

Accelerated Resolution Therapy-Based Intervention in the Treatment of Acute Stress Reactions During Deployed Military Operations

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ABSTRACT

Introduction

The treatment and resolution of psychological traumas during military deployments directly supports medical readiness and the military mission and potentially prevents symptom progression to post-traumatic stress disorder (PTSD). However, current evidence-based trauma-focused psychotherapies can be difficult to employ during military contingency operations due to various barriers. Deployed military behavioral health providers need an effective, trauma-focused intervention that is suitable for the operational environment. In this retrospective case series, we describe how a therapeutic intervention based on accelerated resolution therapy (ART), an emerging trauma-focused psychotherapy, was pivotal in the treatment of acute stress reactions in eight deployed U.S. Army soldiers.

Materials and Method

ART can be conceptualized as a hybrid of several evidence-based psychotherapy techniques. In brief, ART is a manualized, procedural adaptation of eye movement desensitization and reprocessing (EMDR) that incorporates mindful awareness of emotions and sensations, bilateral eye movements, imaginal exposure, desensitization, visual and cognitive rescripting, and gestalt-style interventions for the processing of traumatic experiences. The eight deployed U.S. soldiers in this case series received a single 45 to 60 minute session of an ART-based intervention within 96 hours of a traumatic death.

Results

All of the treated soldiers had rapid improvement in both depressive and acute stress symptoms after treatment. Furthermore, the therapeutic benefits were sustained at 1 year postincident despite continued exposure to the stress of deployed military operations for up to 6 months after treatment.

Conclusion

Based on these encouraging preliminary findings, the authors recommend that behavioral health providers who are preparing to deploy become familiar with ART or related interventions in order to develop the confidence and the skills that are needed to provide timely and effective trauma-focused care for deployed soldiers.

INTRODUCTION

Seventeen years of war in the Middle East has resulted in an estimated 7 to 13% prevalence of post-traumatic stress disorder (PTSD) among coalition military service members who served in Iraq or Afghanistan since 2001.¹ Over the past decade, the U.S. military has diligently worked to standardize and improve access to evidence-based trauma-focused psychotherapies. Both clinicians and researchers have invested significant attention and hope in therapies involving expo-

sure and cognitive restructuring, ie, prolonged exposure and cognitive processing therapy. However, recent publications have revealed that military personnel and veterans who receive these treatments typically show only modest clinical improvement; an estimated 50 to 72% of patients retain their PTSD diagnosis after treatment.²⁻⁴ Furthermore, a recent RAND Corporation report on the quality of care for PTSD and depression in the U.S. military health system estimated that 81.3% of military service members with PTSD do not respond to treatment (“treatment response” was defined as a reduction of the post-traumatic checklist (PCL) score of at least five points at 6 months post-treatment).⁵ These findings highlight the continuing need for more effective trauma-focused interventions for the treatment of military service members with acute stress reactions, acute stress disorder (ASD), and PTSD.

Combat and Operational Stress Control

Army combat and operational stress control (COSC) teams, behavioral health officers (BHO) assigned to individual units, and medical assets located at Combat Support Hospitals provide the majority of behavioral health care during

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deployments. COSC interventions promote soldier and unit readiness through forward-deployed providers, preventive care, support of healthy lifestyle behaviors, needs assessments, psychoeducation, traumatic event management, enhancement of adaptive stress reactions, and referrals to appropriate specialists when indicated.⁶ Typically, combat and operational stress symptoms self-resolve, and most deployed soldiers do not develop PTSD. Thus, it can be argued that the current COSC doctrine provides a reasonable approach for the general management of combat stress symptoms in the deployed setting. Indeed, soldiers with combat and operational stress reactions who received frontline treatment during active military operations have been observed to have improved behavioral health outcomes up to 20 years after treatment.⁷

