attitudes after in-service training regarding trauma-informed care?

Setting

The study setting included four locations providing access to diverse professionals at various stages of training and practice.

1. Level I trauma center with a dedicated 24/7 sexual assault nurse examiners (SANE) department.
2. The Center Against Sexual and Family Violence (CASFV) Facility.
3. The College of Nursing at The University of Texas at El Paso.
4. The School of Nursing at Southwest University at El Paso.

Participants

Trauma-informed training was provided to ED staff, staff advocates, and nursing students. The ED staff participants included nurses, paramedics, and clerks. The staff advocates included social workers, case managers, SANE nurses, and interpersonal violence counselors. The prelicensure nursing students were from two local universities. Recruitment was accomplished by distributing flyers to all four setting locations. Inclusion criteria included participants aged 18 years and older who were employed or were students in the health care profession. Exclusion criteria included individuals younger than 18 years, not employed in one of the study's designated health care fields, and nursing school faculty. The overall data collection time frame was from February 2021 through August 2021.

Training

Trauma-Informed Care Training Procedures

The trauma-informed care training sessions were approximately 1.5–2 hr in length. Trauma-informed care experts developed the training content from the El Paso Child Guidance Center. The trauma center ED staff and staff advocates were trained virtually due to COVID-19 restrictions, whereas the CASFV staff and nursing students were trained in person with the lifting of COVID-19 restrictions. Three trauma-informed care experts from the El Paso Child Guidance Center delivered the training. Pre- and postassessments were given 30 min before the training and immediately after the training. Trauma-informed care training included discussing the effects of psychological trauma on health, adverse childhood experiences, and the effects of trauma on the brain. A detailed discussion of the six guiding principles of trauma-informed care was also included, and case vignettes were presented in which participants were asked to work through a situation utilizing trauma-informed care principles.

Measures

Attitudes Toward Trauma-Informed Care

Attitudes toward trauma-informed care were measured using the Attitudes Related to Trauma-Informed Care (ARTIC) Scale (Baker et al., 2016; Baker et al., 2021). The ARTIC-35 version was used. It was designed for use in human service and education settings where staff are unfamiliar with the term and concept of trauma-informed care. The ARTIC Scale comprises 35 sets of statements displayed on the left-hand and right-hand sides of the page, reflecting opposite ends of a spectrum of beliefs. For example, one set of items states, "I don't have what it takes to help my clients" on the

left side and, "I have what it takes to help my clients" on the right side. For each set of statements, the respondents select the score along a 7-point scale, the dimension of the two statements that best represent their personal beliefs. The 7-point scale ranges from 1 to 7, with 1 on the left and 7 on the right. Although some items are reverse coded, less favorable beliefs related to trauma-informed care are scored 1, and more favorable beliefs are scored 7. Thus, higher overall scores reflect greater consistency in beliefs with trauma-informed care. The overall score on the ARTIC Scale includes five core subscales that evaluate the participant's assessment of the underlying causes of problem behavior and symptoms, staff response, empathy and control, self-efficacy at work, and reactions at work. The ARTIC Scale has been shown to have robust psychometric properties, including construct validity based on factor structure (confirmatory factor analysis: Satorra–Bentler scaled $\chi^2(548) = 993.98$, $p < .001$; $\chi^2/df = 1.81$, root mean square error of approximation = 0.033 [0.029–0.036], standardized root mean square residual = 0.042, comparative fit index = 0.922, non-normed fit index = 0.915, and internal consistency [$\alpha = .91$]) and test–retest reliability (0.84 at <120 days; 0.75 at 121–150 days; and 0.77 at 151-180 days; Baker et al., 2016, Baker et al., 2021). Although all participants completed the ARTIC Scale prior to and after training in trauma-informed care, an average of 4.76 ($SD = 3.6$; range: 1–19) participants did not respond to any particular item. The overall average score on the ARTIC Scale ranged from 1 to 7 and was used as the dependent variable of interest in the current study.

