SPECIAL REPORT

Cognitive Behavioral Therapy with Heart Rate Variability Biofeedback for Adults with Persistent Noncombat-Related Posttraumatic Stress Disorder

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Perm J 2018;22:17-207

E-pub: 09/27/2018

https://doi.org/10.7812/TPP/17-207

ABSTRACT

Objective: To test the effectiveness of a mental health therapy designed to reduce noncombat-related persistent posttraumatic stress disorder (PTSD) symptoms in 30 adult outpatients with a diagnosis of PTSD. The individual treatment offered modules to address PTSD nightmare distress, dissociation, general core skills, alterations in arousal and reactivity, avoidance, intrusion, and negative alternations in cognitions and mood. The therapeutic approach centered on cognitive behavioral therapy and heart rate variability biofeedback.

Methods: The study had 2 components: The quality improvement project that performed the treatment within a standard care environment, and a retrospective medical chart review process that analyzed the results. The Clinician-Administered PTSD Scale for the *Diagnostic and Statistical Manual, Fifth Edition*, was used to confirm the initial PTSD diagnosis and was the primary measure used to monitor change in the diagnosis following treatment.

Results: None of the patients who completed the PTSD treatment met criteria for a PTSD diagnosis in the posttreatment assessment. A 1-sample test of proportions, with a 95% confidence interval and a significance level of $p < 0.05$, showed $p = 0.0008$, and that the proportion of patients who would not have PTSD if the study was repeated would be 86.77% to 100.00%. The treatment dropout rate was 13% (4 patients).

Conclusion: The study findings suggest that this intervention is an effective treatment for helping adult patients, including those with a history of childhood abuse, remit their PTSD diagnosis.

INTRODUCTION

Epidemiology studies have estimated lifetime rates of posttraumatic stress disorder (PTSD) in the US to range from 6.8% to 16.6%, with the current (past 12 months) PTSD prevalence ranging from 3.5% to 9.1%.[1-3] By its very definition, PTSD entails having many disabling and/or significantly distressing symptoms related to exposure to at least one traumatic experience.[4,5] Those who have PTSD can have significant increases in overall medical issues and expenses independent of their PTSD diagnosis.[6-8] Persistent PTSD, which indicates having PTSD symptoms for more than 1 year,[1] and exposure to many traumatizing events and/or exposure at a younger age seem to be related to a more complex picture.[9-12] Having treatments to efficiently and effectively address the suffering and costs of PTSD is of great importance.

The objective of this study was to examine the effectiveness of a PTSD treatment that was designed to help clinicians incorporate the important lessons gained from research with the unique needs of individual patients, all within the context of a fast-paced, real-world practice. Because this study took place in a setting where it was not possible to have a control group, it was important to select patients who were not likely to have their condition change simply owing to the passing of time. In their epidemiology study, Kessler et al[1] report that most people who have been through a traumatizing event have their symptoms disappear within months, but if those symptoms persist for a year, people are less likely to remit from their PTSD diagnosis. In our study, all of the patients had PTSD symptoms for more than a year, with 29 of 30 dealing with those symptoms for more than 5 years. The intention of this study was to create a flexible protocol that could be used by a range of licensed mental health clinicians without prolonged additional training and supervision and still be effective with patients with co-occurring issues and other complexities, such as early age of exposure to traumatic events and a persistence of PTSD symptoms over time. This article describes the procedure of the study in extended detail to enable clinicians to replicate and more fully understand the treatment.

There is no one specific standard to determine whether mental health treatment for PTSD is effective. One credible way to determine effectiveness of treatment is to determine whether patients no longer qualify for a PTSD diagnosis by the end of their treatment.[13] We used this method to measure treatment effectiveness. Because our study did not have a control group, we used the rates of effectiveness in controlled studies that had similar populations and similar measurements to set a cut point (a target) for what proportion of patients needed to remit their PTSD diagnosis for it to be considered an effective treatment. In 2 meta-analytic studies that examined the results of 32 studies and more than 50 treatment conditions, the rate of patients no longer having a PTSD diagnosis after PTSD-specific treatment was approximately 70% and approximately 50% to

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60% for those who entered (but did not necessarily complete) PTSD-specific treatment.[14,15] The results in our study surpassed those results: 100% of patients who completed treatment and 87% of patients who entered treatment no longer had a PTSD diagnosis immediately following treatment. Statistical analysis suggests that if the study were replicated with other patients with PTSD, it could continue to surpass the rates of PTSD diagnosis remission in the meta-analytic studies.