Trauma-Focused Psychotherapy in the Deployed Environment

The treatment of acute stress reactions and ASD in the deployed setting is important because it can potentially prevent symptom progression to PTSD. The 2017 Veterans Affairs (VA) and Department of Defense (DoD) Clinical Practice Guideline for the Management of PTSD and ASD specifically recommends the use of trauma-focused psychotherapies that are based on exposure and/or cognitive restructuring.⁸ However, resource limitations and other factors can render many therapies impractical in both garrison and deployed settings.^{9,10} One recent study reported that 78.9% of U.S. military behavioral health providers “agree or strongly agree” that evidence-based treatments for PTSD are important in deployed settings; however, they also agreed that their implementation is encumbered by deployment-specific barriers, ie, “inconsistent follow-up” (63.2%), “the presence of danger” (57.9%), and “the need to return patients quickly to duty” (47.4%).⁹ Presumably for these reasons, along with the fact that many evidence-based treatment protocols (ie, prolonged exposure and cognitive processing therapy) require weeks or months of treatment, the current COSC doctrine does not recommend for or against the use of trauma-focused psychotherapies during deployment.⁶ Thus, a significant portion of deployed soldiers with trauma-related symptoms and disorders do not receive any of the recommended trauma-focused psychotherapies until returning home, if at all. This clinical and operational gap in treatment presents a challenge for deployed military behavioral health providers as well as an opportunity; the authors propose that accelerated resolution therapy (ART) and related trauma-focused psychotherapies can potentially bridge this gap and serve as therapeutic interventions that are uniquely suited for the deployed environment.

Consideration of the abovementioned points also raises several critical questions regarding the use of emerging trauma-focused psychotherapies in a deployed setting that will be explored in this case series: First, can they effectively treat acute stress reactions? Second, can they be effective in only one or two sessions if the mission does not allow for

follow-up care? Third, could these brief, modified protocols cause harm, as is potentially the case with psychological debriefings? Fourth, can they be integrated into the existing COSC framework? Finally, could they contribute to mission accomplishment through symptom resolution, improved resilience, and reduced rates of preventable medical evacuations?

A Potential Solution: ART

ART is an emerging trauma-focused, exposure-based psychotherapy with encouraging preliminary findings in the treatment of civilians and military veterans with PTSD.^{11–13} To the best of the authors’ knowledge, there is currently no peer-reviewed, published literature on the use of ART in a deployed setting. In this Institutional Review Board (IRB)-exempt retrospective case series, the authors describe the first documented use of an ART-based intervention in the treatment of acute stress reactions during deployed military operations in the Middle East.

MATERIALS AND METHODS

ART

ART is a manualized, procedural adaptation of eye movement desensitization and reprocessing (EMDR) that meets the criteria for a trauma-focused psychotherapy as defined in the 2017 VA-DoD Clinical Practice Guideline for the Management of PTSD and ASD.^{8,14} ART is hypothesized to work through various therapeutic mechanisms, including imaginal exposure to traumatic memories, bilateral smooth-pursuit eye movements, visual erasure and replacement of traumatic images, somatic mindfulness and grounding, intermittent deep diaphragmatic breathing, and memory reconsolidation.¹⁵ Preliminary research findings suggest that ART is both effective and well-tolerated in the treatment of military service members and veterans with PTSD.^{11–13} Furthermore, several ART characteristics support its potential utility as a COSC intervention: ART includes many elements of evidence-based therapies that have been safely used in deployed environments, it requires no homework, it can be used by a broad range of behavioral health providers, and it has been reported to produce significant and sustained clinical improvement in PTSD after just two to five sessions.¹⁵

ART Protocol Modifications

In the basic ART protocol, bilateral eye movement “sets” are used during much of the therapy session (one “set” is defined as 40 consecutive bilateral eye movements).¹⁶ During each set, a therapist guides the patient’s eyes by moving their hand from side to side. A single ART session may require hundreds of hand movements; thus, a therapist can experience physical fatigue in the arm or shoulder if they conduct multiple consecutive sessions. However, even though both ART and EMDR rely heavily on eye movements, recent publications

suggest that imaginary exposure and rescripting can also be completed successfully even if the patient keeps his or her eyes closed or if the therapist holds his or her hand still.^{17,18} Furthermore, positive imagery rehearsal therapy (IRT) for nightmares provides an example of an intervention that uses written and imaginal exposure and rescripting without any eye movements.¹⁹

