The CARE Health Advocacy Intervention Improves Trauma-Informed Practices at Domestic Violence Service Organizations to Address Brain Injury, Mental Health, and Substance Use

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Objective: The aim of this study was to evaluate the impact that domestic violence (DV) service organizations' (SO) agency-wide adoption of CARE had on improving DVSO trauma-informed care (TIC) practices, overall, and in relation to addressing brain injury and mental health. CARE is an advocacy intervention designed to raise DVSOs' capacity to *C*ONNECT with survivors; *A*CKNOWLEDGE that head trauma, strangulation, and mental health challenges are common; *R*ESPOND by accommodating needs in services and providing targeted referrals; and *E*VALUATE effectiveness of response to meet survivors' stated concerns. We hypothesized that TIC would significantly improve among DVSO staff with the agency's use of CARE. **Setting/Participants/Design:** Pre- (n = 53) and 1-year post-CARE (n = 60) implementation online surveys were completed by staff at 5 DVSOs in Ohio from 2017 to 2019. **Main Measures:** Trauma-Informed Practice Scales (TIPS) were used to assess agency support and overall staff impression of implementing TIC; scales were modified to assess the use of TIC-practices related to head trauma, strangulation, mental health, suicide, and substance use. Attitudes Regarding Trauma-Informed Care (ARTIC-45) subscales assessed DVSO staff's endorsement of personal and organizational support in implementing TIC practices. Response options on the Survivor Defined Practice Scale (SDPS) were modified to gain staff insight into DVSO's ability to facilitate survivor empowerment. Differences in endorsement of TIC practices between pre- and post-CARE implementation were evaluated using regression models. **Results:** DVSO agency environment ($P < .01$) and overall staff impression ($P < .001$) regarding implementing TIC practices, and in respect to head trauma ($P < .01$), strangulation ($P < .01$), mental health ($P < .01$), suicide ($P = .04$), and substance use ($P < .01$), significantly improved with the agency's use of CARE. CARE increased DVSO staff's belief in personal and organizational support to implement TIC ($P < .01$ and $P = .02$, respectively) and in their agency's ability to foster survivor empowerment ($P < .01$). **Conclusion:** CARE improved TIC practices of DVSOs, overall, and to address brain injury and mental health. **Key words:** *advocacy*, *CARE*, *domestic violence*, *hypoxic-anoxic brain injury*, *intimate partner violence*, *mental health*, *outcome evaluation*, *strangulation*, *trauma-informed care*, *traumatic brain injury*

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TRAUMA-INFORMED CARE APPROACHES HAVE NOT CONSIDERED BRAIN INJURY

Over the past 2 decades, trauma-informed care (TIC) has become the predominant framework of service provision adopted at organizations providing safety and

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support services to survivors of domestic violence (DV).[1] A TIC approach assumes that events or circumstances experienced by individuals as life threatening or harmful, known as trauma, have lasting effects on a person's well-being and functioning.[1,2] Foundational to the adoption of a TIC approach is agency-wide training in traumatic stress and the neurobiology of trauma.[3] Because those targeted for DV at higher rates are members of communities impacted by intersectional, structural inequity perpetuated through ongoing threats of and actual violence, TIC approaches also recognize that current traumatic events are layered onto preexisting historical and intergenerational trauma, as well as pervasive and consistent institutional, adult, and childhood adverse experiences, carried in our bodies through somatic memory.[4,5] Organizations that adopt TIC seek to actively resist retraumatization of clients and staff by (1) realizing the widespread impact of trauma on families, organizations, and communities, and interpreting people's experience and behavior, including drug use and resistance to engage in safety or justice services, as survival strategies and understandable responses to overwhelming circumstances; (2) recognizing the signs and symptoms of trauma in clients, families, staff, and others involved in the system; and (3) responding by providing sensitive services that integrate knowledge about trauma into policies, procedures, and practices.[2]

Despite its transformational impact on support services for survivors, historical TIC approaches have not been brain injury (BI)-informed. Service organizations working with survivors have neglected to consider that BI from violence may be a critical factor in struggles and behavior of survivors and their ability to successfully engage services. Because of this, DVSOs have not historically provided accommodations for survivors living with BI, which may be an impediment to carrying forth principles of TIC in practice.[1,2]