METHODS

Participants

This study involved 30 adult outpatients in the Mental Health Department within an outpatient medical facility at Kaiser Permanente Northwest. The patients were referred to the PTSD treatment by mental health clinicians at that facility who had initial contact with the patients. The referral criteria were very broad: English-speaking adults with noncombat-related PTSD. Many patients who participated in the treatment had a range of co-occurring conditions and several had substantial suicidal ideation and/or substance abuse issues. There were 22 female patients (73%) and 8 male patients (27%). The mean age was 44 years (range, 20-65 years); 21 (70%) of the patients were white, 5 (17%) were Other (Native American, African American, or mixed race), and 4 (13%) were Asian American. The majority (20 [67%]) were married or cohabitating with 5 (17%) divorced or separated and 5 (17%) single. Table 1 provides traumatic experience details for all patients in the study; Table 2 lists co-occurring disorders.

Procedure

In this study, all treatment was provided by one master's-level clinician who was licensed to provide mental health therapy in Oregon, the state where the study occurred. The overall treatment protocol can be conceptualized as individual cognitive behavioral therapy with heart rate variability biofeedback. It was intended both to reduce PTSD symptoms and to provide skills for future resilience in the face of stressors. The treatment was organized into several modules that correspond to common PTSD symptoms or frequently needed skills: Nightmares, dissociation, general core skills, hyperarousal and reactivity, avoidance, and negative cognitions and moods. Patients completed only the modules that were relevant to their specific profile of PTSD symptoms. The demonstrated acquisition and mastery of the skills to address each area of symptoms determined how many sessions were allocated to each topic. Treatment length varied from 6 to 14 sessions with an average of 11 weekly sessions.

The biofeedback component of the treatment was central in the hyperarousal and reactivity module. A variety of handouts and worksheets were provided to help guide patients with their home practice between sessions and to use in the future to remember skills, successes, and motivations and thus prevent and/or assist them with any relapses of symptoms.

When patients practiced skills between sessions, they often faced challenges, which they discussed with the therapist. Refinements in how to apply skills were made. This sometimes resulted in scripts and/or reminders that could be accessed when needed. To be considered acquired, each skill was both demonstrated in session and declared consistently and successfully used outside of the session by the patient.

The initial session was designed to assist with building therapeutic rapport and momentum. This orientation-to-treatment session included goal setting, psychoeducation, and teaching a few basic skills.

The process of evaluating the patient's PTSD is, in itself, an exposure experience (ie, patients are deliberately thinking and talking about memories of the trauma and its effects). It can be clinically inappropriate to put people into that experience

Table 1. Traumatic experience details for all patients in the study of a therapy to reduce noncombat-related PTSD symptoms (N = 30)

Variable	No. (%)
Type of DSM-5 traumatic experience[a]	
Childhood physical and emotional abuse	18 (60)
Childhood sexual abuse	10 (33)
Adult physical and emotional abuse	3 (10)
Adult sexual assault	2 (7)
Death of other(s)	3 (10)
Time since traumatic experience	
> 10 years	27 (90)
5 - 9 years	2 (7)
1 - 4 years	1 (3)
History of child abuse	
At least 1 type of child abuse	29 (97)
2 or more types of child abuse	25 (83)

[a] 6 individuals had physical and emotional abuse and sexual abuse.
DSM-5 = *Diagnostic and Statistical Manual, Fifth Edition*; PTSD = posttraumatic stress disorder.