Procedure

Statistical Analysis

Comparison of demographic characteristics used χ^2 for analysis of categorical data and *t* test for continuous data on nonmissing data. A 3 × 2 two-way repeated-measures analysis of variance (ANOVA) including a between-subjects factor (three cohorts including staff advocates, ED staff, and nursing students) and a within-subjects factor (scores on the ARTIC Scale before and after training) using listwise deletion was used to compare the effects of training on changes in scores on the dependent variable between the three cohorts. The repeated-measures ANOVA examines the interaction between the participant cohorts and the change in scores before and after training. Bonferroni correction was used to control for multiple comparisons. Based on a significant omnibus test of the interaction from the a priori 3 × 2 two-way repeated-measures ANOVA, tests of simple main effects were conducted to examine the nature of the interaction effect. Based on significant differences in prior training between the three cohorts, a post hoc analysis of covariance (ANCOVA) was conducted to determine the effect of prior training on scores between pretraining and posttraining among the three cohorts.

Missing Data and Sensitivity Analysis

Before completing a priori repeated-measures ANOVA, an examination of missing data for the dependent variable of interest, ARTIC Scale scores, was conducted. This analysis included determining patterns of nonresponse and potential biases in nonresponse. Potential biases in nonresponse were assessed by comparing the demographic characteristics of those providing responses to all items of the ARTIC Scale and those with missing responses using χ^2 test. It is generally recommended that when nonresponse rates are above 5%, multiple imputations be employed to account for missing data (Enders, 2010; Graham, 2009). More than 5% of cases were missing data on the overall ARTIC Scale, so data were imputed using M*plus* (Muthén & Muthén, 1998–2017). Specifically, maximum likelihood estimation was utilized to generate 20 imputed data sets (Graham et al., 2007) wherein missing data were imputed for all variables with any missing data regardless of the number of items missing, and parameter estimates were pooled across the 20 imputed data sets according to Rubin's rules (Rubin, 2004). Missing data for the ARTIC Scale were imputed at the item level, after which composite scores were calculated using the imputed data sets (Enders, 2010). The ARTIC Scale items were treated as continuous variables in the imputation model. The imputation model included groups, prior training, and all ARTIC Scale items at each of the two time points for 72 variables included in the imputation model. Repeated-measures analyses using imputed data were conducted to establish the effect of missing data on the robustness of the overall results and, thereby, function as a sensitivity analysis.

RESULTS

A total of 433 participants completed the trauma-informed care training, consent for research, and the pre-and posttest assessments, including ED staff ($n = 88$), staff advocates ($n = 123$), and nursing students ($n = 222$). Four participants completed the training but opted out of the research study (two from ED staff and two from staff advocates). Thirteen participants were classified as nursing school faculty and were excluded from the nursing student results.

Differences in demographic characteristics are presented in Table 1. Students were more likely to be younger ($\chi^2 = 124$, $df = 14$, $p < .001$), Hispanic ($\chi^2 = 43.7$, $df = 21$, $p = .003$), single or never married ($\chi^2 = 42.5$, $df = 12$, $p < .001$), and had less education ($\chi^2 = 268.6$, $df = 15$, $p < .001$). Most notably, there

were significant differences in prior training in trauma-informed care between the three cohorts ($\chi^2 = 81$, $df = 2$, $p < .001$). Specifically, staff advocates (49%) had the highest rates of prior training, and nursing students (6%) had the lowest rates of prior training, with ED Staff (33%) reporting rates in between these two cohorts. However, a post hoc ANCOVA (results not shown) based on the observed differences in prior training at baseline indicated that there was no significant main effect of prior training [F (1,325) = 1.3, p = .26], nor a significant interaction between training in trauma-informed care and prior training [F (1,325) = 0.50, p = .48]. Given that prior training did not significantly affect the results of the a priori ANOVA,

