

Comparison of Accelerated Resolution Therapy (ART) for Treatment of Symptoms of PTSD and Sexual Trauma Between Civilian and Military Adults

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ABSTRACT Objective: First-line psychotherapies for post-traumatic stress disorder (PTSD) were principally validated in civilian populations. We compared treatment of symptoms of psychological trauma between civilian and military adults by use of Accelerated Resolution Therapy (ART), an emerging, brief exposure-based therapy. Methods: We pooled individual patient data from two recently completed studies of ART. Treatment response for symptoms of PTSD was compared by civilian versus military status, stratified by gender and history of sexual trauma. Results: Mean age was 40.7 years in civilians ($n = 62$) vs. 42.2 years in military participants ($n = 51$). Mean PCL (PTSD) scores before/after treatment with ART were 53.2/30.2 among civilians compared with 56.0/40.5 among military participants (adjusted $p = 0.25$). Over follow-up ($n = 91$), there was an apparent greater reduction among civilians in Intrusive ($p = 0.03$) and Numbing symptoms ($p = 0.01$), but not in Arousal ($p = 0.99$) or Avoidance ($p = 0.19$) symptoms. Among females with sexual trauma, mean reductions on the PCL were substantial in civilian (-22.5 ± 16.7) and military (-21.2 ± 12.7) participants ($p = 0.87$). Conclusions: In an average of <4 treatment sessions, treatment with ART results in meaningful reductions in symptoms of PTSD in civilian and military patients. The suggestion of stronger response among civilians may owe to differential clinical presentation and trauma exposure history among military personnel.

INTRODUCTION

Post-traumatic stress disorder (PTSD) is a disabling trauma and stress-related disorder that may occur after experiencing or witnessing a traumatic event, and may evoke a combination of intrusion and avoidance symptoms, negative alterations in cognitions and mood, and alterations in arousal and reactivity.¹ Among adults in the U.S. general population, the lifetime and past year prevalence of PTSD have been estimated at 6.8% and 3.5%, respectively.² Factors associated with a higher prevalence of PTSD among adults include female gender, lack of social support, history of depression, and number and severity of traumatic events experienced, including traumatic events of the same as well as different types.^{3–6} The most prevalent forms of trauma experienced among U.S. adults include: physical or sexual assault, accident or fire, violent death or injury to a close family member or friend, witnessing a physical or sexual assault, and witnessing a natural disaster.⁵

From the Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF)/Operation New Dawn conflicts, postdeployment military prevalence estimates of PTSD (e.g., within 12 months) vary dramatically from 2 to 31%,^{7–10} owing to substantially different sampling methods, combat experiences, PTSD criteria, and treatment versus nontreatment seeking samples. The prevalence of PTSD is higher among those exposed to combat^{11–13} and those with higher levels of combat intensity.^{14,15} The most prevalent forms of trauma experienced among OEF/OIF veterans include: having a friend wounded or killed, seeing dead or seriously injured noncombatants, witnessing an accident resulting in serious injury or death, smelling decomposing bodies, being physically moved or knocked over by an explosion, receiving an injury that does not require hospitalization,¹⁶ and military sexual trauma (women).¹⁷

Formal guidelines^{18–22} uniformly recommend use of trauma-focused interventions as first-line treatment for adults with PTSD, yet treatment regimens for PTSD vary substantially by setting. The most frequently endorsed and practiced cognitive behavioral therapies for treatment of PTSD among veterans are prolonged exposure (PE) therapy,^{23–25} cognitive processing therapy (CPT),^{23,26,27} and eye movement desensitization and reprocessing (EMDR).^{25,28,29} In civilian settings, practice patterns may differ as only a small minority (17%) of licensed psychologists trained in exposure therapy have reported using it to treat PTSD, including 59% in clinical practice who reported harboring a belief that using exposure therapy is likely to increase the patients' desire to drop out of treatment.³⁰

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Accelerated Resolution Therapy (ART) is an emerging, brief exposure-based therapy for PTSD that has been recently studied in both civilian and military populations.^{31,32} Procedurally, ART is delivered in 1 to 5 sessions over an approximate 2-week timeframe. ART requires no homework or skills practice, reducing patient commitment time by more than 50% when compared to PE, CPT, and EMDR. Recent collection of empirical data from both civilians and military personnel treated with ART were based on essentially identical treatment and outcome assessment protocols,^{31,32} thereby allowing formal comparison of clinical presentation and treatment response. Our underlying hypothesis in pooling individual patient data from the two published studies of ART was that treatment response for symptoms of PTSD, including sexual trauma, would be similar between civilians and military personnel, despite a potentially more complex clinical profile among military personnel, as well as potentially differential types of trauma exposure.

