

# Equine-Assisted Therapy for Veterans with PTSD: Manual Development and Preliminary Findings

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**ABSTRACT** Introduction: Equine-assisted therapy (EAT) for post-traumatic stress disorder (PTSD) has attracted great interest despite lacking empirical support, a manual, and a standardized protocol. Our team of experts in EAT and PTSD developed an eight-session group EAT treatment protocol for PTSD (EAT-PTSD) and administered it to two pilot groups of military veterans to assess initial effects. Materials and Methods: We describe the development of the treatment manual, which was used with two pilot groups of veterans. Protocol safety, feasibility, and acceptability were assessed by reported adverse events, treatment completion rates, and self-rated patient satisfaction. Preliminary data on PTSD, depressive, and anxiety symptoms and quality of life were collected pretreatment, midpoint, post-treatment, and at 3-month follow up. Results: No adverse events were recorded. All patients completed treatment, reporting high satisfaction. Preliminary data showed decreases in clinician-assessed PTSD and depressive symptoms from pre to post-treatment and follow-up (medium to large effect sizes,  $d = .54-1.8$ ), with similar trends across self-report measures ( $d = 0.72-1.6$ ). In our pilot sample, treatment response and remission varied; all patients showed some benefit post-treatment, but gains did not persist at follow-up. Conclusions: This article presents the first standardized EAT protocol. Highly preliminary results suggest our new manualized group EAT-PTSD appears safe, well-regarded, and well-attended, yielding short-term benefits in symptomatology and quality of life if unclear length of effect. Future research should test this alternative treatment for PTSD more rigorously.

## INTRODUCTION

Post-traumatic stress disorder (PTSD), a pervasive and debilitating disorder, occurs following traumatic events involving exposure to, or threat of, physical harm, death, or sexual violence to oneself or another. Symptoms include re-experiencing (e.g., nightmares, flashbacks), avoidance behaviors, negative cognitions and mood, and altered arousal and

hyper-reactivity.<sup>1</sup> PTSD can persist for years and is associated with significant functional impairment, psychiatric comorbidity, suicidality, substance use, chronic pain, poor physical health, and delayed treatment seeking.<sup>2-5</sup> Equine-assisted therapy (EAT) is an increasingly popular but widely variable, unstandardized, and understudied intervention for trauma-exposed patients. Its utility in treating PTSD is unclear.

Military service members face high trauma risk through combat, injury, captivity, and sexual assault.<sup>6-9</sup> In one study, up to 95% of post-9/11 service members surveyed endorsed experiencing attacks, ambushes, or seeing human remains.<sup>7</sup> U.S. adults overall have lifetime PTSD prevalence below 10%,<sup>10</sup> whereas prevalence among post-9/11 veterans reaches 23%.<sup>11</sup>

Veterans often avoid seeking mental health treatment: one study found that only 23–40% of post-9/11 veterans screening positive for a probable mental health disorder had sought care.<sup>7</sup> Barriers to care include inadequate education about PTSD, logistical impediments, stigma, concerns about treatment experience, and low-emotional readiness.<sup>12-14</sup> Patients who do present for treatment rarely enroll in evidence-based exposure interventions (e.g., prolonged exposure, and cognitive processing therapy),<sup>15-17</sup> and dropout is high.<sup>18-21</sup> One-third to one-half of patients receiving exposure-based treatments for military service-related PTSD demonstrate no clinically significant improvement, and two-thirds retain their PTSD diagnosis post-treatment.<sup>22</sup> Medications (most commonly, serotonin reuptake inhibitors) may benefit patients,<sup>23</sup> yet some veterans report side effects, do not improve, or

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The study was supported by a gift from the Earle I. Mack Foundation (to Prudence W. Fisher and Yuval Neria).

ClinicalTrials.gov Identifier: NCT03068325

Previous presentations: This study was previously presented at the International Society for Traumatic Stress Studies 33rd Annual Meeting (Chicago, IL, USA; November 9, 2017), Milken Global Conference (Beverly Hills, CA; May 1, 2018).

doi:10.1093/milmed/usz444

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discontinue their regimens.<sup>24</sup> Thus, identifying additional acceptable primary or adjunctive PTSD treatments is imperative.

