A Trauma-Informed Care Educational Program for the Staff of an Outpatient Cancer Center


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Trauma is a global problem with life-altering effects that can impact the health and well-being of individuals and families for generations. Each year, the United States spends $4.2 trillion on trauma expenses due to work losses and trauma-related medical costs associated with cancer, heart disease, chronic respiratory disease, liver disease, and diabetes.[1] At the same time, trauma-related grant funding through the National Institutes of Health is only 0.02% of its budget.[2] Compounding the problem, evidence shows that health care providers lack the knowledge and skills to assess and treat patients with a recent or remote history of trauma.[3] Trauma-informed care should be implemented as a universal precaution to help ameliorate the risk of re-traumatization among patients with a lifetime history of trauma.

Trauma can negatively impact health. As the Center for Health Care Strategies explains, "Experiencing trauma, especially in childhood, can change a person's brain structure, contributing to long-term physical and behavioral health problems."[4] The landmark study on adverse childhood experiences (ACEs) in 1998 showed correlations between childhood trauma and chronic health problems, including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease.[5] Some studies have revealed an intersection between adverse childhood experiences, breast cancer, elevated stress levels, fatigue, and depression.[6] Moreover, the experience of trauma at any age can lead to specific behaviors — such as substance use, poor diet, and high-risk sexual behaviors — that predispose an individual to a cancer diagnosis.[6]

The health care system must have a plan in place to respond to patients who positively screen for trauma and must provide trauma-informed universal precautions in all patient encounters. Trauma-informed care should be the lens through which all care is administered as the standard of care. Trauma-informed practices can improve patient engagement, treatment adherence, health outcomes, and provider and staff wellness.[2] Trauma-informed health care professionals understand that any individual utilizing the health care system could have trauma in their history and staff must be prepared to prevent re-traumatization.[7]

Despite the high rates of trauma in the United States and globally, many patients do not reveal a history of trauma.[8] And although many health care providers lack the knowledge and skills to assess and treat patients with a recent or remote history of trauma,[8] research shows that implementing a trauma-informed care (TIC) educational program improves provider knowledge and comfort in providing trauma-informed care.[9] Recent work demonstrates that implementing a trauma-informed educational program can improve provider knowledge and attitudes about providing trauma-informed care.[8,10]

METHODS

This quality improvement project aimed to improve staff attitudes and readiness to provide trauma-informed care among staff at an outpatient cancer center that did not already have a TIC educational program for staff. The center's administration identified a need for a trauma-informed educational program to improve the care for the population they serve.

The Attitudes Related to Trauma-Informed Care (ARTIC) Scale, created by the Traumatic Stress Institute, was used to determine the impact of this educational program. The ARTIC-10 version used in this program contains 10 questions in a seven-point Likert scale format.[11] The mean score of each participant's pre-test is compared to the mean score of each participant's post-test. The ARTIC-10 is a validated tool that measures professional attitudes in support of or

unsupportive of TIC. This tool was developed to objectively measure the degree to which an individual or a system is trauma informed.

Additionally, a program evaluation tool was developed using the Proctor framework to measure participants' feelings about the educational program's effectiveness.[12] The program evaluation survey was a six-question, five-point Likert scale with one open-ended question.

Project Setting and Population

The educational program was created for the staff at the Ann B. Barshinger Cancer Institute (ABBCI), which employs more than 500 individuals in Lancaster. The oncology center — a prominent, suburban, not-for-profit, multidisciplinary, community-based, outpatient cancer center — is affiliated with a large tertiary academic hospital system.

The nurse managers for each of the units of the cancer center advertised the educational sessions to the patient care staff via email. In addition, an advanced practice provider (APP) at the center, who served as a liaison for the project, notified the APPs and physicians of the center about the educational program. A total of 76 employees attended the educational sessions.

Advertising for the sessions was directed toward registered nurses (RNs), patient care assistants (PtCAs), advanced practice providers (APPs), and physicians. The RNs and PtCAs that provide direct patient care were required to attend the sessions as part of their annual competencies. Team members from other disciplines who were not required to attend included social workers, a chaplain, a financial counselor, dieticians, and nursing management. Most participants were RNs (see Fig. 1).

