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Implementation Outcomes of Military Provider Training in Cognitive Processing Therapy and Prolonged Exposure Therapy for Post-Traumatic Stress Disorder

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ABSTRACT Between 2006 and 2012, the Department of Defense trained thousands of military mental health providers in the use of evidence-based treatments for post-traumatic stress disorder. Most providers were trained in multiday workshops that focused on the use of Cognitive Processing Therapy and Prolonged Exposure. This study is a follow-up evaluation of the implementation practices of 103 Air Force mental health providers. A survey was administered online to workshop participants; 34.2% of participants responded. Findings on treatment implementation with the providers indicated that a majority of respondents found the trainings valuable and were interested in using the treatments, yet they reported a lack of time in their clinic appointment structure to support their use. Insufficient supervision was also cited as a barrier to treatment use. Results suggest the need to improve strategies for implementing evidence-based practices with providers to enhance clinical outcomes in military settings.

INTRODUCTION

Since 2001, approximately 2 million U.S. military personnel have deployed to Iraq and Afghanistan. It has been estimated that 5–17% of these service members are at significant risk for combat-related post-traumatic stress disorder (PTSD).[1,2] Despite the training of hundreds of Department of Defense behavioral health providers in evidence-based cognitive behavioral treatments for PTSD, less than 25% of patients are receiving treatment that is evidence based.[2] Many providers do not use the treatments because of barriers, including clinic structures that do not allow time for manualized therapies, lack of supervision of new skills, and lack of organizational support for specific practices.[3–5] There also appears to be low provider confidence and even resistance to specific evidence-based treatment approaches for PTSD,[6] and provider perception of patient concerns about potential treatment complications.[7] Rosen et al[8] reported low endorsement of the use of Prolonged Exposure (PE) therapy among the Department of Veterans Affairs providers, despite its indication as a first-line treatment approach in the International Society for Traumatic Stress Studies practice guidelines.[9] Reasons providers gave for not using the practice included concern that patients might worsen through exposure therapy, that receiving the treatment would be too distressing, and the belief that PE leads to higher drop out than other treatments. However, PE and Cognitive Processing Therapy (CPT) are the two treatments for PTSD with the strongest empirical support for their efficacy. Both PE (since 2007) and CPT (since 2006) have been implemented into clinical practice by the Department of Veterans Affairs and were found by the Institute of Medicine to have sufficient empirical support to conclude that they are effective for treating PTSD.[10] More

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recently, in response to patient concerns, the Army is in the process of complying with the Army Task Force on Behavioral Health Corrective Action Plan to improve guidance to providers regarding assessment and treatment of PTSD. The Corrective Action Plan outlines procedures to standardize services, coordinate behavioral health delivery, and improve diagnoses processes and procedures.[11]

For dissemination efforts to be effective, they will need to confront misinformation about the potential harm of these evidence-based practices by discussing research findings that debunk such myths.[6,12] They also will need to focus on increasing provider readiness and willingness to use these particular practices. To promote the adoption of effective treatments, effective dissemination requires attention to patient, provider, and organizational factors, including the availability of funding for training and organizational support for implementation of new practices.[13] Dissemination and implementation approaches need to be evaluated to identify effective methods for translating evidence-based practices into regular practice that can potentially improve clinical outcomes.

Rogers' Diffusion of Innovations theory[14] seeks to explain how, why, and at what rate new ideas, technology, and practices spread throughout different cultures. The theory indicates that five key characteristics of an innovation promote its adoption: relative advantage, compatibility, complexity, trialability, and observability. This study assessed providers' perceived level of interest in using PE and CPT for the treatment of PTSD after the completion of a multiday military providers' workshop. It also assessed providers' preference in using PE and CPT over other treatment types (relative advantage), and providers' self-rated confidence in using these treatments (a proxy for complexity). Among the many possible factors that influence effective adoption of new practices by providers, this study hypothesized providers' perceived barriers around the clinical environment would explain the extent of evidence-based practice usage more than practice characteristics.