Table 1. Comparison of Demographic Characteristics

	ED Staff $n = 88$	Advocates $n = 123$	Students $n = 222$	Results
Gender/sex				$\chi^2 = 5.5$, $df = 6$, $p = .48$
Male	15 (17.0%)	15 (12.5%)	39 (18%)	
Female	73 (83.0%)	104 (86.7%)	174 (80.2%)	
Other	0 (0%)	1 (0.8%)	1 (0.5%)	
Choose not to identify	0 (0%)	0 (0%)	3 (1.4%)	
Age (years)				$\chi^2 = 124.0$, $df = 14$, $p < .001$
18–25	13 (14.8%)	21 (17.4%)	116 (53%)	
26–30	19 (21.6%)	18 (14.9%)	47 (21.5%)	
31–35	21 (23.9%)	17 (14%)	29 (13.2%)	
36–40	12 (13.6%)	11 (9.1%)	15 (6.8%)	
41–45	12 (13.6%)	14 (11.6%)	9 (4.1%)	
46–50	3 (3.4%)	18 (14.9%)	2 (0.9%)	
51–60	6 (6.8%)	17 (14%)	1 (0.5%)	
61+	2 (2.3%)	5 (4.1%)	0 (0%)	
Ethnicity				$\chi^2 = 25.5$, $df = 14$, $p = .03$
Hispanic	65 (73.9%)	106 (87.6%)	183 (83.6%)	
Non-Hispanic	23 (26.1%)	15 (12.4%)	36 (16.4%)	
Education				$\chi^2 = 148$, $df = 10$, $p < .001$
High school	0 (0%)	4 (3.3%)	14 (6.5%)	
Some college	12 (13.6%)	13 (10.8%)	77 (35.6%)	
Associates degree	17 (19.3%)	21 (17.5%)	87 (40.3%)	
Bachelor's degree	53 (60.2%)	50 (41.7%)	37 (17.1%)	
Master's degree	5 (5.7%)	31 (25.8%)	1 (0.5%)	
Doctorate	1 (1.1%)	1 (0.8%)	0 (0%)	
Marital status				$\chi^2 = 33.8$, $df = 8$, $p < .001$
Single, never married	41 (46.6%)	39 (32.2%)	134 (61.2%)	
Married/partner	34 (38.6%)	59 (48.8%)	69 (31.5%)	
Widowed	0 (0%)	2 (1.7%)	0 (0%)	
Divorced	10 (11.4%)	17 (14%)	15 (6.8%)	
Separated	3 (3.4%)	4 (3.3%)	1 (0.5%)	
Prior training in trauma-informed care				$\chi^2 = 81$, $df = 2$, $p < .001$
Yes	28 (32.6%)	56 (49.1%)	12 (5.8%)	
No	58 (67.4%)	58 (50.9%)	194 (94.2%)	
Number of years working[a]	5.22 (5.8)	6.2 (7.6)	0.7 (2.1)	$F = 57.7$, $df = 2$, $p < .001$
Percent time spent providing care[a]	49.2 (30.7)	37.1 (40.8)	4.3 (15.8)	$F = 103.3$, $df = 2$, $p < .001$

Note. ED = emergency department.

[a]ANOVA was used to compare number of years working and percent time which are continuous variables between the three groups. The *F* statistic is associated with the ANOVA.

the results of the a priori ANOVA are presented herein (see Figure 1 and Table 2).

The a priori 3 × 2 two-way repeated-measures ANOVA results are presented in Figure 1 and Table 2. There was a significant main effect of time [$F(1,345) = 164$, $p < .001$], indicating that ARTIC Scale scores significantly increased between the pre- and postintervention assessments for all three cohorts. There was also a significant main effect of the group [$F(2,345) = 15.2$, $p < .001$] such that ED staff had lower average ARTIC Scale scores than both staff advocates and student nurses averaged over time ($p < .001$). Student nurses' and staff advocates' average ARTIC Scale scores, averaged over time, did not differ ($p = .321$). However, there was a significant interaction between cohort and time [$F = 7.1$ (2,345), $p = .001$), indicating that there is a significant difference among the three cohorts in changes in ARTIC Scale scores over time (see Figure 1). Consistent with the main effect of time and observable in Figure 1 and reported in Table 2, all three cohorts showed significant increases in ARTIC Scale scores between pretraining and posttraining ($p < .001$). At preintervention, all three cohorts significantly differed from each other on ARTIC Scale scores ($p < .01$). In contrast, in postintervention, ARTIC Scale scores did not significantly differ between nursing students and staff advocates ($p = .99$). Thus, nursing students showed a larger increase in scores from pre- to postintervention than either staff advocates or ED staff.

Table 2. Mean and Standard Deviation of Scores on the ARTIC Scale Before and After Training in Trauma-Informed Care Across Three Cohorts

	ED Staff ($n = 88$)	Advocates ($n = 123$)	Students ($n = 222$)
Pretraining	5.46 (0.64)[a]	4.99 (0.49)[a]	5.22 (0.49)[a]
Posttraining	5.76 (0.77)[b,c]	5.28 (0.62)[b]	5.75 (0.69)[b,c]

Note. ED = emergency department.

