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The Effect of Trauma-Informed Care Training on the Knowledge and Awareness of Medical Professionals at Kentucky Children's Hospital

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The Effect of Trauma-Informed Care Training on the Knowledge and Awareness of Medical
Professionals at Kentucky Children's Hospital

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Fall 2017

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Abstract

Background: Many children who present to the hospital require treatments and procedures in their medical care that can be potentially emotionally traumatic for themselves and their families. Medical professionals caring for these children may also experience emotional trauma symptoms related to their work. A trauma-informed care approach to medical care may help to lessen these negative consequences in both patients and medical professionals. **Purpose:** The objective of this study was to assess the effectiveness of a one-hour training on trauma-informed care to nurses at Kentucky Children's Hospital. **Methods:** Nurses participated in a one-hour interactive seminar and completed pre- and post-measures on knowledge and confidence in delivering trauma-informed care. **Results:** Ninety nurses participated. Compared to pre-training, participants demonstrated significant increases in knowledge and confidence in delivering trauma-informed medical care ($p < 0.05$ for all comparisons). **Discussion:** Training was effective in increasing nurses' knowledge and confidence in delivering trauma-informed care, thus demonstrating the feasibility and clinical importance of this training.

The Effect of Trauma-Informed Care Training on the Knowledge and Awareness of Medical Professionals at Kentucky Children's Hospital

Introduction

Many children who present to the hospital require treatments and procedures in their medical care that can be potentially emotionally traumatic for themselves and their families (Landolt, Vollrath, Ribbi, Gnehm, & Sennhauser, 2003). In addition, these children may have already been exposed to traumatic events in their past, and this past exposure to traumatic events can impact the way in which families interact with the medical team and affect their child's overall health and recovery (Felitti et al., 1998; Schilling, Aseltine, & Gore, 2007). Medical professionals caring for these children may also experience emotional trauma symptoms related to their work (Robins, Meltzer, & Zelikovsky, 2009).

A trauma-informed care approach to medical care may help to lessen these negative consequences. According to the Substance Abuse and Mental Health Services Administrations (SAMHSA), a trauma-informed approach to care “realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; responds by fully integrating knowledge about trauma into policies, procedures, and practices; and seeks to actively resist re-traumatization” (SAMHSA, 2015). However, training in the delivery of trauma-informed care is not currently available at Kentucky Children's Hospital. Efforts to train medical professionals to provide trauma-informed medical care in hospitals caring for children have just begun, and research on the effectiveness of this training is in its infancy. At this time, the amount of training needed to change knowledge and confidence of staff in delivering trauma-informed medical care has not yet been established (Marsac et al., 2016; Weiss et al., 2017).

Background

More than 26 million children visit the emergency department each year in the United States and approximately 6 million children are admitted to the hospital annually (Schappert & Bhuiya, 2012; Witt, Weiss, & Elixhauser, 2014). Of these hospitalized children, 19 percent of the injured children and 12 percent of the ill children experience posttraumatic stress symptoms (PTSS) (Kahana, Feeny, Youngstrom, & Drotar, 2006). Symptoms include re-experiencing the event, avoidance of trauma reminders, hyperarousal, and negative changes in mood or cognition (National Institute of Mental Health, 2016). Children with PTSS can have “impaired physical recovery time, increased risk for re-injury, poorer school functioning, decreased health-related quality of life, and greater utilization of health care services” (as cited in Weiss et al., 2017 p. 55). As a result, health care providers should assess for emotional trauma and know how to intervene with these children and their families in ways that minimize trauma and support their recovery.

Medical professionals caring for children and their families with PTSS may also experience secondary traumatic stress, which can lead to compassion fatigue and/or burnout. Compassion fatigue refers to “work-related PTSSs that arise from long-term exposure to other persons experiencing trauma” (Marsac et al., 2016, p. 72). According to Maslach and Leiter (2008), burnout refers to “a combination of symptoms, including emotional exhaustion, depersonalization, and diminished sense of personal accomplishment or workplace satisfaction” (as cited in Marsac et al., 2016, p. 72). According to one study, 39 percent of pediatric health care professionals were at moderate to very high risk for compassion fatigue and 21 percent were at moderate to high risk for burnout (Robins et al., 2009). However, the literature is not consistent regarding the prevalence of compassion and burnout among all healthcare professionals. A systematic review on the prevalence of compassion fatigue and burnout among

healthcare professionals in intensive care units ranged from 7.4 to 40 percent and 0 to 70.1 percent, respectively (van Mol, Kompanje, Benoit, Bakker, & Nijkamp, 2015). Although more evidence is needed on its prevalence, there may be a benefit for healthcare professionals working with children and families who have experienced trauma to be provided with the necessary training and support to avoid compassion fatigue and minimize burnout.