The ART-based intervention that is described in this article contained all of the core elements of the basic ART protocol; however, it was modified from the actual ART protocol in an attempt to make it easier and faster to use in a deployed setting for the treatment of ASD rather than PTSD. The following modifications were implemented without any observable loss of therapeutic efficacy: (1) the patients completed imaginal exposure and rescripting with their eyes closed and without eye movements; (2) the therapist transitioned from exposure to rescripting despite the persistence of mild to moderate negative affect; and (3) emotional distancing techniques (ie, visualizing the traumatic memory in reverse, in third person, without color, or in reduced detail) were adapted from the reconsolidation of traumatic memories (RTM) method in order to reduce the intensity of re-exposure. (RTM is an emerging trauma-focused psychotherapy that does not use bilateral eye movements and has demonstrated success in the treatment of male veterans with PTSD characterized primarily by intrusive and hyperarousal symptoms.¹⁷)

Clinical Scenario

A U.S. soldier died unexpectedly after a lethal gunshot wound during a deployment to the Middle East. An active duty U.S. Army psychiatrist (O.T.) was tasked from a nearby location to provide COSC support and arrived at the site of the incident within 24 hours. The local commander requested that all military personnel who were involved in the incident meet with the visiting psychiatrist. A total of 25 soldiers presented for screening and psychoeducation within 96 hours of the incident. The soldiers received individual education on acute stress symptoms, the stages of grief, and the fact that most individuals recover from traumatic events without treatment. Behavioral health support beyond several days was not possible due to mission requirements. Therefore, the ART-based intervention was selected as the primary trauma-focused psychotherapy for soldiers who endorsed acute stress symptoms and desired treatment; soldiers who were not significantly symptomatic or declined treatment received psychoeducation only.

Eight soldiers (cases 1–8) reported significant symptoms due to the incident. The symptoms primarily included emotional distress and recurring intrusive recollections of the incident. Cases 1 to 7 expressed interest in a session of the ART-based intervention; cases 1 to 6 received the intervention on the same day or the following day, but case 7 did not receive the intervention due to unexpected travel. Case 8 declined the intervention due to personal preference to process the incident on his own. No new cases presented on postincident day 5, so

the psychiatrist left the following day with a plan to return in 1 month to reassess the situation.

The psychiatrist returned to the site of the incident after 1 month. Cases 1 to 6 reported no concerning symptoms and received no further behavioral health treatment for the remainder of the deployment. However, cases 7 and 8 endorsed persisting symptoms and elected to receive the ART-based intervention. In summary, all eight cases received only one session of the intervention: cases 1 to 6 received their session during the psychiatrist's initial visit; meanwhile cases 7 and 8 received their session during the follow-up visit 1 month postincident.

Treatment Session Overview

The treatment sessions in this clinical scenario were composed of the following six steps, which were adapted in intensity, content, and duration to meet each individual soldier's therapeutic needs:

Step 1. Mindful awareness and processing of emotions with bilateral eye movements

The most common initial emotions that were endorsed by the eight soldiers were sadness, guilt, frustration, and anger. During each 45 to 60 minute session, bilateral eye movements and single deep diaphragmatic breaths were intermittently used to help process emerging emotions, prevent excessive buildup of distress, mindfully witness emotional and somatic changes in their bodies, and transform emotions or bodily sensations into visualized metaphors that are then "fixed." For example, a soldier experiencing sadness and chest tightness during a session may visualize a tight vise around their heart that they "fix" by visualizing the vise loosening, falling apart, and releasing the heart to beat freely and peacefully. The use of metaphors is clinically helpful because it increases the soldier's sense of control and mastery while also transforming formless bodily feelings and emotions into a concrete and more defined experience.

Step 2. Imaginal exposure and desensitization

The soldiers mentally reviewed the traumatic event at a comfortable emotional "distance" and intensity. For example, instead of visualizing the traumatic event as it really occurred, the soldiers could watch the event happening in black and white, without sound, and from "far away." In general, distancing techniques can make re-exposure less intense and uncomfortable. By the end of this step, many soldiers endorsed a significant decrease in emotional reactivity; they reported feeling more "distant" from the traumatic event, as if the memory had lost some of its power over them.