EAT is widely practiced as an alternative treatment for various physical and mental health conditions<sup>25,26</sup> including substance use disorders,<sup>27</sup> eating disorders,<sup>28–31</sup> mood and anxiety disorders,<sup>32</sup> and distress associated with terminal illness.<sup>33</sup> EAT studies<sup>26,34</sup> report patient gains in global psychological functioning,<sup>34</sup> emotional regulation, self esteem,<sup>32</sup> and self-efficacy<sup>33</sup>. Experientially-oriented, EAT uses horses to facilitate communication and mindful awareness of thoughts and behaviors.<sup>25,34</sup> Nonriding, on the ground exercises with horses foster regulation, reflection, and verbal and nonverbal communication.<sup>25,26</sup> EAT is not standardized, however; components diverge widely, with no treatment manual or data-informed guidelines.

Critical limitations of the small ( $N = 14$ ) extant EAT literature include failure to describe treatment components, methodological flaws in treatment implementation and integrity (none of the 14 studies used randomized assignment), inconsistent follow-up data, and conflicts of interest of EAT researchers.<sup>25,26</sup> As EAT has inherent high costs, researchers have raised ethical issues about such empirically-unsupported, expensive therapies.<sup>25</sup> Nonetheless, enthusiasm has grown for applying EAT to trauma-exposed populations, particularly military service members. In 2013, the Equine-Assisted Growth and Learning Association (EAGALA) introduced “Military Services Designation” training for eligible members. In 2017, the Bob Woodruff Foundation and Professional Association of Therapeutic Horsemanship, International hosted a “high impact convening” to explore equine-assisted activities and therapies.<sup>35</sup> In 2018, the Department of Veterans Affairs was mandated to set aside funds for EAT from its Adaptive Sports Program.<sup>36</sup>

A recent review of equine therapies for PTSD identified only four reports with treatment outcomes in adults.<sup>37</sup> One was a case study of a single veteran engaging in natural horsemanship;<sup>38</sup> three examined open-trial group EAT.<sup>39–41</sup> Sample size ranged from 1 to 16 (5–6 participants per group); the four studies comprised 27 individuals total. Treatment length ranged from 12 to 20 hours delivered across 4<sup>38</sup> to 10 weeks,<sup>41</sup> with highly heterogeneous content. Symptom assessment ranged from none<sup>40</sup> to self-report<sup>38,39</sup> to clinician-administered assessment.<sup>41</sup> Although all four reports noted improvement at varying follow-up intervals, serious limitations included small sample sizes, heterogeneous treatment approaches, inconsistent session number, overreliance on self-report measures, and absence of PTSD symptom assessments.

The interest in EAT but lack of standardized application and marginal literature suggest the need for more rigorous research. Accordingly, we sought to (a) develop a group EAT treatment protocol for veterans with PTSD (“EAT-PTSD”), (b) prepare the first standardized EAT-PTSD manual; and (c) administer EAT-PTSD to two pilot groups of veterans to assess initial safety, acceptability, and feasibility. Unlike previous

EAT research and practice, we had no conflict of interest; our primary interest was to objectively determine whether EAT-PTSD for veterans warranted further study.

## METHODS

### *Treatment Protocol and Manual Development*

Co-authors PWF, YN, JCM, and AL developed the treatment protocol with input from AH, JFH, and experienced EAT providers. The team reviewed typical procedures in EAT research and popular literature, interviewed practitioners, and visited programs. They set the following parameters: group format, due to cost and potential benefits of the group modality (social engagement; facilitating trust; and interpersonal skills<sup>42</sup>); no riding exercises, both for safety and the different equine-patient relationship; a treatment team comprising a licensed mental health professional and an “equine specialist” (trained horse expert); a confined activity space (small paddock, “round pen”); and eight 90-minute, once-weekly sessions.