Trauma-informed care refers to how medical teams can prevent or minimize emotional trauma. According to the SAMHSA, a trauma-informed approach to care “realizes the widespread impact of trauma and understands potential paths for recovery; recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system; responds by fully integrating knowledge about trauma into policies, procedures, and practices; and seeks to actively resist re-traumatization” (SAMHSA, 2015). In addition, trauma-informed care “minimizes the potential for medical care to become traumatic or trigger trauma reactions, addresses distress, provides emotional support for the entire family, encourages positive coping, and provides anticipatory guidance regarding the recovery process” (as cited in Marsac et al., 2016). Overall, a trauma-informed approach to medical care can improve the quality of care provided to patients and the emotional well-being of medical professionals (Marsac et al., 2016).

Research on the effectiveness of implementing trauma-informed care into hospitals caring for children is just beginning. A recent study assessed the effectiveness of implementing a trauma-informed care approach in a pediatric health care network by providing an educational session to caregivers. Results, when compared to pre-training, demonstrated a significant increase in knowledge towards trauma-informed care and confidence in delivering trauma-informed care (Weiss et al., 2017). This study demonstrates its potential feasibility of its success in other pediatric hospitals, such as Kentucky Children’s Hospital.

Evidence supports that active dissemination (e.g. in-person educational seminars) of research findings is more likely to change healthcare providers' knowledge and attitudes towards a health issue compared to passive dissemination (e.g. mailing educational materials to healthcare professionals) (Grimshaw et al., 2001). Thus, a one-hour training is expected to increase medical providers' knowledge and awareness of trauma-informed care.

At this time, training in the delivery of trauma-informed care is not routinely integrated into education for medical professionals in most pediatric hospitals, including Kentucky Children's Hospital. There is limited research on the effectiveness of this type of training; specifically on the amount of training needed to change knowledge and awareness of medical professionals in delivering trauma-informed medical care. Thus, this study will help determine the effectiveness of a one-hour training program on the knowledge and confidence of delivering trauma-informed care in medical professionals.

Purpose

The purpose of this study was to provide a one-hour training on trauma-informed care to medical professionals at Kentucky Children's Hospital. Nurses of the Pediatric Intensive Care Unit, Progressive Care Unit, and Per Diem pool attended the mandatory one-hour training between April and May 2017. There were two specific aims for this study: (1) to assess changes in knowledge and awareness of trauma in medical professionals before and after a one-hour training on trauma-informed care; and (2) to examine differences in knowledge and awareness of trauma by demographic (i.e. sex, age, ethnicity/race) and professional characteristics (i.e. work tenure).

Methods

Setting

The study was conducted at Kentucky Children's Hospital (KCH) in Lexington, Kentucky. KCH serves as the pediatric subspecialty regional referral center as well as the only Level 1 pediatric trauma center in Eastern and Central Kentucky. More specifically, the training focused on the registered nurses working on the 12-bed Pediatric Intensive Care Unit (PICU) and 12-bed Progressive Care Unit (PCU).

Design

The study entailed a prospective pre-test and post-test design to examine changes in knowledge and awareness among nurses of emotional trauma before and after a one-hour training on trauma-informed care. The interactive seminar involved both didactic lectures on the trauma-informed medical care approach as well as an open discussion. The layout of the training was developed by Dr. Meghan Marsac, a pediatric psychologist at KCH, and tailored to fit each specific audience. In addition, a correlation design was used to examine the differences in knowledge and awareness of trauma by demographic (i.e. sex, age, ethnicity/race) and professional characteristics (i.e. work tenure, work unit).