BI FROM DV IS PREVALENT AND HAS NEUROLOGIC, PSYCHOLOGIC, COGNITIVE, AND BEHAVIORAL IMPACTS

Our research has demonstrated that a majority of survivors accessing safety and support services through DVSOs have violence exposure histories that can lead to BI. In a needs assessment conducted at partnering DVSOs in Ohio, more than 8 in 10 survivors reported exposure to intentionally inflicted head trauma. Blunt force head trauma causing altered consciousness results in traumatic brain injury, including concussion. In addition, more than 8 in 10 of the same survivors reported strangulation experiences. Strangulation causing altered consciousness results in hypoxic-anoxic injury to the brain.[6] The head and the neck are the most common sites of physical abuse in violent attacks. The majority of survivors seeking DV services have experienced multiple traumatic events targeting the head and airways, which may result in multiple BIs across their life span and can compound symptoms and slow recovery.[6,7] Despite this, our research and others have demonstrated that survivors and service providers at DVSOs and through traditional health settings are unaware that this intentionally inflicted partner or domestic abuse of the head, face, or neck can result in axion damage or disruptions in oxygenated blood flow to the brain, causing BI, or be the source of seemingly disconnected struggles with health, tasks of daily living, and progression in plans toward longer-term safety and independence.[6,8]

Emerging research suggests that survivors of BI caused by intimate or DV are at an increased risk for experiencing a variety of negative sequelae, including cognitive and psychological deficits and compromised structural and functional brain connectivity.[9–11] A recent review of the neuropsychological outcomes of nonfatal strangulation suggests that neurological consequences include not only alterations in consciousness, indicating at least mild BI, but also seizures, motor and speech disorders, and paralysis. Common psychological outcomes include Posttraumatic Stress Disorder (PTSD), depression, suicidality, and dissociation whereas the cognitive and behavioral outcomes include problems with memory, aggression lability, and struggles with compliance as well as help-seeking behavior.[12] Although some of these troubles may overlap or be caused by the neurobiological trauma response, many can be explained only by BI. Because of its impact on a wide range of functions, BI may compromise survivors' ability to reduce their risk of harm while in abusive relationships, hinder them from successfully engaging in the complex tasks required to escape their abusers, and impair their ability to seek safety, justice, health, and social services even years after the abuse has ended.[11,13]

CARE: DEVELOPED TO RAISE THE CAPACITY OF DVSO TO ADDRESS NEEDS OF SURVIVORS WITH BI

This lack of awareness of the high prevalence of BI, and its impact on survivors' experiences and behavior, may compromise survivors' ability to access comprehensive lifesaving services. The CARE agency-wide intervention was developed to address the need for a TIC approach that acknowledges BI within the context of DV and increases the accessibility of DVSO services by providing education, guidance, and tools for DVSO staff to proactively address survivors' diverse needs. The aim of this study was to evaluate the impact that a year-long agency-wide adoption of CARE had on improving DVSO TIC practices, overall, and in relation

to addressing BI and mental health. We hypothesized that TIC would significantly improve among DVSO staff with the agency's use of CARE.

METHODS

Creating CARE (Connect, Acknowledge, Respond, Evaluate)

In 2016, the Ohio Domestic Violence Network (ODVN) secured a 3-year grant with the purpose of raising the capacity of DVSOs to accommodate and meet the needs of survivors with mental health and BI concerns through the development of an Ability Action Plan agency-wide intervention–what is now known as CARE. The Ohio State University (OSU) College of Public Health was contracted to provide program planning, development, and evaluation support. A Community-of-Practice Advisory Board met quarterly to inform Ability Action Plan development and consisted of representatives from statewide organizations with expertise in BI, mental health, and DV, staff from the 5 CARE development DVSOs in Ohio, and ODVN and OSU project staff.

Needs assessment and program development

CARE was developed by ODVN with the support of OSU in response to a 2017 need assessment with a focus on raising DVSO staff awareness of the impact of BI on DV survivors and on providing tools and resources staff can use in advocacy practice to accommodate and support survivors experiencing BI caused by DV while addressing the complex burdens of mental health, substance use, suicide, and other health concerns.[6,14] CARE recognizes that survivors may have physical, cognitive, emotional, and/or behavioral challenges that make it difficult to access and find success with health, safety, and justice services. CARE emphasizes that survivors with complex circumstances and histories deserve intentional BI-informed strategies that are proactive, flexible, and engage and retain survivors in lifesaving services.