Table 2. Co-occurring disorders for all patients in the study of a therapy to reduce noncombat-related PTSD symptoms[a]

Variable	No. (%)
Medical diagnoses	
Chronic pain	12 (40)
Insomnia	10 (33)
Obesity	10 (33)
Asthma	9 (30)
Obstructive sleep apnea	8 (27)
Diabetes	7 (23)
Migraine	7 (23)
GERD	6 (20)
Mental health diagnoses	
Depression	21 (70)
Generalized anxiety disorder	14 (47)
Panic disorder	5 (17)

[a] This table includes information for all 30 patients in the study regarding diagnosed conditions with 5 or more participants. Although only 10 participants came into the PTSD treatment with an insomnia diagnosis, 21 (70%) of the patients in this study met the Clinician-Administered PTSD Scale for *Diagnostic and Statistical Manual, Fifth Edition* clinical threshold for sleep disturbance.
GERD = gastroesophageal reflux disease; PTSD = posttraumatic stress disorder.

without making sure they have the skills to deal with it and without showing them how the process of evaluation itself can contribute to healing. In contrast, it is clinically valuable to use the assessment process overtly as part of the treatment. This is more likely to occur if patients know how to use the assessment process proactively.

Distress tolerance (effectively and actively dealing with the experience of distress), physiological calming (calming the body in the face of stress and/or distress), and self-soothing (self-talk and/or behaviors that are supportive to oneself) were discussed and practiced in the initial session. Patients were encouraged to use nonjudgmental self-talk and curiosity. The therapist had patients practice self-talk out loud to assess the use of the skill. Emphasis was placed on the curative value of facing the basic details of their story of trauma and survival without avoiding their emotions or judgments. They practiced how to focus their attention in a way that acknowledges, rather than avoids, discomfort while proceeding with what they choose to do in the moment. Patients were provided with psychoeducation about how avoidance can increase PTSD symptoms and how, with exposure, it is important to allow the experience of distress.

Session 2 and, at times, session 3, comprised administration of the Clinician-Administered PTSD Scale for the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (CAPS-5), past month version, including the Life Events Scale-5. Emphasis was placed on the process of the assessment as well as the content of the scales. Patients were taught how to use their physical, mental, and emotional awareness to monitor and to pace themselves during the session.

After the assessment, patients progressed through treatment modules in sessions 3-14. Those with distressing nightmares started with the nightmare treatment protocol. It is possible to have nightmares that do not cause distress. If the nightmares were not distressing, this module would not have been provided. In this study, before treatment every patient who reported nightmares reported that they were distressing. Those with moderate-to-high levels of dissociation started the dissociation protocol after the nightmare protocol if they also had distressing nightmares, or immediately if they did not have distressing nightmares. The rationale behind this sequencing is that sleep issues related to distress caused by nightmares and the process of dissociation can interfere with the benefits that can otherwise be achieved in treatment.

Nightmares Module

This module took 1 to 3 sessions and was reviewed as needed throughout the treatment. The basic technique used was modified Image Rehearsal Therapy, which involved writing down, drawing, or talking about a recent nightmare; changing a detail of the dream in a way that seems helpful to the patient and was positive; and then rehearsing the changed dream frequently throughout the day. Patients practiced this skill in-session until they felt confident about being able to do it on their own. The therapist helped them refine their practice. The patients gave reports about their use of the skills between sessions. Although many patients had fewer nightmares, the target was reducing distress, not reducing the nightmares themselves. The key skill was effectively using image rehearsal to reduce distress accompanying PTSD nightmares.

Dissociation Module

Many patients with PTSD experience depersonalization where they feel distant from themselves and/or derealization where things in the world don't feel real. Those experiences are dissociative. At times patients with dissociation can even lose conscious memory for parts of their experience. If patients dissociated automatically and/or frequently when discussing or thinking about their trauma, it was important for them both to understand what they were doing and to learn alternatives. The therapist and the patients discussed how allowing oneself to be present for one's experience in the moment allows a person to gain more control of choices. It also teaches that person that most situations are safe. The patients were taught skills to help them be present in the moment.