Participants represented eight departments in the cancer center: Medical Oncology, Radiation Oncology, Surgical Oncology, Hematology Oncology, Social Work, Dietary, Chaplaincy, and Palliative Care. A virtual platform was offered, however no one participated in the educational sessions remotely.

Procedure

Two identical, one-hour educational sessions on TIC were offered during two separate lunch hours to maximize attendance. At the beginning of each educational session, each participant completed the paper-and-pen version of the ARTIC-10 Scale. Licensing for this version permits up to 200 copies of the scale, therefore the study accommodated up to 100 participants. The questionnaire takes approximately five minutes to complete.

The ARTIC-10 surveys were de-identified using a unique numerical identification system. Each participant was asked to write the last four digits of their phone number and the two digits of their birth month on the top of their survey. This unique number was used to label both the pre-tests and post-tests. The pre-tests were printed on pink paper, the post-tests on blue paper. The pre- and post-program surveys were linked numerically.

An attendance record was kept for each session. Immediately following the educational session, each participant completed the program evaluation tool. Two weeks later, a second ARTIC-10 Scale was disseminated by nursing management to each participant. Both sessions were recorded for future educational opportunities.

The educational program (see Table 1 on page 50) utilized a PowerPoint presentation, including didactic and interactive teaching techniques. Six weeks before the educational sessions, ABBCI staff received an email invitation introducing the TIC educational program. Staff selected their session using a survey emailed by nursing management. The educational programs were recorded for later viewing during onboarding of new staff. The sessions, advertised as "Lunch and Learn," were held during a sitewide lunch break from 12:00 noon to 1:00 p.m.

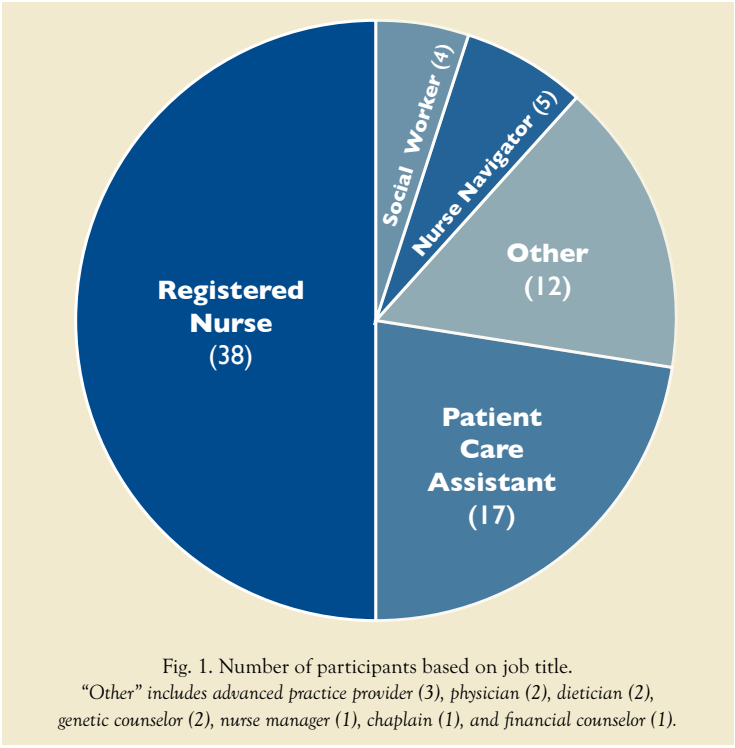

Fig. 1. Number of participants based on job title.
"Other" includes advanced practice provider (3), physician (2), dietician (2), genetic counselor (2), nurse manager (1), chaplain (1), and financial counselor (1).

An evidence-based curriculum for TIC provided the foundation for program development. The educational program was guided by the principles of TIC published by the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2014. SAMHSA's framework for TIC includes behaviors staff must demonstrate, which are designated using a protocol called the "Four Rs: Realization, Recognize, Respond, and Resist." In addition, TIC curriculums must adhere to six generalizable principles: Safety; Trustworthiness and Transparency; Peer Support; Collaboration and Mutuality; Empowerment, Voice, and Choice and Culture; and Historical and Gender Issues.[13] Due to the lack of standardization in TIC training programs, these educational sessions were created by the first author utilizing PowerPoint slides to present the information.