The CARE advocacy approach, framework, and tools

CARE starts with *C*ONNECTing with survivors by forming genuine relationships and learning what survivors value, want, need, and expect. The establishment of trusting relationships is the foundation for effective advocacy. This requires staff to approach relationship building through a TIC lens, especially when survivors find making connections difficult. Next DV programs *A*CKNOWLEDGE that head trauma and strangulation, and related challenges, are common–including BI, mental health struggles, other medical issues, substance use, and suicidal ideation. DVSO staff can use CARE tools (*Invisible Injuries* and *Just Breathe* booklets, *The Head Injury* education card, CHATS needs identification, accommodation, and referral tool) to provide information and education about and identify short- and long-term consequences of BI and trauma.[15] The DV programs then *R*ESPOND by collaborating with the survivors to develop accommodations for challenges related to suspected BI caused by violence and provide effective, accessible referrals and advocacy for individuals who need additional services or support. Finally, staff *E*VALUATE their services by establishing a strong feedback loop with survivors to see how, and to what extent, the support, accommodations, resources, referrals, and services are meeting their needs.

Preparing and supporting the community of practice DVSOs to implement CARE

The ODVN designed and facilitated a 2-day training, in mid-2018, with the 5 community of practice DVSOs. Topics covered included education on brain functions, head trauma and traumatic brain injury, strangulation and hypoxic-anoxic injury, symptoms of BI, and common mental health concerns among DV survivors. The DVSOs were also trained in ways to integrate CARE into advocacy practice and encouraged to apply CARE flexibly to the varied work and processes of their organizations throughout the following year. The ODVN provided CARE tools to DVSOs throughout this time, as well as ongoing technical assistance to DVSOs as they worked to transform agency practice to CARE.

Evaluating CARE

Sampling frame

Outcome evaluation data of the impact of the use of CARE on the trauma-informed practices of advocates were collected online from providers at the 5 participating DVSOs at 2 time points: (1) pre-CARE training and implementation beginning in November 2017 through January 2018) and (2) 1 year + post-CARE implementation in April-June 2019. CARE DVSOs were geographically dispersed throughout Ohio, including 1 site in an urban center, 2 in small towns, and 2 in rural communities. Two of the programs were located in Ohio Appalachia. Participating CARE DVSOs provided a mixture of traditional advocacy services, including emergency shelter, support groups, counseling, case management, legal advocacy, supervised visitation, and transitional housing.

Outcome evaluation procedures

All participating CARE DVSOs agreed to implement CARE agency-wide as part of their paid participation

in the federally funded capacity-building grant secured by ODVN (2016-XV-GX-K012); however, all research activities involving DVSO staff and volunteers were voluntary. All study procedures were overseen by the university research partner (Nemeth) and approved by the OSU Institutional Review Board (IRB). All ODVN staff were CITI trained and completed conflict of interest disclosures before being placed on OSU's IRB to promote transparency and community empowerment through all stages of the research project; however, only OSU IRB–approved research staff were used for data collection from staff at local DVSOs to prevent desirability bias.

Online survey

Participants

All agency administrators, staff, and volunteers of the 5 CARE DVSOs at the time of the pre- or post-CARE implementation follow-up survey were invited to participate. All providers were afforded an hour, during regularly scheduled work, to complete the self-administered, online survey in a private room at each agency site. Participants consented, online, before beginning. Those who did not consent could stay in the room for the hour to avoid undue coercion to participate without disclosure to their employer. Participants received a $25 gift card for survey completion provided directly by IRB research staff.

Instrumentation

The Qualtrics survey contained outcome (collected pre- and post-CARE) and process (collected only post-CARE) evaluation close-ended questions designed to illicit quantitative data related to staff knowledge, attitudes, and confidence in delivering services to survivors impacted by mental health struggles, BI disability, and comorbid issues. To assess whether CARE improved DVSO's trauma-informed practices overall and in regard to addressing BI and mental health, several psychometrically robust scales were utilized.