Mindfulness was introduced as a way to notice internal and external experiences nonjudgmentally while expanding awareness of these experiences beyond habitual patterns. In this context, mindfulness indicates having conscious awareness of these internal and external experiences in a new and more helpful way that includes less negative self-talk and less distress. Recognizing, labeling, and regulating emotions were an important part of this module. Patients were given rationales for being present in the moment, even if they felt uncomfortable. Examples of potentially compelling reasons to be present included helping individuals to feel closer to people they care about, improving parenting, or achieving a sense of mastery by using the cognitive and other resources to deal with distress without dissociation. A list of pros and cons of dissociating was developed. From this list, patients created individualized affirmations, which they used to focus on being present (even when uncomfortable). There was discussion about viewing life experiences on a continuum instead of in absolute terms (eg, 0%-100% dissociated or associated). Patients were asked to develop a written statement about how and when dissociation was helpful and a list of alternatives to dissociation, noting times they have successfully used them, even when distressed.

Most patients with this issue had 1 to 3 sessions specifically focused on learning the skill of being present even when distressed. The skill was refined and strengthened during the core module. Patients were encouraged to practice mindfulness skills every day.

General Core Skills Module

In this module, all patients received treatment related to healthy incorporation of the trauma into their definition of themselves and the world. Many of the core skills they learned focused on how to change threat-related thinking patterns and how to decrease their anxiety response. The target was to experience discomfort without responding as if it is necessarily dangerous.

General core skills materials were offered toward the beginning of the module, although specific handouts related to additional categories of skills were provided when those skills were taught (ie, not all patients focused on and completed all worksheets, although everyone used the core skills handout and

worksheet). Throughout the modules, patients were directed back to worksheets and handouts that they had used before in order to add depth of understanding and to see how many of the skills and ideas applied across situations. The order of the skills and sections was sometimes changed to accommodate individual needs. In the general core skills module, the key for the patients was developing healthy perceptions of themselves and the world and learning any combination of other individualized skills that was needed to attain this.

Hyperarousal and Reactivity Module

Patients learned skills for relaxation, rest, and stress recovery in 1 to 3 sessions. The target was to reduce hyperarousal and reactivity. Hyperarousal and reactivity mean that the patient's level of tension, alert awareness, as well as speed and intensity of responsiveness to internal and external cues were more than the situation warranted. The most important element was for them to develop personalized understanding about how their body responds to a variety of situations, along with the impact/importance of those responses and having a personalized relaxation response that could be used in any setting. Heart rate variability biofeedback assessment and training with the emWave system (HeartMath, Boulder, CA; www.heartmath.com) was provided. Although additional research is needed, positive changes in heart rate variability have been associated with improvement in many mental health and wellness areas, including reduction of PTSD symptoms.[16]

Patients wore a photoplethysmographic-enabled device on one of their fingers or earlobes. The heart rate variability information gathered from these devices was amplified, filtered, and then displayed on a laptop computer screen to enable patients to see (via pictures on the computer screen) and hear (via tones from the computer speakers) their current heart rate variability information. As they used skills such as paced diaphragmatic breathing, they could see and hear the positive changes that occurred on the computer display. Between sessions, patients would practice the skills they learned in the sessions. In this study, the skill was acquired when the patient reported successful use of the skill outside of sessions and when, without looking at the computer display, patients were in the green "coherence" zone at least 80% of the time on a 3-minute trial. The focus of this treatment module was on resilience and autonomic balance. All patients were given resources and skills that were individualized to their interests, although they were encouraged to practice breathing skills daily and were asked about their use of these skills at each session. The key skill was regular use of strategies that would effectively reduce hyperarousal and reactivity.

Avoidance Module

An individualized program for becoming comfortable with anxiety and with "triggers" was created. In this context, "triggers" referred to specific cues that were associated with a patient's traumatic experiences. Patients were instructed both in how to increase their ability to cope with stress and uncertainty and in how to break down stressors into more manageable parts. They set and followed through with goals for exposing themselves to experiences they previously had avoided. Care was given to working with the patient to avoid dissociation and use of inappropriate self-soothing during this important part of treatment. The key skill was facing (versus avoiding) fears and challenges. This was practiced during the session initially with role-play and/or imaginal exposure. The skill was considered acquired when patients had successfully faced situations, people, emotions, and/or thoughts that they had previously avoided. They also discussed with the therapist how they would deal with anxiety and "triggers" without avoiding in the future.