METHODS

Participants

From 2006 to 2010, the U.S. military initiated service-wide workshop programs to train military behavioral health providers in the use of CPT and PE for the treatment of PTSD. Participants for this study consisted of U.S. Air Force behavioral health providers ($N = 103$) who attended either a 2-day CPT workshop ($n = 61$) or a 3-day PE workshop ($n = 42$). Surveys were anonymous and confidential, and demographic information such as race, ethnicity, and gender were not collected because it may have revealed a provider's identity. As additional assurance of confidentiality, survey administration was conducted online, allowing participants to complete survey items in privacy. Observations by the workshop facilitators suggested that the participants were representative of the general makeup of Air Force behavioral health providers, who are predominately Caucasian, range in age from 30 to 55 years old, and typically are officers who range in rank from O-3 to O-5. A response rate of 34.2% was obtained from surveys sent to 312 workshop participants.

Procedure

Throughout the time that the workshops were provided, the trainers provided a weekly consultation phone line, which any attendee could call to obtain free consultation about using the workshop treatment with their patients. This line was available for up to 12 months following the workshop. Six to 18 months after attending the workshop, participants were e-mailed a link to an online survey that contained 10 questions generated by the researchers. Respondents were assured of the confidentiality of their responses. No personally identifying information was requested from them, including their employment site. Respondents were asked whether or not they had seen any PTSD patients since attending the workshop and, if so, with how many of their patients they had used various treatments (PE, CPT, eye movement desensitization and reprocessing, psychotropic medication, supportive therapy, and combined therapies). They were then asked to respond to items regarding the workshop and their use of the workshop treatment using 5-point Likert scales. No reliability and validity data are available for the instrument. Anchor points varied slightly from scale to scale but generally followed the format of 1 = Not at all; 2 = Somewhat not; 3 = Neutral; 4 = Somewhat; 5 = Extremely. Specifically, respondents were asked whether they found the workshop valuable, whether they would recommend it to another provider, how interested they were in using the workshop treatment, how much they preferred the workshop treatment to others, and to rate their confidence level in using the workshop treatment. Next, respondents were asked about different forms of follow-up supervision they may have obtained specifically for the treatment, including the following: no supervision, consultation calls, peer supervision, and local supervision. Finally, respondents were asked to rate a list of potential barriers they might face in implementing the treatment (e.g., lack of self-confidence) and the potential support that would most likely increase their use of the treatment (e.g., more interest from patients).

RESULTS

Survey findings are presented below and include respondents' feedback regarding the workshop, their attitudes toward the workshop treatment, their treatment utilization, amount and type of supervision they received for cases, and the most challenging barriers for increased treatment use.

Feedback Regarding Training

As shown in Table I, the majority of the providers (90.3%) indicated that they found the CPT and PE workshops to be

TABLE I. Provider Impressions of the Workshop and the Treatment

	1	2	3	4	5	*M* (SD)	95% Confidence Interval (CI)
Workshop Valuable	51.5	38.8	2.9	5.8	1.0	1.66 (0.87)	1.49–1.83
Recommend Workshop	72.8	22.3	2.9	1.0	1.0	1.35 (0.68)	1.22–1.48
Interested in Using Treatment	74.8	18.4	4.9	1.0	1.0	1.35 (0.71)	1.21–1.49
Prefer Treatment to Others	24.3	41.7	28.2	4.9	1.0	2.17 (0.89)	1.99–2.34
Confident in Using Treatment	30.1	52.4	12.6	2.9	1.9	1.94 (0.85)	1.78–2.11

Ratings of the above items were each completed based on 5 available responses that followed a pattern of 1: Extremely positive; 2: Moderately positive; 3: Neutral; 4: Moderately negative; 5: Very negative. The specific response options were Valuable: Extremely, Valuable, No Opinion, Somewhat, Definitely Not; Recommend: Strongly, Recommend, No Opinion, Somewhat, Definitely Not; Interest: Very, Somewhat, Neutral, Somewhat Uninterested, Not At All; Preference: Prefer over ALL, Prefer over MOST, Neutral, Prefer over A FEW, Prefer other treatments; Confident: Very, Somewhat, Neutral, Somewhat lacking, Not at all.

either "Valuable" (38.8%) or "Extremely Valuable" (51.5%). The majority (95.1%) indicated also that they would "Recommend" (22.3%) or "Strongly Recommend" (72.8%) these workshops to colleagues.

