

BRIEF REPORT

Couple Treatment for Alcohol Use Disorder and Posttraumatic Stress Disorder: Pilot Results From U.S. Military Veterans and Their Partners

Jeremiah A. Schumm,^{1,2} Candice M. Monson,³ Timothy J. O'Farrell,^{4,5} Nancy G. Gustin,¹
and Kathleen M. Chard^{1,2}

¹Trauma Recovery Center, Cincinnati VA Medical Center, Cincinnati, Ohio, USA

²Department of Psychiatry and Behavioral Neuroscience, University of Cincinnati, Cincinnati, Ohio, USA

³Department of Psychology, Ryerson University, Toronto, Ontario, Canada

⁴Families and Addictions Program, VA Boston Healthcare System, Brockton, Massachusetts, USA

⁵Department of Psychiatry, Harvard Medical School, Brockton, Massachusetts, USA

We studied 13 U.S. male military veterans and their female partners who consented to participate in an uncontrolled trial of couple treatment for alcohol use disorder and posttraumatic stress disorder (CTAP). CTAP is a 15-session, manualized therapy, integrating behavioral couples therapy for alcohol use disorder (AUD) with cognitive-behavioral conjoint therapy for posttraumatic stress disorder (PTSD). Due to ineligibility ($n = 1$) and attrition ($n = 3$), 9 couples completed the study, and 7 completed 12 or more sessions. There were 8 veterans who showed clinically reliable pre- to posttreatment reduction of PTSD outcomes. There were also significant group-level reductions in clinician-, veteran-, and partner-rated PTSD symptoms ($d = 0.94$ to 1.71). Most veterans showed clinically reliable reductions in percentage days of heavy drinking. Group-level reduction in veterans' percentage days of heavy drinking was significant ($d = 1.01$). There were 4 veterans and 3 partners with clinically reliable reductions in depression, and group-level change was significant for veterans ($d = 0.93$) and partners ($d = 1.06$). On relationship satisfaction, 3 veterans and 4 partners had reliable improvements, and 2 veterans and 1 partner had reliable deterioration. Group-level findings were nonsignificant for veteran relationship satisfaction ($d = 0.26$) and for partners ($d = 0.52$). These findings indicate that CTAP may be a promising intervention for individuals with comorbid PTSD and AUD who have relationship partners.

The rates of co-occurring posttraumatic stress disorder (PTSD) and alcohol use disorder (AUD) range from 27% to 52% among civilians (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995), and this co-occurrence is highly prevalent among military veterans (Milliken, Auchterloine, & Hoge, 2007). Military veterans with co-occurring PTSD-AUD have more physical health complaints, medical visits, and absences

from work when compared to those with one or neither of these disorders (Hoge, Terhakopian, Castro, Messer, & Engel, 2007). Individuals with PTSD-AUD also demonstrate poorer treatment prognosis and worse couple-relationship functioning than those with only one of these disorders (Marshall, 2003; Ouimette, Finney, & Moos, 1999; Riggs, Byrne, Weathers, & Litz, 1998). A working version of a PTSD-AUD protocol that includes involvement of partners or other nonromantic significant others is described and illustrated with two case studies by McDevitt-Murphy (2011). No other partner-involved treatments, however, for PTSD-AUD have been published or empirically tested. To advance treatments for individuals with this frequent and difficult symptom presentation and their partners, we developed a couple treatment for AUD and PTSD and present initial findings from an uncontrolled trial.

Couple treatment for alcohol use disorder and posttraumatic stress disorder (CTAP) is a 15-session manualized psychotherapy that aims to reduce problematic alcohol use and PTSD, while improving couples' relationship functioning. CTAP

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Correspondence concerning this article should be addressed to Jeremiah A. Schumm, VA Medical Center, 1000 South Fort Thomas Ave, Fort Thomas, KY 41075. E-mail: Jeremiah.Schumm@va.gov

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Table 1
Demographic Data and Pre- and Posttreatment Scores for Nine Study Couples