Treatment protocol development was an iterative process, drawing from JFH and AH’s experience delivering EAT and teaching horsemanship. JFH and AH later trained research staff and treatment teams to deliver key exercises. The EAT manual built a series of progressively complex and challenging exercises designed to help patients connect and communicate with horses. Framing each session with opening and closing group “circles” gave patients opportunities to process their experiences.

A primary manual development goal was to ensure a PTSD-specific treatment focus. AL annotated how each exercise applied to PTSD treatment. Expert PTSD clinicians reviewed these ideas, removing exercises of likely limited benefit. AL and PWF then reviewed the exercises with equestrian treatment team members (JJ-M, BEM), whose feedback helped to refine the program into eight structured 90-minute sessions with clear goals. Suggestions incorporated into the manual included an introductory barn tour and beginning each session with a “grounding exercise”: a relaxation exercise using perceptual sensations to focus attention on the present moment. The treatment incorporated a “join-up” activity (adapted from Roberts<sup>43</sup>), wherein participants summon a horse “at liberty” from a trot or canter as a focal point of treatment progression.

The manual contains clear instructions to allow treatment teams to deliver EAT-PTSD consistently. AL drafted chapters explaining EAT-PTSD background and goals, providing detailed outlines, descriptions, and scripts for each session and defining each team member’s role with examples of what to and what not to do. The manual limited psychotherapeutic interventions, emphasizing keeping treatment as experiential as possible. The intent was to distinguish EAT-PTSD from standard group therapy: the role of the mental health professional attending each session is to facilitate, to help

patients process and reflect, and not to provide traditional psychotherapy.

Finally, treatment teams held mock sessions with the authors taking patient roles. Session feedback refined treatment elements. The final manual is generally consistent with EAGALA guidelines,<sup>44,45</sup> which emphasize experiential learning and exploration through interactive equine grounding exercises (i.e., relaxation exercises encouraging attunement and focus on the present moment). A licensed mental health professional and equine specialist jointly lead treatment, promoting reflection, and ensuring safety.<sup>44-46</sup>

The treatment manual was piloted with two groups of veterans to test initial feasibility, acceptability, safety, and potential benefit of EAT-PTSD.

### Participants and Protocol

Veterans experiencing PTSD symptoms were recruited through clinical referrals and print and online advertisements. After preliminary telephone screening, including the PTSD checklist for Diagnostic and Statistical Manual of Mental Disorders-5 (PCL-5<sup>47</sup>), potentially eligible individuals (PCL-5 score  $\geq 30$ ) received in-person psychosocial and diagnostic assessment from a masters' or PhD-level clinician. Inclusion criteria comprised: (a) DSM-5 diagnostic criteria for PTSD and score  $\geq 50$  on the Clinician-Administered PTSD Scale (CAPS-IV<sup>48</sup>); (b) ages 18 to 65; (c) reported military experience; and (d) English fluency. Exclusion criteria were: (a) history of psychotic disorder or unstable bipolar disorder, determined by Structured Clinical Interview for DSM-5 (SCID-5<sup>49</sup>); (b) 17-item Hamilton Rating Scale for Depression (HAM-D<sup>50</sup>) score  $> 25$  (indicating severe depression the EAT protocol was not designed to address); (d) elevated suicide risk, determined by clinical interview; (e) severe substance or alcohol use disorder within the past 6 months, or moderate use disorder within the past 2 months (SCID-5<sup>49</sup>); and (f) physical limitations impeding participation. Concurrent ongoing mental health treatment was allowed if the patient agreed not to alter it during the 8-week study.

Of 21 individuals expressing interest in EAT-PTSD, eight (six men, two women) met study eligibility and enrolled ( $n = 4$  per group). Mean age was 45.0 years ( $SD = 10.2$ ; range = 30–61). Table I presents demographic and diagnostic data. Six patients were receiving concurrent treatment, one reported past treatment, and one had never received mental health treatment.