The Trauma-Informed Practice Scales

Trauma-Informed Practice Scales (TIPS) were created through a university-community collaboration between trauma-informed experts, advocates, and survivors of DV to capture information about an agency's recognition of and responsiveness to the diverse needs of trauma survivors and were used here to assess agency environment to and overall staff impression of implementing TIC practices, in general, and in their particular use of TIC practices when addressing specific health topics including head trauma, choking/strangulation, struggles with mental health, risk for suicide, and alcohol or other drug use.[16] The purpose of the TIPS is to support community-based programs in identifying their program's strengths and weaknesses, improving their practices, and demonstrating how their program incorporates TIC principles to stakeholders and funders. Originally developed to assess survivors' perspectives, here TIPS were modified to instead assess DVSO's trauma-informed practices from the perspective of DVSO staff. The Environment or Agency and Mutual Respect and Overall Staff Impression subscales were taken directly from TIPS. Subscales modified from the original TIPS were developed to collect information specifically about staff impressions of implementing TIC practices related to head trauma, strangulation, mental health struggles, risk for suicide, and alcohol and other drug use. Each subscale in the original and modified version of TIPS comprised the cluster of behaviors central to providing TIC and included items about how to identify, provide information about, normalize, support survivors, accommodate needs, provide flexibility, safety plan considering, provide services, convey knowledge of community services, and refer. See individual items comprising each TIPS subscales in Supplemental Digital Content Table 2, available at: http://links.lww.com/JHTR/A679. For each of the TIPS subscales, a lower score indicated a more favorable impression of staff's ability to address the particular issue using TIC practices.

The Attitudes Related to Trauma-Informed Care (ARTIC-45 and -10) Scales

The ARTIC scales were developed to assess staff's endorsement of and support in implementing TIC.[17] The ARTIC-45 is an in-depth, long-form assessment comprising 5 subscales, whereas the ARTIC-10 is a brief assessment comprising 2 items each from the ARTIC-45's subscales.[17,18] The ARTIC-10 and 2 subscales from the ARTIC-45 (Personal Support and System Support) were used here (see Supplemental Digital Content Table 2, available at: http://links.lww.com/JHTR/A679). Higher scores on the ARTIC scales indicate staff personal endorsement of and greater agency support in implementing TIC practices. The ARTIC scales utilize percentile rankings to indicate an organization's current level of TIC and visualize organizational growth.[18] According to the ARTIC system, "Learn" organizations have mean scores within the 0 to 25th percentile, "Grow" organizations within the 25th to 75th percentile, and "Thrive" organizations within the 75th to 100th percentile.

Survivor-Defined Practice Scale

Finally, the Survivor-Defined Practice Scale (SDPS) acknowledges that survivors' contexts (culture, socioeconomic status, immigration status, etc) are variable, and thus DVSO practices should collaborate with

survivors to incorporate their goals and tailor support to their unique needs in order to foster survivor empowerment.[19] Here, response options were modified to gain staff insight, with lower scores indicating staff's greater endorsement of their agency's ability to foster survivor empowerment through staff's implementation of TIC practices (see Supplemental Digital Content Table 2, available at: http://links.lww.com/JHTR/A679).

Analysis

Because of the presence of missing data (see Supplemental Digital Content Table 3, available at: http://links.lww.com/JHTR/A680), multiple imputation by chained equations was used to generate 5 imputed data sets; all analyses were conducted using the imputed data, reducing the potential bias of a complete case analysis. Means and standard errors summarized continuous variables while categorical variables were summarized with percentages. Differences between pre- and post-CARE outcome variables were evaluated with regression analyses. Imputation was conducted in R version 3.5.2 (Vienna, Austria) and all subsequent analyses were completed in SAS version 9.4 (SAS institute, Cary, North Carolina). *P* values less than .05 were considered to be statistically significant.

RESULTS

Sample characteristics

Participant characteristics are presented in Table 1. Fifty-three staff completed the pre-CARE survey and 60 completed the post-CARE survey; of these, 23 staff participated in both surveys. The majority of DVSO staff who participated in the implementation and evaluation of CARE identified themselves as non-Hispanic, White women and reported that they were paid, full-time employees who had worked 3 years or less with their current agency. Education level and licensure varied among participants, but the majority had participated in at least some college-level education, around 20% reported earning their registered advocate certification, and around 10% reported earning a social work license. The most common services DVSO staff provided included emergency shelter, support groups, and case management.