METHODS

The first published study of ART, hereafter referred to as the “civilian” study, was an uncontrolled prospective cohort study of 80 adults, of whom, 66 (82.5%) completed the full course of treatment with ART including initial posttreatment assessment, and 54 of the 66 completers (81.8%) provided 2-month follow-up data. The second published study of ART, hereafter referred to as the “military” study, was a two-group randomized controlled trial with 29 participants initially assigned to the ART intervention and 28 assigned to a brief (2 session) Attention Control (AC) regimen. Participants randomly assigned to AC were offered treatment (crossover) with ART upon completion of the AC regimen. Of the 57 participants, 50 (87.7%) started treatment with ART and 47 of the 50 (94.0%) completed treatment. Of these 47 treatment completers, 38 (80.9%) provided 3-month follow-up data. The inclusion criteria and screening instruments used for enrollment were very similar between the two studies, and recruitment methods were similar, as previously published.^{31,32} Both studies were approved by the USF Institutional Review Board and all participants provided written informed consent. At pre- and posttreatment and follow-up assessment, participants received \$20 and \$50 in the civilian and military studies, respectively. Of note, 6 participants in the “civilian” study were veterans with traumas specific to their military service, and hence, included in the analysis as if from the “military” study.

Screening and Data Collection

Participants were instructed by the study coordinator to complete the 17-item PCL (PTSD) checklist,^{33,34} ART Intake Questionnaire, and the Psychiatric Diagnostic Screening Questionnaire (PDSQ).^{35,36} Completion and scoring of the PCL and PDSQ were followed by a clinical interview between the participant and an ART clinician to determine

study eligibility. After enrollment, and in addition to the screening instruments completed, baseline data collection included a demographic and brief medical history questionnaire, as well as classification of the primary type of trauma for which treatment was sought. The 17-item PCL-C/PCL-M instrument was completed pretreatment, posttreatment, and at 2- or 3-month follow-up (depending on “civilian” or “military” study) and serves as the primary outcome variable for this analysis.

ART Intervention

For both studies, and as previously described,³⁷ the ART intervention was delivered in 1 to 5 sessions approximately 60 to 75 minutes each in duration, and consisted of imaginal exposure (IE), imagery rescripting, and use of bilateral eye movements. The ART protocol was delivered in accord with the 4 core components used in the majority of A-level trauma-focused psychotherapies³⁸: narrative component, “in vivo” and/or IE, cognitive restructuring, relaxation/stress modulation.

Statistical Methods

Demographic, health behavior, and presenting clinical characteristics were compared by civilian versus military status by use of Student’s *t*-tests for continuous variables and Fisher’s exact test for categorical variables. Analyses were based on those with pre- and post-ART treatment data and were conducted overall and stratified by gender and sexual trauma. The primary study outcome was pre- to posttreatment change on the PCL Checklist including the total score and the 4 PCL subscale scores consisting of: Intrusion (5 items), Arousal (5 items), Avoidance (2 items), and Numbing (5 items). Analysis of covariance models were fit to evaluate treatment response (PCL score and subscale scores) by civilian versus military status with statistical adjustment for relevant covariates. Linear mixed models specifying a compound symmetry correlation structure were fit to compare the slope of treatment response over time by civilian versus military status adjusted for relevant covariates. A two-sided *p*-value of <0.05 was used to define statistical significance.