### Measures

#### Clinician-administered assessments

The CAPS-IV,<sup>48</sup> assessing past-month frequency and severity of the 17 DSM-IV PTSD symptoms, determined entry PTSD diagnosis. The CAPS, considered the gold standard PTSD assessment, has demonstrated excellent reliability, convergent

**TABLE I.** Patient Demographic and Clinical Variables

	<i>n</i>	%
Gender		
Male	6	75.0
Female	2	25.0
Race		
White	5	62.5
Black	2	25.0
Mixed	1	12.5
Ethnicity		
Hispanic	3	37.5
Non-Hispanic	4	50.0
Not disclosed	1	12.5
Marital status		
Never married	2	25.0
Married	2	25.0
Living with partner	2	25.0
Widowed	1	12.5
Divorced	1	12.5
Employment status		
Working full-time	3	37.5
Unemployed	2	25.0
Disabled	1	12.5
Keeping house	1	12.5
Other	1	12.5
Income		
\$10,000–\$20,000	2	25.0
\$20,000–\$30,000	1	12.5
\$40,000–\$50,000	2	25.0
Over \$50,000	2	25.0
Not disclosed	1	12.5
Diagnosis		
PTSD	8	100.0
Depressive disorder (current)	2	25.0
Depressive disorder (in remission)	2	25.0
Bipolar disorder	2	25.0
OCD	1	12.5
ADHD	1	12.5
Past alcohol/substance use disorder	3	37.5

and discriminant validity, and sensitivity to clinical change.<sup>51</sup> Study CAPS-IV internal consistency was good ( $\alpha = .83$ ). The Structured Clinical Interview for DSM-5, research version<sup>49</sup> determined all other diagnoses.

The CAPS-5<sup>52</sup> and 17-item HAM-D<sup>50</sup> were used to assess DSM-5 PTSD criteria and depressive symptoms, respectively. The HAM-D has demonstrated good internal consistency and inter-rater and test-retest reliability.<sup>53</sup> Internal consistency in this study ranged from acceptable to good for CAPS-5 ( $\alpha = .76$ – $0.86$ ) and HAM-D ( $\alpha = 0.71$ – $0.78$ ) except for post-treatment HAM-D ( $\alpha = 0.64$ ).

#### Self-report measures

We administered the PCL-5<sup>47</sup> for PTSD symptom severity; Beck Depression Inventory-II (BDI-II) for depressive symptoms;<sup>54</sup> Quality of Life Enjoyment and Satisfaction Questionnaire-Short Form (QLESQ-SF) for fulfillment in various life domains.<sup>55</sup> These measures have well-documented psychometrics and validly, reliably assess their respective

**TABLE II.** Treatment Team Roles

Team Member	Role
Equine specialist (ES)	Focuses patients on observing, understanding horse behavior. Demonstrates exercises. Provides coaching, encouragement.
Mental health professional (MHP)	Encourages participant attunement to, processing of internal states. Leads grounding exercises, psychoeducation.
Horse wrangler (HW)	Maintains, monitors patient and horse safety. Assists ES in demonstrating, conducting exercises as needed.
Horses	Provides feedback, information to patients.

constructs.<sup>54–58</sup> The Client Satisfaction Questionnaire (CSQ), of demonstrated internal consistency and construct validity, was administered post-treatment to assess treatment contentment.<sup>59,60</sup>

### Procedure

The New York State Psychiatric Institute Institutional Review Board approved the study (ClinicalTrials.gov Identifier: NCT03068325). Procedures were explained preassessment and patients provided written informed consent. Patients were assessed pretreatment (to determine eligibility and baseline symptom severity), midtreatment (after session four), post-treatment (after session 8), and at 3-month follow up. Trained masters or PhD-level independent evaluators assessed clinical symptomatology, and patients completed self-reports at assessments. Patients received \$100 compensation per assessment and were provided boots and transportation to the equestrian facility for treatment.

### Equine-Assisted Therapy

Treatment sessions were led by EAGALA-certified treatment teams: a licensed mental health professional (licensed clinical social worker, or licensed professional counselor) and an equine specialist (trained horse expert). A horse wrangler assisted to enhance safety. Two horses completed the team—the same two for all sessions. Throughout the session, patients were divided into pairs, alternating working with each horse for the different exercises. Table II defines individual treatment team members roles and responsibilities.