[a]Significant differences ($p < .001$) in ARTIC Scale scores at pretraining across cohorts.

[b]Significant differences ($p < .001$) between pretraining and posttraining scores on the ARTIC Scale.

[c]Significant differences ($p < .001$) in ARTIC Scale scores in comparison with ED staff at posttraining.

Results of Missing Data and Sensitivity Analysis

Although all participants agreed to complete the ARTIC Scale prior to and after training in trauma-informed care, an average of 4.76 ($SD = 3.6$; range: 1–19) participants did not respond to any particular item. As a result, overall scores on the ARTIC Scale were missing for 96 (21.6%) of cases. Chi-square analyses of those with and with no total scores on the ARTIC Scale revealed no significant differences in demographic characteristics, including cohort membership (results not shown). Moreover, there were no differences in the findings based on repeated-measures analysis using imputed data and the a priori ANOVA using missing data. Examination of missing data revealed no systematic pattern of nonresponse with demographic characteristics, including cohort membership. Moreover, sensitivity analyses using imputed data revealed no differences in results with the a priori ANOVA, both of which provide evidence of the robustness of the overall findings despite high rates of missing data on the overall score on the ARTIC Scale.

DISCUSSION

This research study measured the attitudes of health care providers related to trauma-informed

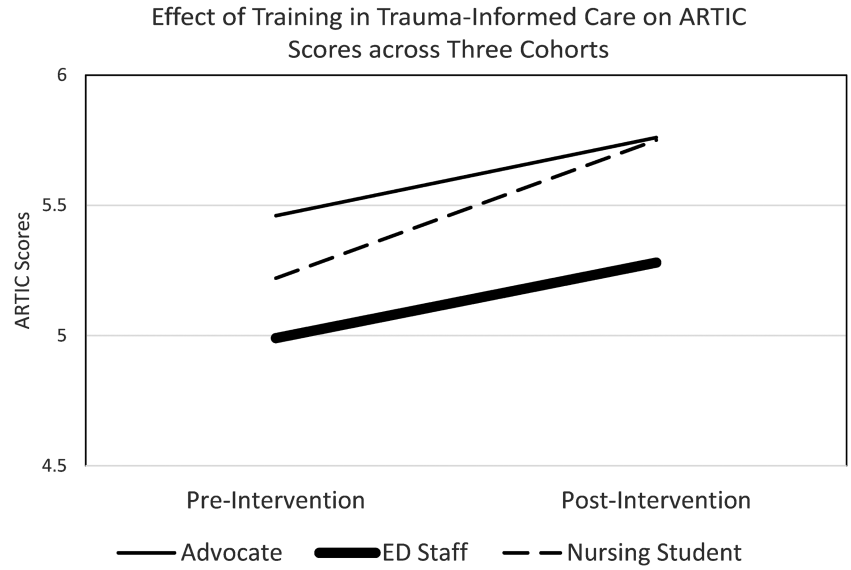

Figure 1. Effect of training in trauma-informed care on ARTIC scores across three cohorts. ARTIC = Attitudes Related to Trauma-Informed Care.

care. Attitudes can influence understanding or predict behaviors. One of the goals of this study was to assess whether attitudes changed among nurses, staff advocates, and nursing students after receiving trauma-informed care training using the ARTIC Scale instrument. A two-phase study by Stokes et al. (2017) used the ARTIC Scale to assess attitudes toward trauma-informed care practices among mental health nurses. The participants scoring in the top 20th percentile on the ARTIC Scale were asked to participate in semistructured focus interviews based on the assumption that they were more aware of trauma-informed care principles. They were asked about their understanding of and experiences with trauma-informed care. Four themes emerged from the interviews that reflected SAMSHA's emphasis on trauma-informed care: understanding trauma and its symptoms in practice, communication and individualized care for trauma survivors, and avoiding retraumatization of trauma survivors (SAMSHA, 2014; Stokes et al., 2017). These themes were incorporated into the content presented in the trauma-informed care training provided in this study, in which ARTIC Scale scores increased significantly after the training across all cohorts.