Participants

Approximately 100 registered nurses of the KCH PICU, PCU, and per-diem pool were targeted to participate in the one-hour mandatory training between April and May 2017. All participants were 18 years or older and employed at KCH.

Procedures

Each registered nurse who attended the training was offered the opportunity to participate in the research study. A waiver of documentation of informed consent was requested. Education

on trauma-informed care was a standard expectation of hospital programs. The research involved no more than minimal risk. All those willing to participate were administered a pre-intervention Trauma-informed Medical Care Questionnaire and a Demographic Questionnaire immediately prior to the training and the same Trauma-Informed Medical Care Questionnaire, immediately following the training.

Measures

The *Demographic Questionnaire* includes questions on years worked in the current job, age, gender, and race/ethnicity (Appendix A).

The *Trauma-Informed Medical Care Questionnaire* (TIMCQ) assesses health care professionals' attitudes towards the importance of trauma-informed care in their work and confidence in recognizing posttraumatic stress symptoms associated with pediatric injury or illness, recognizing how pre-existing trauma may impact a child's reactions to current and future medical care, and recognizing how staff can be affected by their own emotional trauma histories. It is a 9-item questionnaire that uses a 5 point Likert scale in addition to one open-ended question on the post-test (Appendix B). This scale has demonstrated good internal consistencies for the attitude subscale ($\alpha = .71$) and the confidence subscale ($\alpha = .91$) (Weiss et al., in press).

Data Analysis

Analysis was conducted using the Statistical Package for the Social Sciences (SPSS). Demographic characteristics of participants are described using frequencies with percentages for nominal and ordinal variables. Independent sample t-tests (with Levene's test for the equality of variance) and Spearman's rho correlations were used to assess differences in the demographics. Paired t-tests were used to examine pre to post-training changes in knowledge of trauma-informed medical care and confidence in delivering trauma-informed medical care. Major

themes will be summarized for the responses to the open-ended question regarding the impact of trauma-informed medical care on patient care.

Results

A total of 90 nurses of the KCH PICU, PCU, and per-diem pool participated in the study. The majority of the nurses had less than 5 years of nursing experience (61.1%) and were younger than 30 years old (63.3%), female (95.6%), and Caucasian (93.3%) (Table 1). In general, there was no association between years in current role, age, gender, race/ethnicity and change in knowledge and confidence in delivering trauma-informed medical care with two exceptions (Table 2). First, question 2 of the TIMCQ, younger nurses had a more significant increase in identifying signs or symptoms of emotional trauma after the training compared to older nurses ($\rho = -0.260$, $p = 0.015$). Second, question 6 of the TIMCQ, females had a more significant increase in understanding the impact of trauma on children after the training compared to their male counterparts ($p = 0.046$).

Overall, participants had a significant increase in their understanding of the importance of using trauma-informed medical care in their workplace ($t(87) = -5.441$, $p < 0.0005$). Participants had significant increases in the ability to realize the prevalence of trauma in children ($t(87) = -12.065$, $p < 0.0005$) and realize the impact that emotional trauma can have on children ($t(87) = -12.134$, $p < 0.0005$). In addition, participants had significant increases in the ability to recognize signs or symptoms of emotional trauma ($t(87) = -13.801$, $p < 0.0005$), recognize staff can be affected by experiences working with children in emotional distress ($t(87) = -8.613$, $p < 0.0005$), and understand staff can be reminded of past trauma while working with children ($t(87) = -8.344$, $p < 0.0005$). Lastly, participants had significant increases in their reported ability to respond to a child who has been exposed to trauma ($t(87) = -14.499$, $p < 0.0005$) and provide trauma-

informed care to patients and their parents ($t(87) = -15.357, p < 0.005$) (Table 3, Figure 1).

The average pre-test mean score was 3.18 (somewhat confident) and post-test mean score was 4.21 (confident). The largest pre- to post-test increase in confidence was question 1; “I understand trauma-informed care” (2.43 to 4.16; a little confident to confident). The last question on the post-TIMCQ was open-ended and asked how does the practice of trauma-informed care change the care of patients. Twenty-eight nurses of the 90 responded. Two general themes were gathered: (1) more aware/able to recognize trauma in patients and coworkers and (2) a better understanding of how to help patients and coworkers cope with emotional trauma.