RESULTS

The mean age was 40.7 ± 9.2 years among civilians versus 42.2 ± 12.9 among military participants ($p = 0.48$) (Table I). Female military participants were nearly 7 years older, on average, than civilian female participants ($p = 0.06$). The most prominent difference between the civilian and military study groups was 85.5% representation of females in the civilian study versus 15.7% in the military study ($p < 0.0001$). Compared to military participants, civilian participants were less likely to have a history of head trauma (6.5% vs. 35.3%, $p = 0.0002$). Female military participants were more likely than female civilian participants to be taking antidepressant (62.5% vs. 24.5%, $p = 0.04$) and pain reduction medications (62.5% vs. 7.6%, $p < 0.0001$) at study entry. The mean number of

TABLE I. Demographic and Health Behavior Characteristics by Civilian Versus Military Status and Gender

Characteristic	Female			Male			All		
	Civ. (n = 53)	Mil. (n = 8)	p-value	Civ. (n = 9)	Mil. (n = 43)	p-value	Civ. (n = 62)	Mil. (n = 51)	p-value
Age (Mean ± SD)	40.6 ± 9.3	47.3 ± 8.3	0.06	41.2 ± 9.4	41.3 ± 13.5	0.99	40.7 ± 9.2	42.2 ± 12.9	0.48
Caucasian Race (%)	86.8	87.5	1.0	100.0	83.7	0.33	88.8	84.3	0.58
Hispanic Ethnicity (%)	37.2	25.0	0.70	0.0	9.3	1.0	31.7	11.8	0.01
More than High School Education (%)	73.6	100.0	0.18	55.6	76.7	0.23	71.0	80.4	0.28
History of Head Trauma (%)	3.8	37.5	0.01	22.2	34.9	0.70	6.5	35.3	0.0002
5 or More Traumatic Memories (%)	54.7	62.5	1.0	33.3	41.9	0.72	51.6	45.1	0.57
Prior Psychotherapy for PTSD (%)	73.1	87.5	0.67	44.4	65.1	0.28	68.9	68.6	1.0
Individual Psychotherapy	64.2	87.5	0.25	44.4	55.8	0.72	61.3	60.8	1.0
Group Psychotherapy	17.0	37.5	0.18	0.0	20.9	0.33	14.5	23.5	0.24
Current use of Rx Medications (%)									
Antianxiety	22.6	37.5	0.39	22.2	26.2	1.0	22.6	28.0	0.14
Antidepressant	24.5	62.5	0.04	11.1	35.7	0.24	22.6	40.0	0.06
Sleep Medication	9.4	25.0	0.23	0.0	7.1	1.0	8.1	10.0	0.75
Pain Reduction	7.6	62.5	<0.0001	0.0	11.9	0.57	6.4	20.0	0.04
Total ART Sessions	3.7 ± 1.1	4.2 ± 3.4	0.21	3.9 ± 1.2	3.6 ± 1.1	0.46	3.8 ± 1.1	3.7 ± 1.1	0.73

ART sessions received was similar between civilian versus military participants (3.8 ± 1.1 vs. 3.7 ± 1.1, $p = 0.73$).

ian participants, with the most notable difference in female military participants.

Presenting Clinical Characteristics

At study entry, mean score on the 17-item PCL was nominally higher in military versus civilian participants (56.0 ± 14.8 vs. 53.2 ± 12.2, $p = 0.27$). This was attributed to higher mean scores on the Arousal subscale of the PCL (18.0 ± 4.5 vs. 14.5 ± 5.2, $p = 0.0003$) (Table II), and was most evident in female military participants (19.0 ± 4.7 vs. 14.4 ± 5.0, $p = 0.02$). Sleep impairment scores were significantly higher in military participants (12.3 ± 4.2 vs. 9.0 ± 4.3, $p = 0.0001$). In aggregate, military participants tended to present with a more severe clinical presentation than civil-

Primary Trauma Exposure

In the civilian study, the primary trauma for which treatment was sought included: experiencing violent or abusive crime (51%), loss of a loved one (29%), divorce (11%), and chronic or acute illness (10%). Among female civilians, 26.4% reported sexual trauma as their primary trauma. In the military study, the primary trauma for which treatment was sought included: witnessing death, execution and/or major injuries (38%), improvised explosive device blast or combat explosion (34%), sexual trauma (11%), homicide of a civilian (4%), or experiencing 3 or more major traumas (13%). Among the

TABLE II. Presenting Clinical Characteristics by Civilian Versus Military Status and Gender