Attitudes Toward Treatment

Overall, participants expressed very positive attitudes toward PE and CPT. Seventy-five percent indicated that they were "Very Interested" in using the treatments for patients with PTSD. Despite these positive attitudes toward the treatment types and high interest in using the therapies, real-world obstacles to implementation were noted.

Treatment Utilization

Complete data on treatment utilization are summarized in Table II. A necessary component of implementation after receipt of training in an evidence-based PTSD treatment is for a trainee to have the opportunity to treat at least 1 patient with PTSD. Most of the respondents (74.8%) had seen at least one PTSD patient since the training. Among respondents who saw at least one PTSD patient, 80.9% of CPT training respondents used CPT, and 70% of PE training respondents used PE. Those respondents who did not have the opportunity to treat a patient with PTSD are not included in our reported percentage of respondents who used the workshop treatment. The relatively low number of patients with PTSD seen by Air Force providers in this study is not surprising, given the low numbers of service members wounded in action in the Air Force. Much higher rates of service members in the Army and the Marines are wounded in action and require treatment because of the higher levels of combat exposure experienced by these military branches.[15] The availability of PTSD patients for providers to treat may affect the pace at which providers become accustomed to using new practices.

TABLE II. Number of Patients Treated By Providers Who Saw At Least 1 PTSD Patient

	Attended CPT Training (n = 47)	Attended PE Training (n = 30)
Used CPT		
M (SD)	4.96 (7.63)	1.37 (2.51)
95% CI	2.72–7.20	0.43–2.30
%Utilizing	80.9	43.3
Used PE		
M (SD)	0.87 (1.45)	3.67 (5.68)
95% CI	0.45–1.30	1.54–5.79
%Utilizing	40.4	70.0
Used Supportive Therapy		
M (SD)	6.02 (16.64)	3.80 (14.67)
95% CI	1.14–10.91	−1.68–9.28
% Utilizing	31.9	36.7
Used Medications		
M (SD)	2.87 (9.82)	3.03 (11.18)
95% CI	−0.01–5.76	−1.14–7.21
%Utilizing	21.3	20.0
Used Combination		
M (SD)	2.16 (7.70)	3.74 (11.98)
95% CI	−0.18–4.50	−0.81–8.30
%Utilizing	27.7	33.3

However, within both training groups (PE and CPT), a greater percentage of respondents used their respective treatment from training more than any other form of treatment, with the exception of supportive therapy. Among providers trained in PE, PE was used with an average 3.67 clients (SD = 5.68), and among those trained in CPT, the workshop therapy was used with an average of 4.96 clients (SD = 7.63). There is an apparent specificity of training in that those trained in PE used PE more often and those trained in CPT used CPT more often. In addition, though, 40.4% of providers who attended the CPT workshop also reported using PE, and 43.3% of providers who attended the PE workshop reported using CPT. Presumably, these providers had received prior training in each of these other modalities and had selected to use one rather than the other, perhaps based on patient presentation or preference. The choice of treatment by providers deserves additional study in future research.

Supportive therapy was the highest reported practice in terms of average number of patients given a specific therapy, compared with reported use of CPT only or PE only. Supportive therapy was used with about 6 patients (M = 6.02, SD = 16.64) by those who attended CPT training, and with about 3 to 4 patients among those who attended PE training (M = 3.80, SD = 14.67).

TABLE III. Highest Level of Postworkshop Supervision Received For the Treatment

Supervision Level	Percentage Endorsing
Local Supervision	13.6
Peer Supervision	17.5
Consultation Calls	9.7
No Supervision	59.2

Follow-Up Supervision

Table III presents the types of follow-up supervision received by workshop attendees. It appears that many attendees did not seek out or receive supervision after the completion of their training workshop. Although a free, weekly consultation call was offered by the workshop trainers, only 14.3% of training attendees indicated that they had used these calls, and 59.2% reported no supervision in the treatment of any kind. For those who did not receive any supervision (59.2%), they did not endorse lack of confidence at a rate higher than all respondents.