Discussion

It is evident that a one-hour training to nurses in KCH led to a significant increase in knowledge of trauma-informed medical care and confidence in delivering trauma-informed medical care. These results build on prior research that demonstrated the effectiveness of a one-hour training on the knowledge and awareness of trauma-informed care (Weiss et al., 2017). Although a fairly large sample size, the sample was not very diverse, with majority of the nurses being young, inexperienced, female, and Caucasian. However, younger nurses did have a more significant increase in identifying signs or symptoms of emotional trauma after the training and thus demonstrating that this training may be more meaningful to young nurses who lack experience in dealing with the negative consequences of emotional trauma.

Limitations

One limitation of this study is that it was performed at a single children’s hospital and therefore the findings cannot be generalized to a larger population. Another limitation is the lack of diversity among the participants; results should be interpreted with this in mind when considering generalizability. The study does not demonstrate long-term retention of the

knowledge gained due to study being an immediate post-test design. Further research is needed to assess retention of knowledge at later dates. Although this study demonstrates nurses' increased knowledge and awareness of trauma-informed care, it does not measure an actual change of the use of trauma-informed medical care into practice.

Implications for Practice

Although more research is needed, clinical implications of these results suggest that nurses are aware of the importance of trauma-informed care and are confident in delivering trauma-informed medical care to their patients and coworkers. This change in perception of trauma-informed care was done with minimal training, thus demonstrating its feasibility in implementing in other hospitals caring for children. However, further research should be done on the effectiveness of alternative modalities for training (e.g. online webinars) to extend the reach of trauma-informed care trainings and the retention of knowledge of trauma-informed care practices. In addition, further research is needed to determine the impact of the training on clinical practice. For example, does training on trauma-informed care enhance the quality of care provided for patients and their families as well as affect the well-being of medical professionals?

Conclusion

Overall, it is evident that children and their families often experience emotional trauma while hospitalized and medical professionals often experience PTSS as part of their everyday work environment. A trauma-informed care approach to medical care may help to lessen these negative consequences by helping providers realize the widespread impact of trauma, recognize the signs and symptoms of trauma in their patients and coworkers, and respond by fully integrating their knowledge about trauma into their practice. A one-hour training on the importance of trauma-informed care is feasible and effective in increasing nurses' knowledge

and confidence in delivering trauma-informed medical care. This training should be considered for implementation in all hospitals caring for children across the nation.

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Table 1

Demographics		
Characteristic	Frequency	Percent
Years in current role		
< 5	55	61.1
5-10	19	21.1
11-20	11	12.2
21-30	2	2.2
30+	3	3.3
Age		
< 30	57	63.3
31-40	22	24.4
41-50	5	5.6
51-60	3	3.3
60+	2	2.2
Gender		
Female	86	95.6
Male	4	4.4
Race/Ethnicity		
Black or African American	2	2.2
Hispanic or Latino	1	1.1
White or Caucasian	84	93.3
Prefer not to answer	1	1.1
Other	1	1.1

Table 2

Question	Years in Current Role¹	Age¹	Gender²	Race/Ethnicity²
1	0.909	0.975	0.364	0.504
2	0.149	0.015**	0.258	0.339
3	0.564	0.914	0.089	0.837
4	0.748	0.934	0.782	0.452
5	0.220	0.394	0.657	0.802
6	0.694	0.791	0.046**	0.467
7	0.274	0.746	0.679	0.291
8	0.930	0.665	0.663	0.985
9	0.235	0.213	0.325	0.315