Characteristic	Female			Male			All		
	Civ. (n = 53)	Mil. (n = 8)	p-value	Civ. (n = 9)	Mil. (n = 43)	p-value	Civ. (n = 62)	Mil. (n = 51)	p-value
PCL, Total Score (Mean ± SD)	53.1 ± 11.8	59.0 ± 19.5	0.43	53.3 ± 15.3	55.4 ± 14.0	0.69	53.2 ± 12.2	56.0 ± 14.8	0.27
PCL Intrusion Scale (5 Items)	16.2 ± 4.2	16.1 ± 6.9	0.96	15.0 ± 4.7	16.0 ± 4.8	0.55	16.1 ± 4.3	16.1 ± 5.1	0.99
PCL Arousal Scale (5 Items)	14.4 ± 5.0	19.0 ± 4.7	0.02	15.1 ± 6.8	17.8 ± 4.5	0.14	14.5 ± 5.2	18.0 ± 4.5	0.0003
PCL Avoidance Scale (2 Items)	6.6 ± 2.2	7.1 ± 2.8	0.53	5.9 ± 2.3	6.7 ± 2.4	0.34	6.5 ± 2.2	6.8 ± 2.5	0.45
PCL Numbing Scale (5 Items)	15.8 ± 4.6	16.8 ± 6.9	0.63	17.3 ± 5.1	14.8 ± 5.2	0.19	16.0 ± 4.7	15.1 ± 5.4	0.15
CES-D (Depression)	27.4 ± 11.6	32.9 ± 17.9	0.26	30.1 ± 13.9	25.7 ± 13.1	0.37	27.8 ± 11.8	26.8 ± 14.0	0.68
Brief Symptom Inventory	30.1 ± 14.0	30.5 ± 18.9	0.94	29.3 ± 19.1	24.7 ± 16.6	0.46	30.0 ± 14.7	25.6 ± 16.9	0.15
Aggression Questionnaire	72.0 ± 20.2	61.0 ± 48.3	0.15	79.7 ± 19.1	83.3 ± 22.6	0.66	73.1 ± 20.1	79.8 ± 23.0	0.10
Pittsburgh Sleep Quality Index (PSQI)	9.1 ± 4.3	14.6 ± 4.0	0.001	8.8 ± 4.5	11.9 ± 10.6	0.05	9.0 ± 4.3	12.3 ± 4.2	0.0001
AUDIT (Alcohol Use)	2.6 ± 3.1	5.5 ± 7.9	0.34	5.2 ± 7.5	5.4 ± 6.9	0.96	3.0 ± 4.1	5.4 ± 7.1	0.03
Psychiatric Diagnostic Screening Questionnaire (PDSQ) Score (Mean ± SD) (T-Score)	53.5 ± 8.1	58.6 ± 11.5	0.13	52.8 ± 10.1	53.3 ± 9.6	0.88	53.4 ± 8.4	54.2 ± 10.0	0.68

CES-D: Center for Epidemiologic Studies Depression Scale.