In a cross-sectional study by Bruce et al. (2018), trauma providers from an urban tertiary care medical center were asked to complete a survey on knowledge, competency, practices, and barriers to trauma-informed care. Although the results indicated that the participants were generally knowledgeable and supportive of trauma-informed care practices, results showed a need for training to support patients throughout potentially traumatic medical procedures. Their results support the need for systematic training of all providers, particularly trauma nurses, at the bedside. In addition, providing standardized training to all health care providers and informing patients of general trauma-informed care principles may benefit both trauma survivors and health care personnel. This shared knowledge can enhance their ability to work together to minimize patient retraumatization.

Overall, the current research study's trauma-informed care training significantly improved attitudes toward trauma-informed care among ED staff, staff advocates, and nursing students. Emergency department staff scored lower on the ARTIC Scale than staff advocates or nursing students. However, all three cohorts benefited from the training in trauma-informed care. Although all three cohorts scored differently at baseline, scores on the ARTIC Scale among nursing students were no longer significantly lower than those among staff advocates following training. Prior training did not influence these results. Thus, training in trauma-informed care that discusses the background of trauma, core principles, and application vignettes can effectively increase attitudes among various cohorts responsible for the care of the trauma survivor.

Factors noted by the facilitator during the trauma-informed care training may be considered when examining the study's posttest ARTIC Scale scores. The advocate participants indicated to the facilitator that, compared with the ED staff, they had prior knowledge of trauma-informed care from their training during school. The staff advocates were also more interactive during the question-and-answer portions of the vignettes during the sessions. The nursing students' training was conducted during class time of one of the nursing program courses. Administrators from the two universities allowed the facilitators to give the training during a clinical day. Although the nursing students lacked direct experience caring for trauma survivors outside of clinical settings during their schooling compared with the ED staff and staff advocates, they were very attentive.

The results of the current study are promising and strongly suggest that health care providers responsible for the care of trauma survivors can improve attitudes toward trauma-informed care based on training in the principles and application of trauma-informed care. Given the prevalence of psychological trauma among injured patients, it is critical that trauma care nurses become knowledgeable and develop positive attitudes toward the adoption of trauma-informed care. As research advances in this critical area of study, it is important to determine the extent to which attitudes affect practice. The findings of this study indicate that trauma-informed education plays a role in shaping the attitudes of those who provide direct care to trauma survivors. Further studies are warranted to explore the effects of trauma-informed education as reflected in patient perspectives and outcomes. Nurses can refer to the findings of this study to inform the clinical application of trauma-informed principles to nursing practice.

Applying Trauma-Informed Care to Patient Outcomes

When nurses deliver trauma-informed care, they actively promote a culture of safety, empowerment, and recovery. Trauma nurses must recognize that the injured patient's experience can elicit a terrifying and potentially triggering event that can lead to future complications. By applying the fundamental principles of trauma-informed care, the nurse can facilitate the trauma survivor's recovery and healing (Buettel & Abram, 2022; Isobel & Edwards, 2017). Assessing the patient's basic needs and concerns [Safety], being transparent about procedures, informing about delays in results, and relaying information about the overall process [Trustworthiness and Transparency] are nursing strategies. The nurse can collaborate with other health care providers to share information about community-based support

resources and aid in identifying social supports for the patient [Peer Support]. Throughout a patient's health care stay, nurses are proactive in devising a plan of care that incorporates patient and family input [Collaboration] and can empower the patient to have a say in their care and recovery [Empowerment]. Finally, it is also important to consider how patients' past life experiences and traumatic events may affect their current care plan and recovery [Gender, Historical, and Cultural Issues]. Incorporating trauma-informed care core values into daily nursing care may positively influence patient outcomes, resulting in reduced complications and increased adherence to treatment plans, factors that guide trauma survivors along a path to healing (Cochran, 2019; Isobel & Edwards, 2017). In addition, ensuring that the patient is an active participant in their health care journey will positively affect satisfaction with their care and foster an empowering environment (Schimmels & Cunningham, 2021).