Negative Cognitions and Moods Module

In addition to psychoeducation about how thoughts and moods differ from reality, patients were taught general skills for identifying and dealing with thoughts and emotions. Efforts were made to provide both conscious articulation of the emotional learning (that supports the symptoms) and juxtaposition experiences (that allow an alternative understanding in which the symptoms are no longer necessary). The key skills included becoming self-collaborative (ie, having the ability to use appropriate self-talk, self-care, and pacing), seeking support and assistance regularly, participating in activities they value, and understanding how to deal effectively with their thinking traps and ineffective behaviors.

Intrusion/Re-experiencing Module

Patients learned more about boundaries (ie, limits) with others and within themselves. Through discussion and activities, patients practiced how to establish thicker and thinner boundaries, as appropriate to the context.

All patients developed skills to compartmentalize their traumatic experience(s). They learned how to pay enough attention to the traumatic experience(s) to resist avoiding, while also gaining a stronger sense of control over managing their response to "intrusions." For many patients, noticing patterns about intrusions of thoughts, emotions, images, or other sensory input related to the traumatizing event(s) led to a greater understanding of triggers that may have been contributing to the symptoms. The key skills were to clearly express themselves related to the traumatic experience(s), compartmentalization, and awareness of triggers.

The final session and 3-month follow-up sessions each included assessment with the CAPS-5 and a review of progress.

Measures

The measure that was used to establish the PTSD diagnosis and to measure change within the PTSD symptoms following treatment was the CAPS-5, 1-month version. This scale addresses many aspects of PTSD including the 20 *Diagnostic and Statistical Manual, Fifth Edition*, PTSD symptoms, the dissociative subtype, subjective distress, and the impact of the symptoms on functioning. The CAPS-5 was administered in the initial sessions of treatment, following treatment completion, and 3 months after treatment completion. In addition to providing a detailed picture of PTSD symptoms, the Life Events Checklist portion of the measure provided an opportunity for exposure where participants told the story of the traumatizing event that initiated their PTSD.

The CAPS-5 is endorsed as a "gold standard" in PTSD assessment and as having excellent psychometric properties.[17] The scale has been used and studied in a range of populations,

including adult outpatients with noncombat-related PTSD.[13] Although the primary analysis in this study was based on whether patients met criteria for PTSD after treatment, additional details from CAPS-5 were provided to allow readers to compare results from this study with the results of other studies that use CAPS-5 data in different ways than this study did. In this study, the same clinician who provided treatment administered the CAPS-5.

Data Analysis

The primary data analysis started by determining the proportion of patients in the study who still had a PTSD diagnosis after treatment. This proportion was then compared with a preset cut point from comparison studies where 70% of patients who completed treatment and 50% to 60% of patients who entered treatment remitted their PTSD diagnosis.

To evaluate the significance of the changes in the proportion of patients with PTSD at the beginning of treatment vs after completion of treatment, statistical software was used to calculate the one proportion test. MedCalc (Ostend, Belgium; www.medcalc.org/calc) was used to calculate the significance level and the confidence intervals. To augment the primary inquiry regarding remission of PTSD diagnosis after treatment for those patients who completed treatment, additional calculations were run to assess the significance of the proportion of all patients, including those who dropped out of treatment, who no longer had a PTSD diagnosis after treatment.

The CAPS-5 scores for all patients in the study are presented in Table 3. From this grouped but not statistically analyzed data, basic figures are presented to assist readers in comparing more detailed information in this study with other studies that may have used other ways of analyzing similar data to report their results. There were no missing data.

RESULTS

Of the 26 patients who completed the PTSD treatment, all (100%) no longer met criteria for a PTSD diagnosis in the posttreatment assessment. A 1-sample test of proportions, with a 95% confidence interval and a 5% significance level, showed p = 0.0008 with a confidence interval of 86.77% to 100.00%. The treatment dropout rate was 13% (4 patients). Using intent-to-treat analysis, which evaluates the effectiveness of the treatment for all of the patients, not just for the patients who completed the treatment, p = 0.0422 and the confidence interval is 69.69% to 96.42%.