¹ Spearman's rho correlation

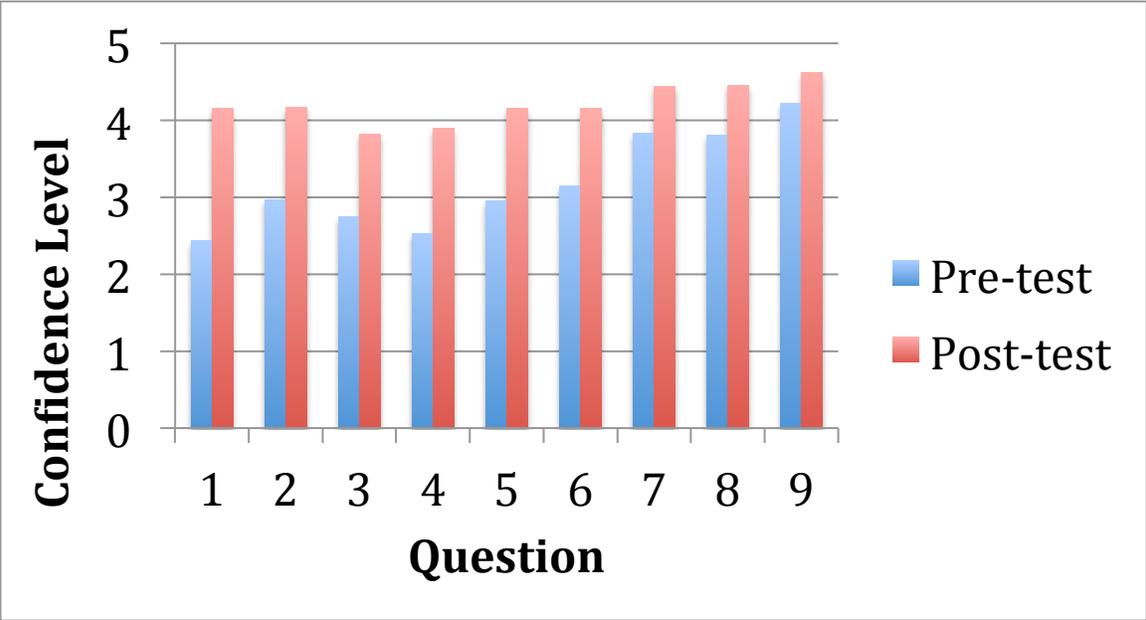
² Independent sample t-tests (with Levene's test for the equality of variance)

** Statistically significant with a p-value < 0.05

Table 3

Trauma-Informed Medical Care Questionnaire Results				
Question	Pre-training Confidence Level Mean	Post-training Confidence Level Mean	Standard Deviation	P-value
1	2.43	4.16	1.069	< .0005
2	2.97	4.17	.819	< .0005
3	2.74	3.82	.698	< .0005
4	2.53	3.90	.833	< .0005
5	2.95	4.16	.937	< .0005
6	3.15	4.15	.773	< .0005
7	3.83	4.44	.668	< .0005
8	3.80	4.45	.741	< .0005
9	4.22	4.62	.705	< .0005

Figure 1 – Trauma Informed Medical Care Questionnaire Results



Appendix A

Demographic Survey

1. How many years have you been in your current role?
 - Less than 5 years
 - 5-10 years
 - 11-20 years
 - 21-30 years
 - 30+ years
2. Age range
 - 30 and under
 - 31-40
 - 41-50
 - 51-60
 - 61+
3. Gender
 - Female
 - Male
4. Race/Ethnicity
 - American Indian/Alaska Native
 - Asian
 - Black or African American
 - Hispanic or Latino
 - Native Hawaiian or Other Pacific Islander
 - White or Caucasian
 - Prefer not to answer

Appendix B

Trauma-Informed Medical Care Questionnaire

Please circle the number to indicate your confidence level in the following statements:

- 1 = Not confident at all
- 2 = A little confident
- 3 = Somewhat confident
- 4 = Confident
- 5 = Very Confident

1. I understand trauma-informed care 1 2 3 4 5
2. I can identify signs or symptoms of emotional trauma 1 2 3 4 5
3. I know how to best respond to a child who has been exposed to trauma 1 2 3 4 5
4. I can provide trauma-informed care to patients and their parents or incorporate trauma-informed care into my work 1 2 3 4 5
5. I understand the prevalence of trauma in youth and families 1 2 3 4 5
6. I understand the impact of trauma on children 1 2 3 4 5
7. I recognized staff can be affected by experiences working with children and families in emotional and/or physical pain 1 2 3 4 5
8. I understand staff can be reminded of past trauma while working with children and families in distress 1 2 3 4 5
9. How important is using trauma-informed care in your work? 1 2 3 4 5