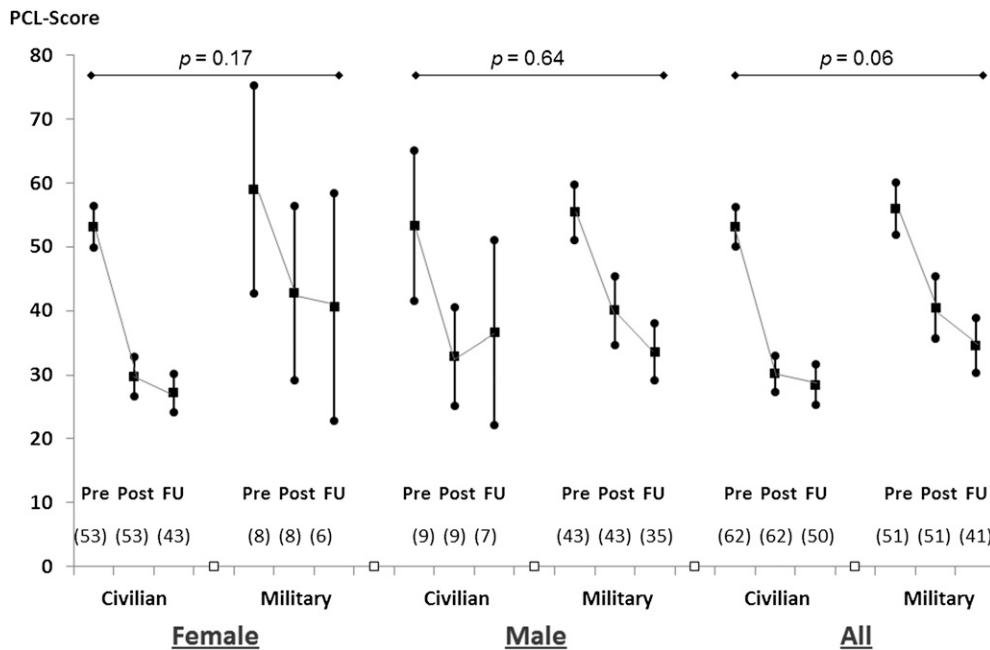


FIGURE 1. Mean PCL total scores before (Pre) ART treatment, after (Post) ART treatment, and follow-up (FU). Plot of mean scores on the 17-item PCL checklist before treatment with ART (Pre), after treatment with ART (Post), and at 2- or 3-month follow-up assessment (FU) by civilian versus military status and gender. The shaded rectangles depict mean scores with the lower and upper filled circles depicting the limits of the 95% confidence interval. The numbers in parentheses reflect the sample size in the analysis. *P*-values are from linear mixed models comparing civilian versus military treatment response adjusted for PDSQ-T score, history of head trauma, PSQI score, and gender (for nonstratified models).

8 military females, 6 (75.0%) reported military sexual trauma as their primary trauma.

Initial Treatment Response with ART

Mean scores on the 17-item PCL before and after treatment with ART were 53.2 ± 12.3 , 30.2 ± 11.2 among civilians compared to 56.0 ± 14.8 , 40.5 ± 17.2 among military participants. Statistical adjustment for baseline PCL score, PDSQ score, and gender revealed a greater mean reduction on the PCL in civilian participants (partially adjusted $p = 0.02$). However, after further adjustment for history of head trauma and sleep quality, the difference in initial treatment response was no longer significant (fully adjusted $p = 0.25$). In examining subscales of the PCL, mean reductions in Intrusion symptoms were greater in civilians (16.2 ± 4.3 , 8.6 ± 3.0) than in military participants (16.2 ± 5.0 , 11.6 ± 5.5) (partially adjusted $p = 0.02$), as were mean reductions in Numbing symptoms (16.0 ± 4.8 , 9.4 ± 4.1) versus (15.7 ± 5.6 , 11.3 ± 5.6) (partially adjusted $p = 0.02$). However, after further adjustment for history of head trauma and sleep quality, the differences were no longer significant (fully adjusted $p = 0.22$ for both comparisons). Thus, both civilian and military participants experienced substantial reductions in symptoms of PTSD, with somewhat greater reductions among civilians.

Post and Full Treatment Response with ART

Reductions in symptoms of PTSD after completing ART were generally maintained or indicated slight improvement

at 2/3-month follow-up (Fig. 1). In a fully adjusted linear mixed model, there was a trend for a steeper reduction in symptoms of PTSD across the full study period among civilian participants ($p = 0.06$). Further examination by the PCL subscales suggested that the apparent steeper reduction among civilians centered on reductions in Intrusive (Fig. 2a, $p = 0.03$) and Numbing symptoms (Fig. 2d, $p = 0.01$), and similar reduction in Arousal ($p = 0.99$) and Avoidance ($p = 0.19$) symptoms. The somewhat steeper reduction in Intrusive and Arousal symptoms among civilian participants was largely driven by only modest reductions in symptoms among the 8 female military participants who generally presented with the most severe clinical presentation at study entry. Full treatment response by use of ART was similar among civilian and military male participants for the PCL and 4 subscales.

Treatment of Sexual Trauma (Females)

Of the 14 females with civilian sexual trauma (CST), 11 provided 2-month follow-up data. Mean scores on the PCL-C at the 3 assessments were 52.9 ± 12.1 , 30.4 ± 12.7 , 24.5 ± 8.9 , respectively. Of the 6 females with military sexual trauma (MST), 5 provided 3-month follow-up data. Mean scores on the PCL-M at the 3 assessments were 68.7 ± 8.2 , 47.5 ± 16.3 , and 44.8 ± 15.2 , respectively. The baseline mean PCL score of 68.7 ± 8.2 for females with MST was significantly higher than the mean PCL score of 52.9 ± 12.1 for females with CST ($p = 0.01$). As seen in Figure 3, 10 of 14 females