Treatment comprised eight weekly 90-minute sessions. Table III outlines treatment components and the focus of each session. All sessions begin with a grounding exercise, focusing attention on current physical sensations. Session one orients patients to treatment (rationale, description, and possible benefits), provides psychoeducation (common reactions to trauma, development, and maintenance of PTSD), includes a barn tour, and ends with meeting the horses in the round-pen. Subsequent sessions review previous session content and introduce increasingly complex encounters and interactions with horses, with team feedback and direction. Early phase treatment exercises (sessions 2–3) acquaint patients with the

horse with grooming exercises, leading with a rope or a wand, and directing the horse. The middle phase (sessions 4–7) furthers patients' mastery and comfort with the horse in individual and teamwork exercises. For example, in the "send away" activity, patients learn to use a wand to distance the horse to create personal space. "Join up" combines previously learned individual and group activities, helping patients to demonstrate partnership with the horse and direct it midmovement. The "tarp" exercise, in which patients must work together to maneuver one of the horses onto a tarpaulin, foster teamwork, and co-operation. The final session and phase includes a graduation ceremony celebrating patients' treatment progress and accomplishments. Each session ends with an opportunity for participants to review and discuss their experiences ("closing circle").

### Data Analysis

Pilot data from two groups ( $n = 8$ ;  $n = 6$  at 3-month follow-up) appear in Table IV (distributions were normally distributed and without outliers<sup>61</sup>). Using IBM SPSS Statistics version 25, we conducted separate repeated measures ANOVAs on CAPS-5, HAM-D, PCL-5, BDI, and QLESQ scores (pretreatment, midpoint, post-treatment, and follow-up) for all participants with complete data sets. When significant, analyses were followed by paired sample *t*-tests using all available data. Cohen *d* determined small (0.2), medium (0.5), and large (0.8) effect sizes.<sup>62</sup>

PTSD remission and response were assessed post-treatment ( $n = 8$ ) and at follow-up ( $n = 6$ ). Response was defined a priori as >30% decrease from pretreatment CAPS-5, and remission as CAPS-5 total score  $\leq 10$ .

## RESULTS

### Safety, Tolerability, and Patient Satisfaction

No injuries or adverse events were reported. All patients completed EAT (median = 7.5 sessions attended, range 6–8; four completed all eight sessions). Post-treatment mean total CSQ score was 25.9 (SD = 4.1) of a possible 34.0, indicating high patient satisfaction with EAT. At exit interviews, all participants reported a positive EAT experience, gave examples of how EAT helped them, and said they would recommend it to others. All wished the program had lasted longer.

Following EAT, two patients enrolled in individual evidence-based therapy at our center; one began treatment at a Veterans Center; three continued previously-initiated VA treatment, and two declined further treatment.

### Treatment Outcomes

In our pilot sample, CAPS-5 ANOVA was significant ( $F(3,15) = 5.19, p = 0.012$ ); follow-up *t*-tests revealed significant decreases pre to post-treatment ( $t = 9.58, p < 0.001, d = 1.49$ ), midpoint to post-treatment ( $t = 2.70, p = 0.035, d = 0.54$ ),