Challenges and Supports to Utilizing the Treatment

Table IV outlines the challenges in trying to use the treatment after the completion of the workshop. The two most common responses to the survey item regarding challenges in using the workshop treatment were "Other challenge" (29.1%) and "No challenges" (29.1%). The most frequently cited specific challenge to utilizing the treatment was "Lack of time to provide (the treatment) in the existing clinic structure" (24.3%).

TABLE IV. Greatest Challenges to Utilizing the Workshop Treatment

Challenge/Barrier	Percentage Endorsing
Other Challenge	29.1
No Challenges	29.1
Time to Provide Treatment	24.3
Interest From Patients	16.5
Time to Learn the Treatment	13.6
Supervision	12.6
Self-confidence	12.6
Support From Military System	9.7
Support From Supervisors	3.9
Support From Colleagues	2.9
Motivation	1.0

TABLE V. Potential Supports Reported to be Most Helpful

Potential Support	Percentage Endorsing
More Time for Treatment at Clinic	31.1
More Training at Work	27.2
On-site Supervision in the Treatment	21.4
More Interest From Patients	20.4
More Training Away From Work	19.4
More Time to Learn the Treatment	19.4
Nothing Would Increase Use	19.4
Other Support (not listed)	12.6
More Peer Supervision	9.7
More Supervision	7.8
More Support From Colleagues	2.9
More Support From Supervisors	2.9

The potential supportive elements reported to be most helpful are provided in Table V. Consistent with responses related to challenges in using the workshop treatment, the support cited as most helpful to increasing providers' use of the treatments was "Change in clinic structure to support time for (the treatment)" (31.1%). The next 2 most frequently endorsed supports both indicated a desire for more thorough preparation in the treatment: "More training at work" (27.2%) and "On-site supervision in the treatment (21.4%)." However, 19.4% of respondents indicated that nothing would have increased their use of the treatment.

DISCUSSION

Military behavioral health providers who attended a multiday CPT or PE workshop indicated they were interested in using these treatments and that the training was well received. However, not all made use of their training. A quarter of the providers (25.2%) reported that they had not treated a single PTSD patient. Among those who did see at least 1 PTSD patient, 20.8% did not use the form of treatment they had been trained in during the workshop, which was most often explained by respondents not having enough time.

Responses to both the challenges and desired supports highlighted the perception among providers that the clinic structure for patient scheduling is such that it did not offer adequate time to provide the treatment. Finding a way to implement 90-minute, weekly sessions in busy military treatment facilities poses a challenge. This might be addressed by managers making changes in clinic structure and scheduling or by providers making adaptations to the therapies to overcome these constraints. To deliver these specific treatment protocols may require longer appointment times and a greater frequency of appointments than is typically available to providers in military behavioral health settings. PE consists of 10 to 12 sessions lasting 90 minutes each and CPT requires 12 1-hour sessions, usually delivered twice weekly for 6 weeks. Further, to support the use of these practices, the chain of command present in military treatment facilities must be involved when designing implemenation strategies. Likely, changes in treatment practices that necessitate changes in clinic schedules will require strong buy-in from local leadership. Implementation efforts within the Department of Defense will need to address unique organizational aspects of military health care, particularly the roles played by hospital, department, and clinic leaders.

The finding that roughly one-third of respondents indicated they had "no challenges" when asked about likely barriers to treatment is consistent with the fairly high number of providers who were able to implement the treatment in which they were trained. Therefore, it appears

that they did not face significant barriers in implementing the treatments.

That an equal number of respondents endorsed "other challenges" suggests that there may be factors interfering with treatment utilization that have not been operationalized by existing literature. Although the survey provided open text fields for respondents to describe "other challenges," their explanations mostly reiterated several challenges that were already provided as options (e.g., schedule does not allow for 90- to 120-minute sessions; patients do not seem ready or interested in a challenging treatment; there was inadequate supervision available).