Outcomes Measured

The results of the ARTIC-10 Scale were entered manually into an Excel spreadsheet. The Traumatic Stress Institute, the creator of the ARTIC Scale, provided detailed scoring instructions. A paired t-test compared the pre- and post-educational program mean scores, and the author then used Statistical Package for the Social Sciences (SPSS) software to complete statistical analysis. Descriptive statistics were collected to analyze the participant's level of care and the department of employment.

Additionally, a program evaluation tool was developed to collect qualitative data on the program's effectiveness. This seven-question, Likert-scale survey uses elements of the Proctor Model[9] to measure outcomes such as program acceptability, appropriateness, effectiveness, equity, and participant satisfaction. The results of the program evaluation survey, which helped assess the program's value, were tabulated.

RESULTS

A total of 76 attendees were at the educational sessions; 44 staff members participated on February 7, 2023, and 32 staff members participated on February 16, 2023. Of the 76 employees participating in the educational sessions, 38 correctly labeled the pre- and post-tests with their unique identification number described above. Twenty-six pre-tests could not be paired with a post-test, and 11 pre-tests were not labeled. Further, eight post-tests could not be paired with a pre-test, and seven post-tests were not labeled. In summary, 50% of the participants correctly labeled their pre- and post-surveys.

To assess the normal distribution of the dependent variables between the pre/post responses, the Shapiro-Wilk test of normality was completed in SPSS.[14] The results indicate a normal distribution, which suggests that a parametric test such as a t-test is appropriate for these data.

The paired t-test was run using the SPSS software to compare the mean value between the pre-session ARTIC-10 Scale and the post-session ARTIC-10 Scale. The results showed the mean score between the ARTIC-10 tool differed before ($M = 5.485$, $SD = 0.6975$) and after ($M = 5.818$, $SD = 0.7486$) the TIC educational session at the 0.05 level of confidence, $t(37) = -3.44$, $n = 38$, $p < 0.05$, 95% CI for mean difference: -0.5143 to -0.1330. On average, the mean score on the ARTIC-10 Scale was 0.333 points greater after the TIC educational session. A higher score reflects a positive change in attitude about providing TIC, showing that the educational session improved attitudes and readiness about providing TIC.

Seventy-five of the 76 participants anonymously completed the program evaluation survey. Five-point responses — Strongly agree, Somewhat agree, Neither agree nor disagree, Somewhat disagree, Strongly disagree — followed six statements about the program. The qualitative results from the survey show that the program was effectively implemented and well received by the participants:

- Sixty-two participants (83%) thought that a Lunch-and-Learn style education session was an acceptable way to receive TIC information.

Table 1. Outline of Educational Program and Learning Objectives

Educational Program

Introduction to and completion of ARTIC-10 Scale.

Description of trauma effects on the brain.

Description of TIC, including:
- Four-minute TED Talk.
- SAMHSA guidelines on TIC: the 4 Rs to TIC and six guiding principles.

Case studies and group role-playing.

Learning Objectives

1. Participants should be able to provide examples of trauma, its effects on the brain, and long-term health problems associated with trauma.
2. Participants should be able to summarize the principles of TIC.
3. Participants should be able to apply TIC principles if a patient discloses a history of trauma.

- Thirty-five participants (47%) said they would like more information about trauma-informed care.
- Fifty-seven participants (76%) said that they would "use TIC principles in my interactions at work with my patients and team members."

DISCUSSION

Despite the prevalence of lifetime traumatic experiences within the general population, with some groups at greater risk for a lifetime history of trauma than others, many health care systems lack trauma-informed policies and educational programs for staff. To address this knowledge gap, a quality improvement educational program on TIC for the staff of a free-standing cancer center was developed. The targeted audience for the educational program was RNs, PtCAs, APPs, and physicians.

An unexpected outcome regarding the study sample was the surprising number of employees who attended who were not initially recruited to participate. Employees attended from a wide variety of departments within the cancer center. This demonstrates an interest in trauma-informed care among professionals with diverse skill sets and working backgrounds at this site.

A paired t-test was run on SPSS software to evaluate the mean difference in pre- and post-ARTIC scores. The paired t-test results showed that the program improved staff attitudes about providing TIC. The qualitative data indicate that the program was well received by the attendees, with some narrative comments requesting more training on the subject.