**TABLE III.** Equine-Assisted Therapy Treatment Outline

Description	Focus
Session 1: Welcome, introduction, and orientation to treatment team and group members; group, safety rules, confidentiality; tour of facility; horse greeting	Psychoeducation: PTSD and EAT-PTSD; introduction and orientation with framework, staff, horses, participants
Session 2: Opening circle; horse greeting; equine-assisted exercises: grooming, lead walking, lead/walk/stop exercise, 4 feet; closing circle	Becoming acquainted with horses; establishing framework of treatment; recognition of nonverbal communication, facilitation of frustration tolerance, communication skills, adaptability, and teamwork
Session 3: Opening circle; horse greeting; equine-assisted exercises: grooming, A-leg-up, lead/walk/stop, fly fishing, closing circle	Further mastery and comfort with horse; introduction to working with the wand; team building; awareness of arousal cues; facilitation of assertiveness and self-regulation
Session 4: Opening circle; horse greeting; equine-assisted exercises: grooming, a leg-up, 4 feet, fly-fishing, send-away; closing circle	Development of more advanced skills needed for join-up exercise; recognition of nonverbal communication and interpretation of others' intentions; emphasizing teamwork; focusing on assertiveness (rather than aggressive or passivity); self-regulation; expression of personal needs; development of coping skills; boundary setting
Session 5: Opening circle; horse greeting; equine-assisted exercises: grooming, fly fishing, wand walking, send away, first two patients complete join-up (guided by equine specialist; closing circle)	Advance horsemanship skills; teamwork; execution of "join-up" exercise; enhancement of trust self-efficacy; facilitation of communication skills, confidence, skill, mastery; establishing personal space, communicating assertively; facilitation of problem-solving skills, anxiety tolerance; begin conversation about approaching termination
Session 6: Opening circle; horse greeting; equine-assisted exercises: obstacle course, second pair complete join-up (guided by equine specialist); closing circle	Completion of more advanced exercises; Awareness of arousal cues and present moment; facilitation of teamwork through navigation of horse through obstacles; gain of mastery and skills, problem-solving, coping, and communication skills; continue conversation about pending termination
Session 7: Opening circle; horse greeting; equine-assisted exercises: grooming, tarp exercise, join-up; closing circle	Completion of more advanced exercises; encouragement of attempting new skills; attention to arousal cues; frustration tolerance and addressing change; dealing with uncertainty; processing of thoughts, feelings, and reactions regarding impending termination
Session 8: Opening circle; horse greeting; equine-assisted exercises: grooming, lead walking, join-up; saying goodbye to horses; graduation ceremony	Execution of more advanced exercises; focusing on familiarity of exercises; termination and goodbye; managing transitions; lessons learned.

**TABLE IV.** Clinical Outcomes

	Pretreatment		Midpoint		Post-treatment		Follow-up	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
CAPS-5 <sup>a,b,c</sup>	39.63	10.49	29.86	13.26	23.13	11.66	22.67	10.76
HAM-D <sup>a,b,c</sup>	15.75	5.37	11.71	6.55	6.88	4.36	8.17	4.88
PCL-5 <sup>a</sup>	46.29	14.08	34.71	17.72	23.13	14.25	22.83	13.36
BDI <sup>a</sup>	27.29	11.01	18.43	11.60	11.88	8.64	12.33	10.78
QLESQ <sup>a</sup>	52.38	11.40	55.29	16.54	61.25	13.16	60.00	19.36

Note: Superscript denotes significant difference ( $p < 0.05$ ).

<sup>a</sup>Pre/post-treatment.

<sup>b</sup>Pretreatment/follow-up.

<sup>c</sup>Midpoint/follow-up.

and pretreatment to follow-up ( $t = 3.35, p = 0.020, d = 1.60$ ). For four patients (out of six evaluated at follow-up), CAPS-5 worsened between week 8 and follow-up (n.s.).

HAM-D ANOVA was also significant ( $F(3,15) = 3.90, p = 0.030$ );  $t$ -tests revealed significant decreases pre to post-treatment ( $t = 7.13, p < 0.001, d = 1.81$ ), midpoint to post-treatment ( $t = 2.68, p = 0.037, d = 0.87$ ), and pretreatment to follow-up ( $t = 3.46, p = 0.018, d = 1.48$ ). For patients whose CAPS-5 scores increased following treatment, HAM-D also increased (n.s.).

Self-report measure ANOVAs were nonsignificant, but showed trends similar to score changes on clinician-

administered measures. As our small sample size may have underpowered analyses to detect meaningful differences (Type II error), we conducted secondary analyses comparing self-report pre and post-treatment scores for all participants. These paired-sample  $t$ -tests revealed significant improvement from pre to post-treatment: PCL-5 ( $t = 3.80, p = 0.009, d = 1.63$ ); BDI ( $t = 4.74, p = 0.003, d = 1.56$ ); and QLESQ ( $t = -2.69, p = 0.031, d = 0.72$ ).