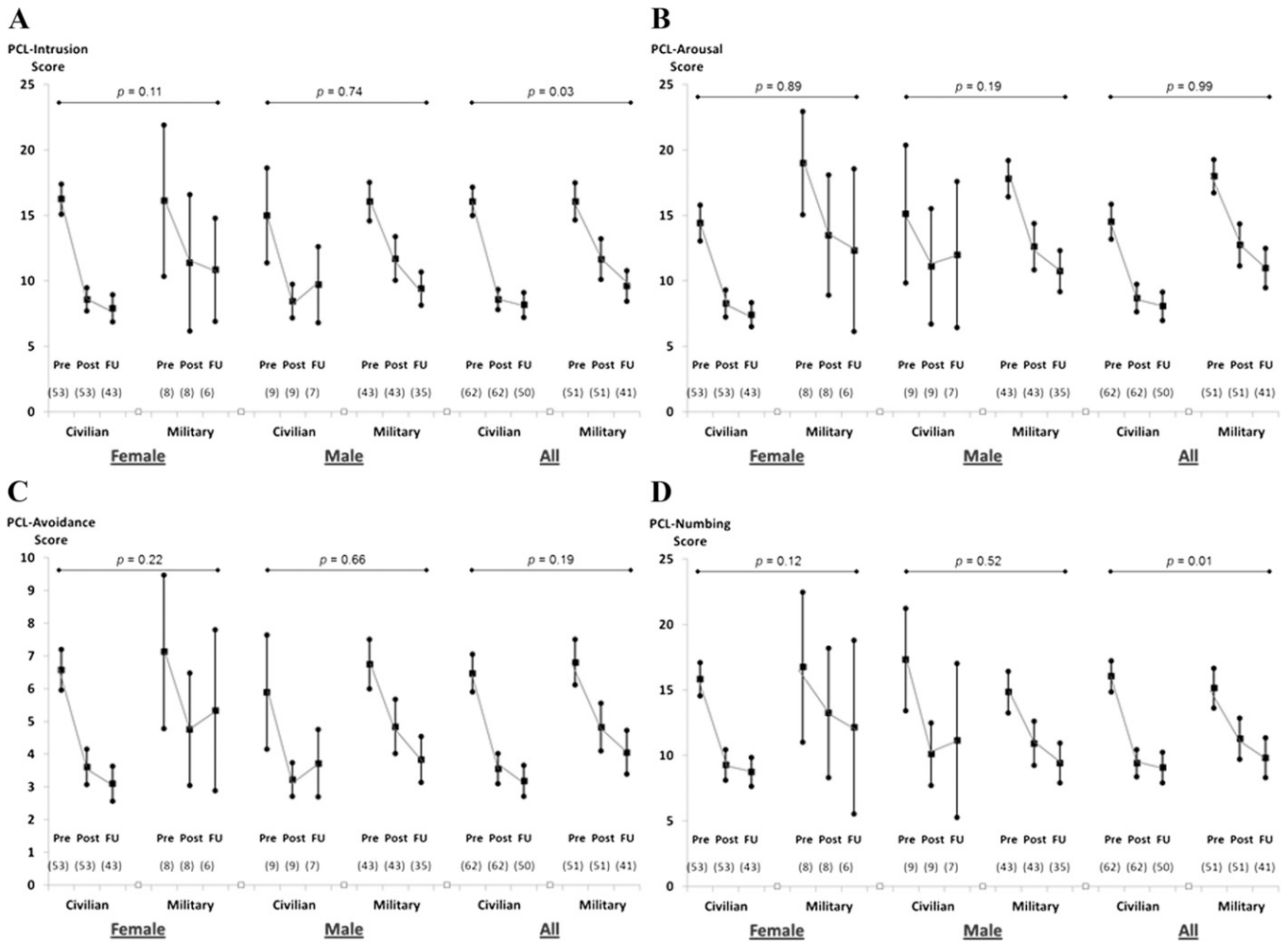


FIGURE 2. Mean PCL subscale scores before (Pre) ART treatment, after (Post) ART treatment, and follow-up (FU). Plot of mean scores on subscales of the 17-item PCL checklist before treatment with ART (Pre), after treatment with ART (Post), and at 2- or 3-month follow-up assessment (FU) by civilian versus military status and gender. The shaded rectangles depict mean scores with the lower and upper filled circles depicting the limits of the 95% confidence interval. The numbers in parentheses reflect the sample size in the analysis. *P*-values are from linear mixed models comparing civilian versus military treatment response adjusted for PDSQ-T score, history of head trauma, PSQI score, and gender (for non-stratified models). (A) 5-item Intrusion subscale. (B) 5-item Arousal subscale. (C) 2-item Avoidance subscale. (D) 5-item Numbing subscale.