Limitations

Although this quality improvement project demonstrates that a one-hour Lunch-and-Learn style educational session is an effective way to introduce TIC to multidisciplinary staff at a cancer center, there were some limitations. This was a small study; a larger sample size of paired pre- and post-surveys may have resulted in more confidence in the statistical outcome of this study.

Also, a time constraint was placed on the educational sessions since the intervention targeted front-line workers with limited time to devote to off-the-floor education. Ideally, trauma-informed principles should be part of an ongoing conversation. While the educational sessions positively improved staff attitudes and readiness to provide TIC among its participants, more than a one-hour intervention is needed to provide sustainable trauma-informed practice change within the organization.

In addition, the ARTIC-10 Scale and the program evaluation survey rely on self-reporting methods for data collection. Self-reporting could introduce bias into the results. Further, gender was not considered in the demographic collection, and thus, there would have been gender bias. The study's sample was also a mix of employees required to meet continuing education competencies and employees who attended voluntarily. This sampling outcome could introduce selection bias.

Finally, errors occurred with the numerical labeling of the pre- and post-ARTIC-10 surveys. While 76 employees attended the two educational sessions, only 38 pairs of pre- and post-ARTIC-10 surveys were correctly labeled. Consequently, we were unable to analyze the data of those participants whose ARTIC-10 surveys were not correctly labeled because we were not able to pair their pre- and post-tests.

The pairing of pre- and post-ARTIC-10 surveys is the only way to assess the pre/post mean scores. Written and verbal labeling instructions were provided after the mislabeling was discovered following the first session, and more time was spent giving labeling instructions to participants before the second session. The additional instruction time improved mislabeling errors.

The robustness of the results of the paired t-test is impacted by the loss of half of the data due to incomplete or incorrect labeling. This loss of data could lead to non-response bias.

Practice Recommendations

The favorable results from this quality improvement intervention could catalyze dialogue and education on trauma-informed care. With the center's administrative support for a trauma-informed approach to care and the positive feedback from the educational sessions, this site is well positioned to align the organization with SAMHSA's six key principles to a trauma-informed approach.

The cancer center where this study was conducted has an opportunity to build off the educational program's success by adding trauma-informed practice initiatives into its training and practice models. System-level changes should include trauma-informed language written into their mission statements, hiring practices, annual competencies, and employee evaluation procedures.

The administration could identify trauma-informed "champions" at all levels and within each department who could create trauma-informed organi-

zational practices that align with the six key principles. In addition, the TIC champions could provide ongoing training and peer support for staff.

The center's technical support personnel where this study was conducted did record the educational sessions to be used to onboard new staff. This exposure to TIC at the time of hire would help create a workforce where every employee would be trained in some level of trauma-informed care, and that training would be ongoing.

Sustainability Plan

This quality improvement TIC educational program aimed to implement trauma-informed care principles into the continuing education competencies of staff at all levels of the organization at a regional cancer center. As noted above, the educational program was archived for future educational opportunities.

Knowledge Link, the organization's learning management system that provides classroom and web-based training for the health system, could serve as a platform to introduce TIC education to staff within a health system at large. Further, trauma-informed practice champions could provide ongoing peer support and disseminate TIC guidelines through weekly huddles and staff meetings.

CONCLUSION

Trauma impacts individuals across all demographic groups. At times, the systems put in place to help our population can also be a source of trauma or cause re-traumatization for patients with a history of trauma. Implementing a TIC educational program for staff at outpatient health centers could help address this pervasive problem.

As noted, leadership at all levels of care must support trauma-informed initiatives, from mission statements to bedside care practices. Moreover, trauma-informed health care staff should be the standard of care across all health care organizations.

Finally, a TIC educational session for multidisciplinary staff can be an effective way to improve attitudes and readiness to provide TIC. More research is needed to help establish evidence-based practice guidelines and reliable, valid tools for measuring TIC.

In 1927, Dr. Francis Peabody famously wrote, "One of the essential qualities of the clinician is interest in humanity, for the secret of the care of the patient is in caring for the patient."[15] These words are timeless and echo the principles of trauma-informed care.

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