Subject	Era	Years a couple	Sessions	CAPS		PCL-S		PDHD		DAS		BDI-II	
				Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Veteran 1	I/A	9	15	62	67	64	54 ^a	4.44	7.62	98	86 ^a	37	–
Partner 1	–	–	–	–	–	77	39 ^a	–	–	107	105	0	–
Veteran 2	PG	2	4	80	92 ^a	80	83	100	34.11 ^a	87	67 ^a	49	50
Partner 2	–	–	–	–	–	75	70	–	–	33	61 ^a	29	30
Veteran 3	I/A	1	12	36	28 ^a	42	27 ^a	93.33	84.13	138	137	11	8
Partner 3	–	–	–	–	–	45	19 ^a	–	–	124	97 ^a	2	1
Veteran 4	VN	31	14	42	13 ^a	60	46 ^a	26.67	2.60 ^a	123	117	18	19
Partner 4	–	–	–	–	–	56	34 ^a	–	–	117	122	15	6 ^a
Veteran 5	PG	6	15	46	24 ^a	39	30	2.22	0 ^a	65	83 ^a	30	20 ^a
Partner 5	–	–	–	–	–	30	31	–	–	105	108	1	1
Veteran 6	I/A	2	15	74	30 ^a	58	43 ^a	12.22	3.77 ^a	79	86	38	23 ^a
Partner 6	–	–	–	–	–	53	26 ^a	–	–	120	134 ^a	7	2
Veteran 7	I/A	5	15	73	37 ^a	62	34 ^a	11.11	0 ^a	66	107 ^a	36	14 ^a
Partner 7	–	–	–	–	–	51	26 ^a	–	–	67	98 ^a	14	7 ^a
Veteran 8	PVN	2	4	41	38	46	46	11.11	4.90 ^a	96	91	9	7
Partner 8	–	–	–	–	–	55	42 ^a	–	–	74	80	16	4 ^a
Veteran 9	VN	23	12	76	33 ^a	68	31 ^a	0	0 ^b	113	133 ^a	31	0 ^a
Partner 9	–	–	–	–	–	52	34 ^a	–	–	89	108 ^a	17	0 ^a

Note. Partner PCL scores are partner's ratings of veteran's PTSD symptoms. Couple 1 did not complete the posttreatment BDI-II. CAPS = Clinician-Administered PTSD Scale; PCL-S = PTSD Checklist-Specific; PDHD = percentage days of heavy drinking; DAS = Dyadic Adjustment Scale; BDI-II = Beck Depression Inventory-II; I/A = Iraq/Afghanistan; PG = Persian Gulf; VN = Vietnam; PVN = post-Vietnam.

^aReliable change > 1.96 on Jacobson and Truax (1991) reliable change index (pretreatment score—posttreatment score)/ $(\sqrt{2(SE)^2})$, except for the PCL, which followed prior research in using 10 points to define reliable change (Monson et al., 2008). Due to significant skewness, a logarithm transformation was used to calculate reliable change for PDHD; however, individual raw PDHD scores are reported for descriptive purposes. ^bThe case reporting 0% pretreatment PDHD reported an increase in days not using alcohol or drugs from 56% at pretreatment to 94% at posttreatment.

integrates two empirically supported psychotherapies: behavioral couples therapy (BCT) for AUD (O'Farrell & Fals-Stewart, 2006) and cognitive-behavioral conjoint therapy (CBCT) for PTSD (Monson & Fredman, 2012). Although there is demonstrated efficacy for BCT for AUD (Powers, Vedel, & Emmelkamp, 2008) and CBCT for PTSD (Monson et al., 2011, 2012; Schumm, Fredman, Monson, & Chard, 2013) as separate treatments, no studies have examined whether integrating these two protocols is associated with improvements in alcohol misuse, PTSD, and relationship satisfaction. We hypothesized that veterans who received CTAP would exhibit pre- to posttreatment improvements on primary outcomes (PTSD and heavy alcohol use), and veterans and partners would show improvements on secondary outcomes (relationship adjustment and depression symptoms).

Method

Participants

Thirteen male U.S. veterans and their cohabitating female partners consented to the study. One, however, was deemed ineligible because the veteran did not meet diagnosis for PTSD.