However, several new considerations that respondents wrote into the "other" text field deserve further attention to promote increased treatment usage:

(1) "Currently RVU requirements don't take into consideration time needed with client." Relative Value Units, or RVUs, are one way that the military has for expressing the value of a particular service being provided. This may be an issue that needs to be addressed by clinical department chiefs and administrators. In addition, more information should be inserted into training programs, so providers are clear about how best to describe the treatments they provide and maximize their coding opportunities to reflect their workload and receive the appropriate credit.
(2) "We also see a lot of subclinical PTSD or Anxiety NOS which we tend to treat using the relevant aspects of CPT or other interventions to address symptoms." The use of component parts of manualized therapies is likely widespread and requires more evaluation to understand the appropriate use of specific components.
(3) One respondent noted, "There was no treatment in CPT that specifically addressed working with children and families." This statement represents a lack of understanding about the appropriate use of CPT for patients with PTSD. Providers may need more information about selection of treatments for different patient populations.
(4) Two respondents from PE trainings mentioned audiovisual support was a concern. PE therapy involves providing an audio recording of each session to the patient. There are many ways in which this can be accomplished, such as by burning a compact disk for the patient, allowing each PE patient to check out a clinic recorder, or having the patient record the session on their own personal device, such as a smart phone. Providers can often problem-solve with the patient (and the clinic managers) on the best ways to provide the resources for treatment protocols.

The significant relationship between supervision and confidence in using the treatment, combined with the underutilization of the free consultation calls, suggests that more providers could benefit from additional supervision after the workshop training, and making available opportunity to discuss the nonspecific "other challenges" that they report. One option might be to require all workshop attendees to obtain consultation and supervision for a minimum number of clinical cases (e.g., 2 patients) after the completion of the workshop. This approach has been successful in the role-out of CPT and PE within the Veterans Administration. In addition to expert supervision by the workshop facilitators after the completion of training, there appears to be a need for more local supervision.

Although social desirability bias cannot be ruled out with regard to responses concerning personal interest and motivation, the study findings suggest that organizational barriers are the primary obstacles to treatment utilization, rather than provider or practice barriers. This is consistent with the study's hypothesis that external constraints imposed by patient scheduling practices at military treatment facilities are perceived as a much greater challenge than any personal reluctance to engage in specific practices.

Future research should seek a more refined understanding of the circumstances that facilitate or impede the adoption and implementation of evidence-based therapies in military settings. Work with clinic administrators to ensure that necessary supports are in place in the clinic structure will be important. Evidence-based practice trainers should offer to consult with clinic chiefs regarding needed changes in clinic structure to support their providers' use of the therapies. Trainers might help identify local, internal CPT and PE "champions" to provide supervision in the early stages of implementation, and later encourage more experienced and confident staff to subsume these duties, thereby providing peer consultation and sustainability of treatment implementation.

Models for implementation through training and consultation have been studied and offer suggested best practices for full-scale evidence-based practice implementation. Foa et al[16] report successful dissemination of PE with an initial 5-day training in PE with weekly supervision and 2-day booster workshops every 6 months for the first 2 years. The therapists' treatment adherence ratings indicated competency in the treatments, and the treatment was highly effective in reducing patients' PTSD severity. Cahill et al[12] promote a train-the-trainer model: dissemination through expansion of local expertise to assist in the training and supervision of new therapists. Once a group of therapists is trained by expert trainers, a subgroup can become future supervisors, trainers, or "master clinicians" by receiving additional training and supervision. These trainers would then provide local supervision and training for new therapists. The applicability of these models within active duty military clinics has not been studied, though, and research in this area is needed. Active duty treatment environments have unique characteristics such as an ever-changing provider pool because of changes in duty

station. Solutions for continuous delivery of evidence-based therapies will need to be developed and tested.

It is clear that awareness of the research evidence and the provision of workshop training are not sufficient to promote widespread adoption of a specific treatment. To promote the adoption of effective treatments, dissemination approaches must be developed and evaluated. Effective dissemination requires attention to patient, therapist, and organizational barriers, including the availability of funding for training and organizational support for implementation of new practices.[13] Future research can improve our knowledge of effective dissemination of evidence-based practices for PTSD by addressing each of these types of barriers, both through training content and when designing implementation efforts.

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