Trauma-Informed Practice Scales

Comparison of mean staff composite TIPS subscale scores between pre- and 1-year post–agency-wide adoption of CARE is presented in Table 2. The DVSO agency environment ($P = .005$) and overall staff impression ($P < .001$) regarding implementing TIC practices significantly improved with the agency's use of

TABLE 1 *Characteristics of the staff who participated in the pre- and post-CARE surveys*[a]

	Pre-CARE ($n = 53$)	Post-CARE ($n = 60$)
Age, mean (SE), y	41.50 (2.29)	38.48 (1.84)
Ethnicity, %		
Non-Hispanic	86.41	91.67
Hispanic	13.58	8.33
Race, %		
White	88.67	88.00
Black or African American	0.00	3.67
American Indian or Alaskan Native	0.00	1.67
Asian or Asian American	6.41	0.00
Biracial or multiracial	4.91	6.67
Gender, %		
Male	12.45	0.00
Female	87.56	100.00
Agency, %		
A	22.26	19.33
B	24.15	22.67
C	18.49	12.33
D	13.96	13.00
E	21.13	32.67
Paid employee, %	98.11	96.67
Time worked for agency, %		
Less than a year	31.70	33.33
1-3 y	29.06	30.33
3-5 y	12.08	12.33
5-10 y	7.55	13.33
>10 y	19.62	10.67
Hours normally worked, %		
Full time	71.32	61.67
Part time	26.79	36.33
Temporary	0.00	0.00
As needed	1.89	2.00
When normally work, %		
Day time	71.32	63.33
Evening	10.19	15.00
Overnight	8.30	9.67
Weekends	10.19	12.00
Highest level of education, %		
Less than high school	3.77	0.00
High school diploma/GED	9.43	8.33
Some college	28.30	15.33
Associate's degree	35.85	28.33
Bachelor's degree	22.64	33.00
Graduate/professional degree	0.00	15.00
Special licensure or certification, %		
Social work	13.21	10.00
Counselor	3.77	3.33
Registered advocate	22.64	25.00
Certified professional dependency counselor	0.00	3.33

(*continues*)

TABLE 1 *Characteristics of the staff who participated in the pre- and post-CARE surveys*[a] (Continued)

	Pre-CARE ($n = 53$)	Post-CARE ($n = 60$)
Services provided		
Emergency shelter, %	61.13	62.33
Years provided, mean (SE)	6.19 (1.11)	7.71 (2.22)
Support group, %	51.32	47.67
Years provided, mean (SE)	3.61 (0.69)	3.92 (0.92)
Counseling, %	18.11	10.33
Years provided, mean (SE)	3.67 (1.44)	3.15 (0.80)
Case management, %	47.17	52.33
Years provided, mean (SE)	6.98 (1.18)	4.90 (1.46)
Legal advocacy, %	36.98	37.33
Years provided, mean (SE)	5.48 (1.66)	5.36 (1.05)
Supervised visitation, %	4.15	3.67
Years provided, mean (SE)	0.88 (0.12)	11.81 (10.45)
Transitional housing, %	20.00	23.33
Years provided, mean (SE)	3.23 (0.77)	3.11 (1.28)

Abbreviation: CARE, Connect, Acknowledge, Respond, Evaluate.
[a]Frequencies are not reported for categorical variables as the table reports the average proportions across the imputed data sets.

CARE. In addition, DVSOs' ability to address specific health issues using TIC practices also significantly improved with the agency's use of CARE, including head trauma ($P < .001$), strangulation ($P = .002$), mental health struggles ($P = .001$), risk for suicide ($P = .036$), and alcohol and other substance use ($P = .002$).

Individual TIPS survey items

A summary of individual TIPS survey items comprising each composite TIPS subscale is presented in Supplemental Digital Content Table 1, available at: http://links.lww.com/JHTR/A678. Individual items relate to (*a*) identification, (*b*) providing information, (*c*) acknowledging the prevalence of survivor's diverse challenges, (*d*) knowing how to help address survivor-specific challenges, (*e*) providing appropriate accommodations to meet survivors' needs, (*f*) providing flexible services, (*g*) understanding how to safety plan with survivor challenges in mind, (*h*) confidence providing quality services, (*I*) knowledge of healthcare and community resources, and (*j*) confidence referring survivors to healthcare and community resources to promote recovery.