Step 3. Imaginary rescripting of a new positive version for the traumatic event

The soldiers created and imagined new positive versions of the traumatic event, which tended to involve a few common themes: the shooting never occurred, the deceased soldier was seen healthy and happy, he was not hurt, and he had a chance

to leave deployment early to pursue an alternative career or family life. Many soldiers experienced positive emotions during this step; they were also instructed to replay this new positive version if scenes from the original traumatic memory intruded into awareness after the session was finished.

Step 4. Erasure and replacement of disturbing images

The soldiers selected distressing images for virtual erasure and replacement. The general themes of the distressing images involved seeing the body, face, blood, site of injury, or emotional responses of others during and after the incident and the treatment attempts by medical professionals. After erasure, the soldiers imagined replacing the distressing images with positive scenes of nature, loved ones, and various unrelated pleasant memories of the past.

Step 5. Virtual conversations with individuals who were involved in the traumatic event

When a soldier was no longer demonstrating significant emotional reactivity, the psychiatrist instructed them to silently imagine a conversation with the deceased soldier with the goal of expressing their feelings and thoughts about what happened. The soldier was then directed to imagine receiving a response from the deceased that gave them a sense of appreciation, closure, and permission to move forward with the grieving process. The following common themes emerged during the virtual conversations: the deceased was a good soldier and a caring person; the death felt unfair; and the incident profoundly affected each individual. The soldiers also reported that they had imagined the deceased thanking them for caring, reassuring them that he was in a “better place,” and instructing them to “be happy and live a life that I couldn’t live.” By the end of this step, several soldiers felt that their grief had transformed into a more comfortable feeling of reminiscence.

Step 6. Processing of residual emotions and images

After the soldiers had completed the preceding steps, the psychiatrist instructed them to imagine a large bonfire and

“search” for any aspects of or memories relating to the incident that still felt unresolved. If any were identified, the soldiers imagined throwing them into the fire. If troubling feelings still remained after this step, they were addressed with varying combinations of bilateral eye movement sets, visualizations, therapeutic conversations, mindful witnessing, and deep diaphragmatic breaths.

Case Summaries

Table I summarizes demographic data from the eight cases described below.

Case 1

The first case was a female soldier in her mid-30s who worked as an administrative specialist. She had a prior history of major depressive disorder and attention-deficit/hyperactivity disorder and was taking escitalopram 20 mg and bupropion 150 mg daily. The day following the incident, she self-referred to the clinic in acute distress (hyperventilating, crying uncontrollably, and feeling overwhelmed). She described an acute onset of intense anxiety, chest tightness, sadness, insomnia, and intrusive and illogical thoughts about the safety of her own son. She endorsed 9/10 sadness and immediately agreed to start a session of the ART-based intervention. By the end of the session, she was calm and was able to describe the original traumatic memory without noticeable distress.

Case 2

The second case was a male soldier in his mid-30s who worked as a medical provider. He endorsed 5/10 sadness, 3/10 guilt, and 5/10 anger. However, what concerned him most during the session was the re-emergence of intrusive memories from previous deployments. He chose to process a compilation of three traumatic memories: (1) the demise of a helicopter crew due to a sandstorm crash during his first deployment, (2) the death of a soldier from a rocket attack during his second deployment, and (3) treating the deceased soldier during the recent incident.

TABLE I. Demographics

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Age group	30–39	30–39	17–19	20–29	20–29	20–29	20–29	20–29
Gender	F	M	M	M	M	M	M	M
Deployment month at time of incident	5	3	1–2	<1	3	<1	<1	<1
Previous military deployment(s)	0	2	0	0	1	0	0	0
Previous combat exposure (SAF/IDF)	No	Yes	No	No	Yes	No	No	No
Previous deployment stress-related symptoms	N/A	Yes	N/A	N/A	Yes	N/A	N/A	N/A
Traumatic brain injury (TBI) history	No							
Psychiatric medication use at time of incident	Yes	No						
Predeployment behavioral health treatment history	Yes	No	Yes	No	No	Yes	No	No
Postdeployment behavioral health treatment received	Yes	No	No	No	No	Yes	No	No

F, female; M, male; SAF, small arms fire; IDF, indirect fire (ie, rockets or mortars); TBI, traumatic brain injury; N/A, not applicable

Case 3

The third case was a male soldier in his late teens who worked as an infantryman. He had completed anger management classes earlier in his career but denied other behavioral health treatment history. The most troubling image that he chose to erase and replace was the “purple face” of the deceased. His most prominent emotions were anger, sadness, and guilt, all of which he initially rated 7/10.