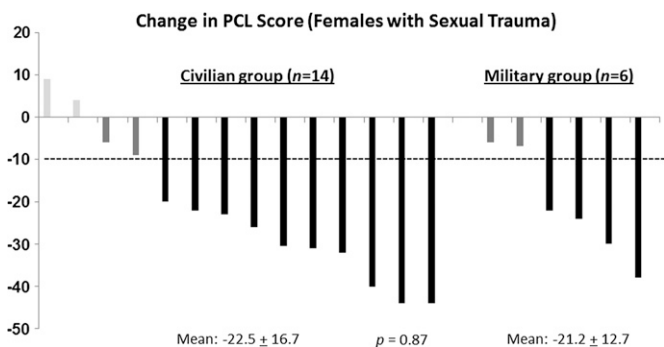


FIGURE 3. Change in PCL scores before and after treatment with ART in females with sexual trauma. Plot of change scores on the PCL checklist before and after treatment with Accelerated Resolution Therapy (ART) among female civilians with sexual trauma (left side) versus female military participants with sexual trauma (right side). Each vertical line represents the response of an individual participant. The dashed horizontal line represents a clinically meaningful and reliable reduction of ≥ 10 points on the PCL.

(71.4%) who completed treatment with ART for CST had a reduction of ≥ 10 points on the PCL, a cut point used to define statistical and clinically meaningful change (improvement).³⁹ Similarly, 4 of the 6 females (66.7%) who completed treatment with ART for MST had a reduction of ≥ 10 points on the PCL.

DISCUSSION

ART is an emerging, brief psychotherapy developed and delivered with the 4 core components used in the majority of A-level trauma-focused psychotherapies: (narrative component, “in vivo” and/or IE, cognitive restructuring, and relaxation/stress modulation).³⁸ To our knowledge, this is the first study to empirically compare a trauma-focused psychotherapy (i.e., ART) using 2 separate moderately large samples of civilian and military participants (including some active duty), and a nearly identical study protocol and

methods of assessment. In our two study populations, clinical presentations were somewhat similar, although, military participants presented with a higher prevalence of head trauma and overall poorer sleep quality, as well as higher levels of arousal on items from the 17-item PCL checklist. Taking into account clinical presentation, the magnitude of reductions in symptoms of PTSD overall and by type (subscale) after treatment with ART and at 2/3-month follow-up were relatively similar between civilian and military participants. However, there was suggestion of steeper decline in PTSD symptoms of intrusiveness and numbing among civilians compared with military participants, a finding that seemed to be driven by a somewhat less profound clinical response among the 8 military females in the analysis. This small subset of female military participants tended to present with a severe clinical phenotype, including 75% who presented with MST. From this analysis, we cannot rule out the possibility of both residual confounding and imprecise estimates.

Civilian Versus Military PTSD

Whereas we postulated a comparable treatment response of ART in reducing symptoms of PTSD among civilian and military participants, there are theoretical reasons to potentially expect otherwise, and may help explain the suggestion for somewhat stronger results observed in civilians. First, combat and operational trauma is often multidimensional and extensive⁴⁰ with prolonged periods of stress, anxiety, and hardship,⁴¹ and with multiple traumatic and distressing events experienced during the course of deployment.¹⁵ Moreover, traumatic exposures may differ markedly from civilian traumas including witnessing of intense human suffering and cruelty, killing others in the line of duty, or perpetrating nonsanctioned violence.⁴² These different types of experiences may lead to different emotional sequelae, ranging from prototypical fear- and anxiety-based reactions, to less well-appreciated reactions in the trauma arena, such as guilt and shame from moral injury,⁴³ and prolonged grief disorder.^{44,45} Indeed, potentially morally injurious experiences, including but not limited to killing and wounding of others, are associated with development of combat-related PTSD.^{46,47} In focusing on treatment of active duty service members, Steenkamp et al.⁴² suggest that conventional PE and CPT, which were developed mainly with civilians, may not sufficiently address the phenomenology of combat and operational trauma in active duty troops.