CARE impact on frequency, comfort, and confidence of conversation with survivors

The majority of DVSO staff indicated that after CARE implementation, they felt more confident, comfortable and had more conversations with survivors about head injuries and strangulation. Whereas confidence, comfort, and frequency of discussing mental health, suicide, and alcohol/drug use stayed about the same (see Table 3).

Attitudes Regarding Trauma-Informed Care (ARTIC-45 and -10)

There was significant growth from pre- to post-CARE implementation on both the Personal Support and System Support subscales of ARTIC-45 ($P = .003$ and $P = .015$, respectively) (see Table 4). Findings indicate that after 1-year agency-wide implementation of CARE, staff at DVSOs felt more confident in their abilities to implement TIC, improving from the 88.35th to the 94.39th percentile in the ARTIC "Thrive" range. Over the same time, DVSO staff felt more support from their organization to carry out TIC practices, improving within the ARTIC "Grow" range from the 44.83th to the 59.28th percentile. Growth in TIC was not significant from pre- to post-CARE implementation when assessed using the ARTIC-10.

Survivor-Defined Practice Scale

CARE increased DVSO's staff perception of their organization's ability to foster survivor empowerment through staff's use of TIC practices ($P < .001$) (see Table 4).

DISCUSSION

Significance of CARE framework

Prior to this study, current TIC approaches had not yet acknowledged the impact of BI on survivors of DV and trauma.[6,7,15] CARE is the first program that is a trauma-informed, BI-aware advocacy model that acknowledges BI (including from head trauma and strangulation) as central to many survivors' experiences and one of many causes of current struggles that has to be addressed and accommodated. This study demonstrates how the CARE framework and materials can benefit DVSO trauma-informed services by acknowledging the prevalence and impact of BI within the DV community. In this demonstration project, the use of CARE significantly improved DVSO staff's use of TIC practices and the support staff felt from their

TABLE 2 *Comparison of composite TIPS subscale scores between the pre- and post-CARE staff surveys*[a]

	Pre-CARE ($n = 53$) Mean (SE)	Post-CARE ($n = 60$) Mean (SE)	Difference, post-pre Estimate (95% CI)	P
TIPS Composite Subscale				
Environment of Agency and Mutual Respect	10.96 (0.68)	8.83 (0.39)	−2.13 (−3.63 to −0.65)	.005
Overall Staff Impression	24.99 (0.95)	20.71 (0.69)	−4.29 (−6.54 to −2.03)	<.001
TIPS Composite Subscale, modified to address TIC practice related to topic area				
Hit in the Head (Head Trauma)	32.00 (1.58)	24.37 (1.32)	−7.63 (−11.64 to −3.62)	<.001
Choked or Strangled (Strangulation)	28.78 (1.63)	22.40 (1.26)	−6.38 (−10.37 to −2.39)	.002
Struggling with Mental Health	29.55 (1.76)	22.88 (1.13)	−6.67 (−10.67 to −2.67)	.001
Risk for Suicide	24.82 (1.28)	21.15 (1.19)	−3.67 (−7.09 to −0.24)	.036
Alcohol or Other Drug Use	27.78 (1.74)	21.78 (1.04)	−6.00 (−9.87 to −2.14)	.002

Abbreviations: CARE, Connect, Acknowledge, Respond, Evaluate; CI, confidence interval; TIC, trauma-informed care; TIPS, Trauma-Informed Practice Scales.
[a]Lower scores indicate more favorable impression of staff's ability to address the particular issue using TIC practices.

agency in implementing TIC and facilitating survivor empowerment. By incorporating BI within a trauma-informed approach, the DVSO staff can acquire a greater understanding of the unique challenges BI poses to survivors' daily lives and access to lifesaving services. The CARE framework and tools facilitate DVSOs' ability to proactively and flexibly address the diverse challenges survivors often present to services with–including BI, substance use, and struggles with mental health.[6,14,15]

Study limitations

The study sample is not representative of the breath of DVSOs serving the diversity of survivors of DV;