Two completed the pretreatment assessment, but failed to attend any CTAP sessions, and one attended the initial session, but failed to attend the posttreatment evaluation. Although the scores of the dropouts appeared to be in the same range as those who attended CTAP and completed the posttreatment evaluation ($n = 9$), the small sample size precluded statistical comparisons between the dropouts and those completing the posttreatment evaluation. Those completing the posttreatment evaluation were recruited from the Cincinnati Veterans Affairs (VA) PTSD program ($n = 5$), AUD treatment program ($n = 2$), general mental health clinic ($n = 1$), and study flyers ($n = 1$). Participants' average age was approximately 40 years (veteran $M = 42.22$, $SD = 16.14$; partner $M = 39.33$, $SD = 12.64$). Seven veterans and six partners were Caucasian. The remainder was African American, except for one partner who was multiracial. Seven had cohabitated less than 9 years, and most veterans served after Vietnam (see Table 1). Seven veterans endorsed combat as the worst trauma. One endorsed sexual assault and another endorsed witnessing a death as the worst trauma.

Inclusion criteria were these: (a) the veteran met diagnostic criteria according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. text rev.; *DSM-IV-TR*; American

Psychiatric Association, 2000) for current PTSD and current alcohol abuse/dependence; (b) the veteran consumed alcohol during the past 90 days; (c) the veteran's primary substance of abuse was alcohol per an algorithm (e.g., the veteran endorsed alcohol vs. other substance causing most current problems, the veteran used alcohol more frequently than other substances in past 90 days; O'Farrell & Fals-Stewart, 2006); (d) the veteran did not require substance use inpatient treatment or medical detoxification; (e) the veteran was willing to commit to a goal of no more than 4 standard drinks per day and 14 standard drinks per week, (f) the veteran was willing to forgo other PTSD and AUD treatment and both partners were willing to forgo couple therapy, and (g) the couple had been cohabitating for at least 1 year. These were the exclusion criteria: (a) either partner had been diagnosed with a current psychotic disorder, (b) either partner was at imminent risk for homicide or suicide or had made attempts in the past year, (c) a partner had been diagnosed with current PTSD or SUD, and (d) there had been severe intimate aggression during the past 3 years on days when both partners were not using substances.

Procedure

The University of Cincinnati Institutional Review Board and Cincinnati VA approved the study. After providing consent, participants completed a screening and pretreatment assessment to confirm eligibility. Following the pretreatment assessment, couples participated in CTAP. CTAP is phase-based, such that couples continue to practice specific skills throughout the treatment once these skills are introduced (see Table 2).

Participants completed a posttreatment assessment approximately 6–7 weeks after ending CTAP. Study assessors were not involved with the delivery of CTAP. Separate, private assessments were conducted with each partner, and responses were not shared between partners.

Measures

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995) is a semistructured clinical interview corresponding to the *DSM-IV-TR*. The PTSD severity score was the sum of the frequency and intensity ratings. The CAPS has good internal and interrater reliability and good convergent and criterion validity (Blake et al., 1995; Weathers, Keane, & Davidson, 2001).

The PTSD Checklist-Specific (PCL-S; Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item self-report measure of PTSD symptoms also corresponding to the *DSM-IV-TR*. On the PCL-S, veterans rated their own PTSD symptoms, and partners rated their perception of the veterans' PTSD symptoms. Pretreatment ratings referenced the prior month; posttreatment ratings referenced the prior week. Internal reliability was excellent for veterans ($\alpha = .89$) and their partners ($\alpha = .91$). The PCL-S has excellent test-retest reliability and convergent and discriminant validity (Weathers et al., 1993).

The Timeline Followback Interview (TLFB) is widely used in AUD treatment research and has shown test-retest and patient-

collateral correlations of $> .80$ (Sobell & Sobell, 1996). The TLFB uses a calendar and other memory aids to gather retrospective information about substance use behaviors. TLFB pretreatment covered the 90 days prior to the study, and post-treatment covered the time during CTAP. Percentage days of heavy drinking (PDHD) was calculated by dividing the number of days in which the veteran consumed more than six standard drinks by the total days in the period. Both partners reported upon the veterans' drinking behaviors. Following common practice in AUD research (e.g., McCrady, Epstein, Cook, Jensen, & Hildebrandt, 2011), we used the highest report of the two regarding PDHD to reduce possible underreporting.