Training Refreshers for New and Seasoned Nurses

According to research, refresher training results in improved comprehension of concepts, greater adherence to protocols, and positive attitudes toward change (Singleton et al., 2018). Refresher training may involve simulation and role-playing exercises integrating trauma-informed care into specialty environments (Cochran, 2019). In addition, having a model application of trauma-informed care during annual training would help reinforce concepts. Concerning real-time patient care, a quality improvement initiative would benefit from a health care provider instrument that measures specific trauma-informed care actions (Wholeben et al., 2022). The results of this instrument would demonstrate the application of trauma-informed care principles in real time and identify any deficiencies in patient care. Incorporating this training into nursing curricula and new hospital orientation would expand the scope of trauma-informed care practice among nurses and throughout the health care field. (Bruce et al., 2018).

Provider Self-Care and Resiliency

Health care provider wellness is an essential aspect of health care. When coping with traumatic events during a hospital shift, providers must practice self-care and offer connection and support to their coworkers. Trauma-informed care practices can assist the health care provider in developing resilience and the capacity to recover from potentially challenging patient encounters (Schimmels & Cunningham, 2021). Trauma-informed care training results in positive outcomes for trauma survivors and providers (Schimmels & Cunningham, 2021). In addition, these strategies can help prevent provider secondary traumatic stress such as chronic fatigue, emotional detachment, and exhaustion (Menschner & Maul, 2016). Provider strategies include reflecting on their actions and the trauma-informed care strategies they deliver to trauma survivors. Through reflection on their care (e.g., trauma-informed care health care provider evaluation instruments) and participation in voluntary defusing and debriefing activities, health care providers will be able to recognize signs of crisis, share their voice in change, and adopt a mantra that can help them heal (Cochran, 2019; Isobel & Edwards, 2017).

Future Research

As nurses begin to implement trauma-informed care across various nursing disciplines, nurses must ensure that care strategies are appropriate for trauma survivors and that knowledge is retained over time. The next steps for the current research would be to evaluate participants from the three cohorts at different time intervals, such as 3 months, 6 months, and 1 year, to evaluate changes in nursing care delivery attributable to the application of trauma-informed care principles. Future research will examine how trauma-informed care practices promote a culture of healing at various stages of care, such as emergency, transitional, and long-term. Additional research could focus on determining methods to develop physical and cultural healing environments for frontline nursing care providers who work directly with trauma survivors. Examining the impact of trauma-informed care training on provider resilience and compassion fatigue would also advance understanding of factors contributing to retraumatization. Current research indicates that training improves health care providers' attitudes toward trauma-informed care principles. Therefore, it is time to begin implementing these strategies in all patient care situations and, as nurses, apply them toward each other to create a positive, healing environment for trauma survivors, their families, the community, and health care providers.

STRENGTHS AND LIMITATIONS

This study had several strengths. Most notably, this study employed a pre- and posttest design that enabled researchers to note significant attitude changes. In addition, it included a large sample from three different cohorts of participants that allowed for meaningful comparisons between groups and within groups pre- and postintervention.

It is important to recognize the limitations of this study. The in-person meeting restrictions imposed by the COVID-19 pandemic necessitated a change in presentation style, with training in a virtual environment for two of the three cohorts. The nursing student cohort completed their training using an in-person format, as the COVID-19 restrictions had been lifted by the time

they received their training. It is unclear whether the in-person presentation led to a greater difference between pre- and posttest results.

During COVID-19, ED staff were also required to perform 1–2 days of overtime per week. It is unclear whether their participation in the trauma-informed care training was affected by working 48–60 hr per week with a large patient load. It was noted that this overtime concern affected the number of participants that attended the training. Although causal relationships can be determined with a pretest–posttest design, this quasi-experimental design lacks a control condition. Consequently, the possibility that another training may have been equally or more efficacious than the one used for this study cannot be ruled out.

Finally, because the study was conducted in the Southwestern United States near the Texas–Mexico border, there was homogeneity among the participants, with a significant proportion identified as Hispanic. Further studies would benefit from including sampling from a more diverse population.

CONCLUSION

Our results strongly suggest that health care providers can improve attitudes toward trauma-informed care after completing training on the principles and application of trauma-informed care. By educating health care providers on how to demonstrate the principles of trauma-informed care and implement these fundamental values into the daily practice of caring for trauma survivors, nurses can prevent retraumatization and empower trauma survivors on their journey toward healing.

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