Case 4

The fourth case was a male soldier in his early 20s who worked as an infantryman. The most troubling images that he chose to erase and replace involved seeing blood and the body of the deceased. His most prominent emotion was 10/10 sadness, which decreased to 2/10 by the end of the session; he also initially felt 6/10 anger, which resolved completely by the end.

Case 5

The fifth case was a male soldier, in his mid-20s, who worked as an infantryman. He reported no previous psychiatric treatment. His most troubling initial emotions were “feeling the flushing of my face,” 8/10 anger, 5/10 guilt, and 4/10 sadness. The most troubling image that he chose to erase and replace was seeing the body of the deceased up close. By the end, his sadness and guilt had resolved; anger decreased in intensity to 1 to 2/10.

Case 6

The sixth case was a male soldier in his late 20s who worked as an infantryman. He had a history of alcohol, cannabis, and methamphetamine use during the decade prior to joining the military. He denied substance use during the deployment, but records indicated that he had been in treatment for alcohol prior to deploying. During the session, his initial emotions included 5/10 sadness and a 5/10 feeling of “being disturbed.” The most troubling images that he erased and replaced involved seeing “a body with a bullet hole” and “a face that was not moving.” His sense of sadness and feeling “disturbed” resolved by the end of the session.

Case 7

The seventh case was a male soldier, in his early 20s, who worked as an infantryman. He did not receive the ART-based intervention during the psychiatrist’s initial visit due to unexpected travel. He requested treatment during the follow-up visit because his symptoms had not improved over the preceding month. During the session, the soldier processed the following emotions: 9/10 sadness, 8/10 anger toward the shooter, 10/10 guilt, and 9/10 anxiety. By the end of the session, his emotional distress had mostly resolved and instead transformed into a sense of “missing” the deceased.

Case 8

The eighth case was a male soldier in his early 20s who worked as a medical technician. He declined to receive the ART-based intervention during the psychiatrist’s initial visit due

to personal preference. However, due to persisting symptoms, he requested for the intervention when the psychiatrist visited 1 month later. He felt that due to stress, he hadn’t performed his medical duties as well as he could have. He chose to erase and replace several images, including scenes of blood and the body, the dying process, and the reactions of those around him.

Clinical Measures

Two clinical measures were used to assess baseline symptom severity prior to the use of the ART-based intervention: the Patient Health Questionnaire-9 (PHQ-9) for the screening of depressive symptoms and the Posttraumatic Checklist 5 (PCL-5).^{20,21} A third measure, the Generalized Anxiety Disorder 7 (GAD-7) scale, was administered during the psychiatrist’s follow-up encounter 1 month later.²² Soldiers were not required to complete these measures; thus, some data are missing, and only general trends can be inferred from the results. However, Post-Deployment Health Assessment data and primary care screening results were obtained from the soldiers’ electronic health records at 1 year postincident. **Table II** summarizes available data from clinical inventories completed by the soldiers; **Graph 1** depicts the pre- and post-treatment and postdeployment PHQ-9 and PCL-5 scores.

RESULTS

A single session of the ART-based intervention demonstrated effectiveness in the treatment of eight deployed soldiers with acute stress and grief symptoms in the immediate aftermath of a traumatic incident as well as at 1 month postincident. All soldiers tolerated the intervention well and endorsed a subjective sense of benefit by the end of their session. A significant and readily observable improvement in affect, mood, and physiological arousal was also evident to the treating psychiatrist. No soldiers required medications for symptom control, and no abreaactions occurred during or after treatment. All eight soldiers were kept on full duty status, including continued access to their weapons and ammunition for the remainder of their deployment.