Second, sexual assault may be a particularly virulent form of trauma when occurring within a military environment. Specifically, the risk for developing PTSD after sexual assault is substantially higher among military women compared to civilian women.^{48,49} In addition, women with MST compared to CST present with worse psychiatric symptoms and alcohol abuse.⁴⁹ The more severe clinical phenotype seen in female MST is likely influenced by the nature of the

perpetrator–victim relationship⁵⁰ in addition to being in a controlled work environment. In particular, when a female soldier is sexually assaulted within the military, her trust is shattered from both a personal perspective and a military system perspective.⁴⁹ Being in a military environment may involve frequent interaction with the perpetrating co-worker, often of higher rank, and with limited to no recourse for the victim to quit or be transferred. This may increase traumatization and preclude the opportunity to process the trauma.⁴⁹

Clinical Implications and Application of ART

The favorable and relatively similar magnitude of treatment results observed between civilian and military participants in our analysis align with how the ART protocol is delivered and the ability to treat multiple traumas in just a few sessions. First, for persons with multiple traumas, the typical protocol with ART is to treat the few “major” traumas that are most severe in terms of producing symptomatology, as opposed to individually treating all traumas. In our clinic, this approach has been particularly relevant for some members of the U.S. Special Operations Forces who have presented with a large number of varied, intense traumatic experiences. While not empirically tested, treatment of the most prominent traumas (e.g., top 3) with ART appears to have a generalizing effect on the remaining traumas. Moreover, the “Bonfire” intervention in the ART protocol allows the patient to imagine “throwing into a bonfire” all traumatic scenes that were not specifically treated within individual ART sessions. In addition, during the IE and imagery rescripting elements of the ART protocol, the participant does not need to verbally describe details of their traumas. This may be particularly useful to military personnel reluctant to verbally share specific trauma details because of concerns of confidentiality and the sensitive nature of the trauma (e.g., MST). Moreover, ART’s use of metaphors and gestalt therapy may be particularly relevant to military trauma, such as recovering from complicated grief by use of imagery and rescripting, such as “saying good-bye” to a lost friend or comrade.

Although brief therapy is preferable over longer treatment regimens, assuming equal efficacy and sustainability, this is particularly germane for active duty service members who have demanding training regimens, must prepare for subsequent deployments, and must maintain a “mission-ready” mindset. In this regard, in 2007, Congress appropriated funds (not the funding source of the present study) to pilot promising service specific mental health interventions for combat-related PTSD. One intervention recently examined is Adaptive Disclosure, a manualized 6-session therapy developed specifically for active duty service members.⁴² In an uncontrolled case series, Adaptive Disclosure showed positive effect sizes⁵¹ about half the magnitude of those observed in our controlled military trial of ART, and with a longer treatment period. Although, our ART trial consisted

primarily of veterans and only a few active duty service members, this comparison across published studies provide a rationale for evaluation of ART in a controlled trial among active duty service members.

Strengths and Limitations

Strengths of the study include use of the same treatment protocol, same clinicians, and similar assessment instruments among both civilian and military participants. In addition, the founder (L.R) and lead ART trainer (A.S.) were not involved in outcome assessment to eliminate potential ascertainment bias. A limitation is the small number of female military personnel and corresponding relatively small number of male civilian personnel in the analysis. Thus, estimates of treatment response by civilian versus military status, gender, and sexual trauma may be imprecise. In addition, in both studies, the ART intervention was not compared with an active psychotherapy regimen, and assessments were made on the basis of PTSD symptoms as opposed to formal diagnoses. Clinical presentation also differed somewhat between civilian and military participants. Finally, follow-up results from the civilian study are based on a 2-month posttreatment assessment compared with 3-month posttreatment assessment used in the military study, and with both periods of time, long-term sustainability of results cannot be concluded from this analysis.

Conclusions

In an average of less than 4 treatment sessions, delivery of the ART protocol appears to result in clinically-meaningful reductions in symptoms of PTSD in civilian and military patients with a trend for a potential stronger result in civilians. This apparent trend may relate to unique characteristics of combat and operational trauma as well as differences in clinical presentation. Given limited recent controlled research among military populations, and that combat-related trauma may differ markedly from civilian trauma in terms of frequency, intensity, and specific types of exposures, the favorable treatment response with ART among civilian and military participants provides a rationale for future controlled trials of ART versus current first-line evidence-based treatments (e.g., PE/CPT/EMDR) in both civilian and military populations.

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