TABLE 3 *Retrospective summary from post–CARE staff survey of CARE impact on frequency, comfort, and confidence of conversation with survivors of domestic violence about head injury exposure and mental health impacts since their agency's adoption of CARE ($n = 60$)*[a]

	Hit in the head	Choked or strangled	Struggling with mental health	Risk for suicide	Alcohol or other drug use
Frequency of conversations					
Less often	0.00%	0.00%	0.00%	0.00%	0.00%
About the same	33.33%	43.67%	62.67%	70.00%	64.67%
More often	66.67%	56.33%	37.33%	30.00%	35.33%
Comfort with conversations					
Less comfortable	0.00%	0.00%	0.00%	0.00%	0.00%
About the same	31.67%	33.33%	58.00%	59.33%	59.67%
More comfortable	68.33%	66.67%	42.00%	40.67%	40.33%
Confidence in having conversations					
Less confident	0.00%	0.00%	0.00%	0.00%	0.00%
About the same	29.00%	34.67%	54.67%	56.00%	59.67%
More confident	71.00%	65.33%	45.33%	44.00%	40.33%

[a]Frequencies are not reported as the table reports the average proportions across the imputed data sets.

TABLE 4 *Comparison of composite ARTIC and SDPS scores between the pre– and post–staff surveys*

	Pre-CARE ($n = 53$) Mean (SE)	Post-CARE ($n = 60$) Mean (SE)	Difference, post-pre-CARE Estimate (95% CI)	*P*
ARTIC-10	5.23 (0.14)	5.44 (0.12)	0.21 (−0.15 to 0.58)	.251
ARTIC-45 Personal Support	4.57 (0.19)	5.34 (0.17)	0.77 (0.27 to 1.27)	.003
ARTIC-45 System Support	4.86 (0.20)	5.45 (0.14)	0.59 (0.11 to 1.07)	.015
SDPS: Survivor Empowerment	17.43 (1.03)	13.25 (0.56)	−4.18 (−6.40 to −1.95)	<.001

Abbreviations: ARTIC, Attitudes Regarding Trauma-Informed Care; higher mean ARTIC score at post-CARE indicates growth in personal and organizational support in implementing TIC; CARE, Connect, Acknowledge, Respond, Evaluate; CI, confidence interval; SDPS, Survivor-Defined Practice Scale; lower SDPS score at post-CARE indicates increased ability of agency to foster survivor empowerment.

however, efforts were made to gain the perspective of staff at DVSOs in communities where violence exposure is high, for instance, in Ohio Appalachia where 1 in 2 women in their lifetime will experience DV.[20] Because topic-specific TIC measures do not yet exist, validated measures were modified to collect data on subject-specific topics (eg, BI, strangulation, substance use); validity testing needs to be conducted on the modified measures. Although a longitudinal study of individual DVSO staff would increase power to detect CARE's efficacy, the high turnover rates at DVSOs in the year of longitudinal data collection prohibited this. However, the evaluation conducted here reflects a more real-world impact of the agency-wide adoption of CARE where the agency becomes responsible for training its incoming staff members in service delivery practices. Despite choosing an analysis plan with less power, significant improvements were detected when comparing variable means. Finally, the CARE framework was developed to address practices within DVSOs, yet survivors seek a diverse set of social, criminal justice, and health services. Although professionals outside the DV sector provided project guidance, future research should investigate how CARE could be targeted to staff and survivors' needs within the diverse contexts in which survivors seek services.

Future implications

Despite the growing amount of evidence that BI is common among DV survivors and significantly impacts survivors' recovery and access to services, BI is still not fully addressed in the DVSO sector, including in agencies that have adopted trauma-informed practices–nor is BI from DV routinely considered in healthcare, neurology fields, or other system settings.[6,7,9,11,15] Currently, the different sectors that address survivors' needs (DVSOs, healthcare, justice system, social service, etc) do not have an established framework that is both BI-aware and trauma-informed.[6,15] Furthermore, these systems do not have established protocols, referral systems, or care pathways to seamlessly address survivors' needs across systems if survivors require specialized services for safety, recovery, justice, or stability.[15] Through expanded interdisciplinary collaboration, CARE may provide the foundation upon which to develop a cohesive, cross-system model to support the implementation of BI-aware, trauma-informed practices across service settings.

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