At 1 month post-treatment, cases 1 to 6 endorsed sustained therapeutic benefit despite continued exposure to operational stressors and reminders of the incident. Specifically, cases 2, 4, 5, and 6 were minimally symptomatic and reported feeling back to their baseline levels of psychological health. Case 1 endorsed mild persisting symptoms, but she attributed them mainly to unrelated work stressors and a pre-existing depressive disorder. Case 3 endorsed intermittent mild to moderate symptoms that were gradually improving and not impairing functioning. Post-treatment follow-up data during the deployment was not available for cases 7 and 8 due to the absence of further follow-up encounters. In summary, all eight soldiers successfully completed the remainder of the deployment without further behavioral health care.

At 1 year postincident and at least 6 months after returning home, the military electronic health records for all eight

TABLE II. Results

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Predeployment screening								
PHQ-2	Neg	Neg	Neg	Neg	Neg	Neg	Neg	Neg
PC-PTSD	Neg	Pos	Neg	Neg	Neg	Neg	Neg	Neg
PCL-5	N/A	6	N/A	N/A	N/A	N/A	N/A	N/A
ART-based intervention date (days postincident)	1	3	4	4	4	4	31	33
Deployment								
PHQ-9 (pretreatment, ≤ 96 hours postincident)			12	10	8	0		
PHQ-9 (1 month postincident)	7	2	9	0	2	0	11	6
PHQ-9 score change (1 month postincident)			-3	-10	-6	0		
PCL-5 (pretreatment, ≤ 96 hours of incident)			39	25	21	2		
PCL-5 (1 month postincident)	13	8	27 (23-31)*	1	5	0	38	19
PCL-5 score change (1 month postincident)			-12 (8-16)*	-24	-16	-2		
GAD-7 (1 month postincident)	5	2	10	0	1	0	10	3
Postdeployment screening								
PHQ-2	Pos	Neg	Neg	Neg	Neg	Neg	Pos	**
PHQ-9	6	N/A	N/A	N/A	N/A	0	3	**
PC-PTSD	Pos	Neg	Neg	Neg	Neg	Neg	Pos	**
PCL-5	3	N/A	N/A	N/A	N/A	N/A	14	**
GAD-7	5				0	0		**

PC, primary care. Empty areas in the table indicate the absence of data.

*Case 3 left two items unanswered on his PCL-5 at 1 month postintervention. His 1 month postintervention PCL-5 score was thus calculated assuming no change in his response from baseline on these two items.

**Only preintervention data was available for case 8.

cases were reviewed for symptom recurrence. The records revealed no new diagnoses of depression or PTSD. Most soldiers scored zero (0) on postdeployment depression and PTSD screeners with the exception of cases 1 and 7, whose scores were subclinical. Case 8 did not complete any screening questionnaires after the deployment, but he also did not endorse any behavioral health concerns during a routine postdeployment medical appointment. Case 5 decided to pursue a career advancement opportunity which required a routine psychological evaluation; the screening psychologist cleared him for advancement and recorded no behavior health concerns. Cases 1 and 6 returned to behavioral health treatment after the deployment; however, the traumatic incident that occurred during the deployment was neither the reason for nor the focus of treatment.