When this information is considered in light of the likelihood that the patients did not improve from the passage of time alone[1] and that prior controlled studies treating PTSD with mental health therapy achieved a rate of 70% remission from a PTSD diagnosis for those completing treatment[14,15] and a 50% to 60% rate of remission of a PTSD diagnosis for all patients who enter treatment, it lends credibility to the claim that this treatment is effective in helping patients improve their PTSD.

Although remission of the PTSD diagnosis was used as the primary measure of treatment effectiveness, other studies have used different measures. "Several symptom rating scales have been used to define response in PTSD; the most commonly used definitions are a ≥ 30% reduction in the Clinician-Administered PTSD Scale or a score of at least 'much improved' (score less than or equal to 2) on the Clinical Global Impressions-Improvement scale," according to Dunlop et al.[18] Both of the criteria proposed for a positive treatment response were met in this study. The posttreatment average global improvement on the Clinical Global Impressions-Improvement scale was 1.69 (< 2), and the overall percentage of change in the CAPS-5 total (B+C+D+E) scores was −43%, which indicates a 43% reduction in the CAPS-5 scores (≥ 30%).

Table 3. CAPS-5 scores for all patients in the study of a therapy to reduce noncombat-related PTSD symptoms[a]

	Initial, no. (%)		Posttreatment, no. (%)		Follow-up, no. (%)	
CAPS-5 Scores	Yes	No	Yes	No	Yes	No
PTSD diagnosis present	30 (100)	0 (0)	0 (0)	26 (100)	1 (4)	24 (96)
Dissociative subtype	13 (43)	17 (57)	2 (8)	24 (92)	2 (8)	22 (92)
Distressing dreams (B2)	15 (50)	15 (50)	1 (4)	25 (96)	3 (13)	21 (87)
Sleep disturbance (E6)	21 (70)	9 (30)	6 (23)	20 (77)	4 (17)	20 (83)
Score averages[b]						
Average total score for criteria B-E	44.93 (80)		10.46 (80)		8.66 (80)	
Criterion B average	12.5 (20)		3.42 (20)		1.96 (20	
Criterion C average	5.97 (8)		23 (8		0.17 (8	
Criterion D average	15.7 (28)		3.42 (28)		3.29 (28)	
Criterion E average	10.5 (24)		3.27 (24)		2.46 (24)	
Subjective distress average	3.23 (4)		1 (4)		1 (4)	
Social impairment average	2.43 (4)		0.69 (4)		0.67 (4)	
Occupational impairment average	2 (4)		0.69 (4)		0.54 (4)	
Global severity average	2.9 (4)		0.9 (4)		0.75 (4)	
Global improvement average			1.69 (4)		1.63 (4)	

[a] There were 30 patients in the pretreatment group, 26 patients in the posttreatment group, and 24 patients in the follow-up (at 3 months) group.
[b] Average score followed by total possible score for that category.
CAPS-5 = Clinician-Administered PTSD Scale for *Diagnostic and Statistical Manual, Fifth Edition;* PTSD = posttraumatic stress disorder.

All patients who completed the treatment reported that they experienced a reduction in their PTSD symptoms as a result of the treatment. They also said that they appreciated learning the skills and perspectives that they could use in the future. Each patient demonstrated skill acquisition in a session with the therapist and reported successful use of each skill outside of the sessions. The patients noted many positive changes in their lives that were not captured by the changes in their PTSD status and their CAPS-5 scores. Many said that a key element of treatment was having a supportive and knowledgeable person with whom they could discuss their traumatizing experiences.

DISCUSSION

The most significant limitation of this study was that it was not controlled. The organization where the treatment took place did not permit randomization to various treatments or a wait-list control group. The data analysis could not compare this study's patients with other patients treated in the same site because basic data such as diagnosis and change in PTSD symptoms were not tracked in a consistent manner. Although comparing the results of this study with similar results in other settings as was done in this study is reasonable, it is not ideal.