Post-treatment, five patients achieved response status and one remitted. Mean CAPS improvement post-treatment was 16.5 points, a clinically meaningful difference<sup>63</sup>. At 3-month follow-up, three of the original five responders remained

responders, and two did not. Of the three nonresponders at post-treatment, one again did not respond; the other two declined follow-up assessment. At 3-month follow-up, the post-treatment remission case relapsed. Of the seven non-remitters at post-treatment, one remitted at follow-up; the other six did not remit.

## DISCUSSION

The primary study goal was to address shortcomings of previous EAT-PTSD research by developing and pilot testing a specific, manualized group EAT intervention for veterans with PTSD in an open trial. In a highly preliminary test of this novel manual and protocol, group EAT for veterans with PTSD appeared safe, satisfying, and well-attended, although short-term improvement faded, with worsening PTSD and depression symptoms for four of six patients assessed at 3-month follow-up.

Our manual and protocol include widely used EAT procedures, which we adapted for veterans with PTSD based on consultation with equine and PTSD experts. The manual specifically targeted PTSD, distinguishing group EAT for PTSD from other EATs and generic group psychotherapy. The manual integrated horses into experiential exercises involving boundary setting, anxiety and frustration tolerance, and promoting self-efficacy.

Initial pilot experience supported many of the initial protocol decisions. For example, using the same horses for all sessions quickly emerged as desirable during the first group. Team discussion identified needed modifications in weekly conference calls, based on observing sessions and viewing session videotapes. Activities that did not fit the time frame or poorly suited veterans were modified or replaced.

Patient satisfaction was high, with zero treatment attrition, reported adverse events, and safety concerns. These findings are encouraging considering high treatment dropout rates among PTSD patients broadly (roughly 20%)<sup>64</sup> and veterans specifically (approximately 30–40%).<sup>21,65,66</sup> Participants generally felt they benefitted from the program and wished that it had lasted longer.

Patients experienced some clinical improvement during the brief protocol. However, four of six patients assessed at 3-month follow-up deteriorated, suggesting treatment lack of specificity or of persisting effect. Veterans apparently found EAT-PTSD in a bucolic setting enjoyable, but for many the benefits were transient. Several explanations may account for the limited long term gains: First, while the group format of EAT-PTSD provided social support and a source of behavioral activation, it was not replaced, or bolstered, by other resources post-treatment, resulting in symptom rebound. Second, for many PTSD patients, long-term recovery may require repeated processing of trauma memories and associated maladaptive cognitions, emotions, and behavioral patterns. EAT-PTSD, in its current format, does not address the need for such processing. Additional research is needed to explore the

durability of effects of short-term, targeted, manualized group EAT-PTSD. Research might also assess social engagement, increased camaraderie, and diminished stigma in relation to group EAT-PTSD.

Anecdotally, we found patients eager to enroll in EAT-PTSD. Some patients preferred group EAT to individual psychotherapy; others were excited about group EAT adjunctive to ongoing treatment. Outcome research has emphasized the importance of patient preference in treatment outcome.<sup>67–70</sup> Most study patients were receiving concurrent treatment; future research should examine benefits of stand-alone versus adjunctive EAT. As patients wished for longer than the allotted 8-week protocol, further research might examine the optimal length of EAT-PTSD.

The current report has limitations. The treated sample was small and preliminary; replication in a larger cohort is underway. The open trial included patients receiving concurrent psychotherapy or pharmacotherapy, introducing multiple confounds. An open trial is appropriate to this stage of treatment development, but sample size and absence of a control group preclude assessing efficacy.

Newly manualized EAT for PTSD might offer an alternative or adjunct to extant treatments. Based on our small initial sample, it appears safe, tolerable, well-regarded, and at least briefly beneficial for individuals meeting DSM-5 PTSD criteria. EAT-PTSD may engage individuals resistant to more formal treatment modalities and encourage subsequent openness to additional therapy. Promising, very preliminary findings warrant testing this protocol in a larger open trial.

## ACKNOWLEDGMENTS

The authors would like to thank April Neumann and Anne Gassib for their contributions to this study, and the veterans who willingly engaged in this yet untested protocol and provided meaningful and helpful feedback.

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