CONCLUSIONS

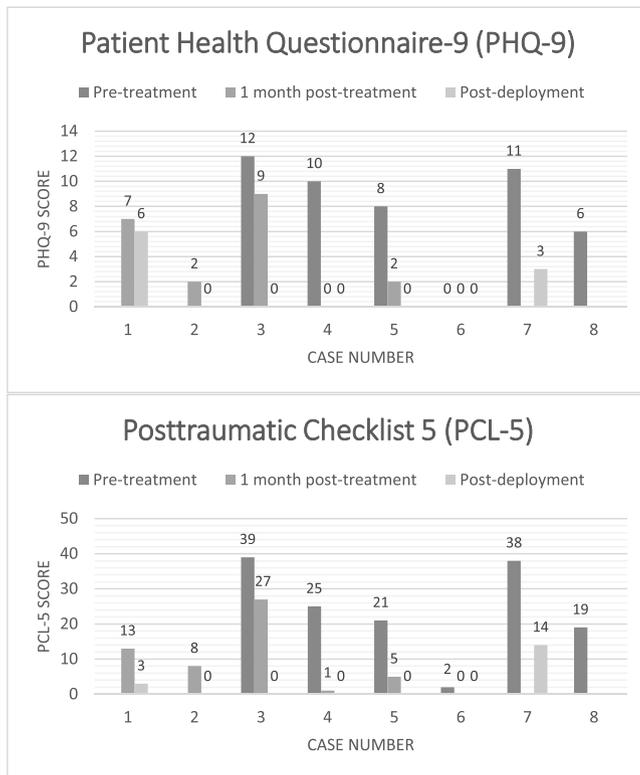
The military needs more adaptable trauma-focused interventions for both the prevention and treatment of trauma-related symptoms and disorders. Specifically, the current COSC strategy requires interventions that allow behavioral health providers to effectively treat trauma-related conditions in deployed environments without a long therapy "tail." This article provides encouraging preliminary findings from the first documented use of an ART-based intervention during deployed military operations.

The authors suggest that the intervention successfully treated acute stress reactions in a resource-limited deployed setting. The treatment response was enduring and independent of comorbid behavioral health problems, initial symptom severity, treatment timing, age, gender, rank, combat exposure history, and duration of remaining deployment. Furthermore,

the results indicate that it is not only possible to safely treat acute stress reactions in a single treatment session but the integration of such interventions into the current COSC framework can be readily accomplished. Finally and most importantly, the therapeutic benefit was without evidence of harm, as may be the case with psychological debriefing. Although more research is needed, this case series also suggests that early resolution of acute stress symptoms in military service members may enhance medical readiness and mission completion and prevent symptom progression into ASD or PTSD.

The findings in this retrospective case series cannot establish causality, generalizability, or definitive proof of therapeutic efficacy. However, they are encouraging and merit further study in both garrison and deployed settings. Despite its limitations, this case series demonstrates the feasibility of providing brief trauma-focused interventions in a deployed environment. Additionally, the modifications from the actual ART protocol did not negatively impact therapeutic effectiveness, which supports the principle that trauma-focused therapies are flexible and modifiable as long as fundamental evidence-based therapeutic elements are present. However, it needs to also be emphasized that behavioral health providers should receive adequate training before utilizing ART or other brief trauma-focused interventions in a clinical setting.

In the context of growing clinical evidence for its safety and efficacy, the authors propose that ART and related trauma-focused psychotherapies (eg, EMDR) should be considered in the treatment of acute stress reactions, ASD, and PTSD during deployed military operations. However, further research is needed to more definitively determine the efficacy and safety of these interventions in austere operational environments; an outcome study with a larger sample size (eg, 30 patients) with



GRAPH 1. These graphs depict pre- and post-treatment and postdeployment outcome measures for the eight soldiers who received one session of the ART-based intervention. PHQ-9 = Patient Health Questionnaire-9; PCL-5 = PTSD Checklist for DSM-5. Note: PHQ-9 and PCL-5 questionnaires were not administered in situations in which no positive answers were given in the PHQ-2 and Primary Care (PC)-PTSD screeners; a score of “zero” indicates either a negative screen or a total score of zero.

additional instruments for the measurement of symptom constellations will further elucidate and test the generalizability of the findings in this case series.

The views expressed in this article are those of the author and do not necessarily reflect the official policy or position of Fort Belvoir Community Hospital, the Walter Reed National Military Medical Center, the Defense Health Agency, the U.S. Army, the Department of Defense, or the U.S. Government.