The Hawthorne effect likely played a role in this study because the same clinician who provided treatment measured the results of the treatment. In other words, patients may have been trying to please the clinician who provided treatment by reporting better results of the treatment than they actually experienced. Further, the treating clinician was not blind to the fact that these patients had received the treatment and thus may have unintentionally slanted the results to be more positive.

The study would have been strengthened if the follow-up time had been longer to examine whether treatment gains were maintained over time. If various clinicians at multiple sites had used the treatment protocol, it would have been clearer that it was the treatment protocol rather than something related more specifically to the treating clinician or the site that created the change in patients.

To test this PTSD treatment with more rigor, more patients would be needed; more measures would need to be statistically analyzed; the measures would need to be administered by someone who did not know whether the patient they were measuring had received the treatment; the groups of patients would need to be randomized and controlled; and the measures would need to be repeated over several years at several sites by several different clinicians.

Despite these limitations, we hope that this protocol will be used more widely to further test the positive results in our study. Because the intervention is relatively easy for clinicians to administer and is easily adapted to the wide variety of PTSD symptoms found in outpatient clinics, it could be useful for other clinicians to apply the protocol and assess the results. Using the PTSD Checklist for the *Diagnostic and Statistical Manual, Fifth Edition*, as an instrument to measure initial PTSD intensity and changes from treatment may streamline the procedure further. Though a structured interview like the CAPS-5 is the gold standard for diagnosing PTSD and measuring change in PTSD symptoms, the PTSD Checklist for the *Diagnostic and Statistical Manual, Fifth Edition*, takes only a few minutes and captures similar information as the CAPS-5.[19] It could be of value for health care organizations to consider using efficient, affordable, valid, and standardized ways both to confirm mental health diagnoses and to measure changes in the diagnoses and other important parameters over time so that it would be easier to compare results from different methods of treatment and from different clinicians. This information could be analyzed to help improve the quality of care.

CONCLUSION

This study found that the PTSD treatment provided using the protocol to treat 30 adult outpatients was effective in remitting the PTSD diagnosis for those patients who completed the program. The 3-month follow-up data showed that only 1 patient returned to a PTSD diagnosis, but that patient just barely met the criteria. Each patient left our study with many personalized written materials from the skills acquisition portions of the study. We hope that these materials, along with the skills, resources, and experiences they gained during the study will help patients who completed the study to maintain long term remission of their PTSD diagnosis.

Patient handouts are available on request to any licensed mental health clinician by contacting: Shawn R Criswell, PhD, LPC, at shawn.r.criswell@kp.org. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose. This material is based on a doctoral dissertation for Saybrook University that was completed by Shawn R Criswell with substantial assistance from Richard Sherman and Stanley Krippner. The dissertation was published by ProQuest. An academic poster with the study information was also presented at Saybrook University. This study was an unfunded study.

Acknowledgments

Tim Criswell, PhD, provided frequent and generous support and help. Mary Corrado, ELS, provided editorial assistance.

How to Cite this Article

Criswell SR, Sherman R, Krippner S. Cognitive behavioral therapy with heart rate variability biofeedback for adults with persistent noncombat-related posttraumatic stress disorder. Perm J 2018;22:17-207. DOI: https://doi.org/10.7812/TPP/17-207

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Keywords: abuse, ACE survey, ACEs, adverse childhood experiences, adult therapy, alternative therapies, biofeedback, cognitive behavioral therapy, mind-body therapies, noncombat-related posttraumatic stress disorder, posttraumatic stress disorder, psychotherapy, PTSD

Outrageous Optimism

There is within medicine, somewhere beneath the pessimism and discouragement resulting from the disarray of the health-care system and its stupendous cost, an undercurrent of almost outrageous optimism about what may lie ahead for the treatment of human disease if we can only keep learning.

— *The Medusa and the Snail,* Lewis Thomas, 1913-1993, American physician, poet, etymologist, essayist, educator, and researcher