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REFERENCES

- Hines L, Sundin J, Rona R, et al: Posttraumatic stress disorder post Iraq and Afghanistan: prevalence among military subgroups. *Can J Psychiatry* 2014; 59(9): 468–79.
- Stenkamp M, Litz B, Hoge C, et al: Psychotherapy for military-related PTSD: a review of randomized Clinical trials. *JAMA* 2015; 314(5): 489–500.
- Resick P, Wachen J, Dondanville K, et al: Effect of group vs individual cognitive processing therapy in active-duty military seeking treatment for posttraumatic stress disorder: a randomized Clinical trial. *JAMA Psychiat* 2017; 74(1): 28–36.
- Foa E, McLean C, Zang Y, et al: Effect of prolonged exposure therapy delivered over 2 weeks vs 8 weeks vs present-Centered therapy on PTSD symptom severity in military personnel. *JAMA* 2018; 319(4): 354–64.
- Hepner K, Roth C, Sloss E, et al: Quality of Care for PTSD and Depression in the Military Health System, Vol. 83. Santa Monica, CA, Rand Corporation, 2017 ISBN: 978-0-8330-9713-2.
- Field Manual 4-02.51. Combat and Operational Stress Control. Headquarters, Department of the Army, 2006.
- Solomon Z, Shklar R, Mikulincer M: Frontline treatment of combat stress reaction: a 20-year longitudinal evaluation study. *Am J Psychiatry* 2005; 162(12): 2309–14.
- VA/Dod Clinical Practice Guideline for the Management of Posttraumatic Stress Disorder and Acute Stress Disorder, Ed Ed 3, pp 42–99. Department of Veterans Affairs, Department of Defense, 2017.
- Penix E, Adler A, Kim P, et al: Mental health provider experiences with utilizing evidence-based treatment for post-traumatic stress disorder during a combat deployment. *Mil Behav Health* 2016; 4(2): 115–25.
- Borah E, Wright E, Donahue D, et al: Implementation outcomes of military provider training in cognitive processing therapy and prolonged exposure therapy for post-traumatic stress disorder. *Mil Med* 2013; 178(9): 939–44.
- Kip K, et al: Brief treatment of symptoms of post-traumatic stress disorder (PTSD) by use of accelerated resolution therapy (ART). *Behav Sci* 2012; 2(2): 115–34.
- Kip K, Rosenzweig L, Hernandez D, et al: Randomized controlled trial of accelerated resolution therapy (ART) for symptoms of combat-related post-traumatic stress disorder (PTSD). *Mil Med* 2013; 178(12): 1298–309.
- Kip K, et al: Evaluation of brief treatment of symptoms of psychological trauma among veterans residing in a homeless shelter by use of accelerated resolution therapy. *Nurs Outlook* 2016; 64: 411–23.
- Kip K, Clinical DD: Empirical, and theoretical rationale for selection of accelerated resolution therapy for treatment of post-traumatic stress disorder in VA and DoD facilities. *Mil Med* 2018 Sep 1; 183(9–10): e314–e321.
- Waits W, Marumoto M, Weaver J: Accelerated resolution therapy (ART): a review and research to date. *Curr Psychiatry Rep* 2017; 19(3): 18.
- Kip K, Shuman A, Hernandez D, et al: Case report and theoretical description of accelerated resolution therapy (ART) for military-related post-traumatic stress disorder. *Mil Med* 2014; 179(1): 31–7.
- Gray R, Budden-Potts D, Bourke F: Reconsolidation of traumatic memories for PTSD: a randomized controlled trial of 74 male veterans. *Psychother Res* 2017; 1–19.
- Sack M, Zehl S, Otti A, et al: A comparison of dual attention, eye movements, and exposure only during eye movement desensitization and reprocessing for posttraumatic stress disorder: results from a randomized clinical trial. *Psychother Psychosom* 2016; 85: 357–65.
- Seda G, Sanchez-Ortuno M, Welsh C, et al: Comparative meta-analysis of Prazosin and imagery rehearsal therapy for nightmare frequency, sleep quality and posttraumatic stress. *J Clin Sleep Med* 2015; 11(1): 11–22.
- Kroenke K, Spitzer R, Williams J: The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001; 16(9): 606–13.
- Wortmann J, Jordan A, Weathers F, et al: Psychometric analysis of the PTSD Checklist-05 (PCL-5) among treatment-seeking military service members. *Psychol Assess* 2016; 28: 1392–403.
- Spitzer R, Kroenke K, Williams J, et al: A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006; 166(10): 1092–7.