Both partners completed the Dyadic Adjustment Scale (DAS; Spanier, 2001), which is a widely used 32-item measure of relationship satisfaction. Pretreatment DAS referenced the prior 3 months, and posttreatment DAS referenced the past week. Internal reliability was excellent for veterans ($\alpha = .96$) and their partners ($\alpha = .93$). The DAS exhibits excellent test-retest reliability, as well as strong concurrent and criterion-related validity in differentiating distressed from nondistressed couples (Spanier, 2001).

The Beck Depression Inventory–II (BDI-II; Beck, Steer, & Brown, 1996) is a 21-item self-report scale that measures depression severity within the last 2 weeks. Internal reliability was excellent for veterans ($\alpha = .91$) and their partners ($\alpha = .93$). The BDI-II has established psychometric properties including test-retest reliability and strong convergent validity (Beck et al., 1996).

Data Analysis

Due to the small sample size, we examined both individual- and group-level changes on study outcomes. We used the reliable change index (Jacobson & Truax, 1991) to calculate individual-level changes on the CAPS, DAS, and BDI-II. Following prior research, reliable change on the PCL was defined as 10 points (Monson et al., 2008). Paired sample *t* tests were used to test change in outcomes for the overall sample. Effect-size estimates were computed ($d = t/\sqrt{df}$), and we followed Cohen's (1992) guidelines for describing their magnitude. Due to significant skewness, a logarithm transformation was used to improve PDHD normality. Other variables demonstrated acceptable normality.

Results

As shown in Table 1, four couples attended all 15 CTAP sessions. An additional three couples attended 12, but < 15 sessions. Together these data show that seven of the nine couples received a complete or nearly complete course of the CTAP protocol. Two of the couples attended four sessions before dropping out of treatment. It is noteworthy that the two couples who dropped out of treatment were taught the primary CTAP interventions that focus on reducing problematic alcohol use (see Table 2), and each showed clinically reliable reductions in veteran's PDHD (see Table 1).

Table 2

Overview of Couple Treatment for Alcohol Use Disorder and Posttraumatic Stress Disorder (CTAP)

Session 1

Psychoeducation about the self-fulfilling cycle of AUD and PTSD and treatment overview. Obtain couple commitment to relationship promises: no violence/threats of violence, no threats of divorce/separation, staying focused on the present and future of the relationship.^a Define couple treatment goals.^{a,b}

Session 2

Obtain commitment to recovery contract including agreement on substance use goals, practice of daily trust discussion about substance use behaviors, and calendar-based tracking of trust discussion and substance use behaviors along with other recovery commitments (e.g., self-help attendance).^a Partners independently complete written responses to recovery impact questions to identify problematic cognitions related to AUD recovery and making meaning of the traumas.^b Engage in daily ritual of catch your partner doing something nice.^a

Session 3

Partners share written responses to recovery impact questions.^b Engage in daily ritual of catch your partner doing something nice and telling your partner.^{a,b} Practice using diaphragmatic breathing for anger management.^a Practice using a couple “time out” to avoid escalation of conflicts.^{a,b}

Session 4

Psychoeducation about helpful and unhelpful avoidance in recovery from AUD and PTSD. Practice paraphrasing to improve communication.^{a,b} Practice helpful ways to avoid AUD relapse and begin approach exercises to reduce unhelpful PTSD avoidance.^{a,b}

Session 5

Psychoeducation about identifying emotions.^b Use “channel check” to clarify whether conversation goal is to communicate about emotions versus problem solve.^b Use “I” statements to communicate feelings directly.^{a,b}

Session 6

Psychoeducation about the relationship between thoughts and feelings.^b Practice catching your partner’s thoughts and related feelings.^b Engage in communication sessions to practice best communication skills.^{a,b}

Session 7

Psychoeducation about challenging unhelpful thoughts in recovery.^b Practice structured approach to dyadic challenging of unhelpful thoughts.^b

Sessions 8–12

Psychoeducation about cognitive barriers to recovery related to themes of acceptance (Session 8). Blame/shame/guilt (Session 9). Trust (Session 10). Control (Session 11). Intimacy (Session 12).^b Practice dyadic cognitive restructuring for each partner’s thoughts.^b

Sessions 13–15

Develop a continuing recovery plan and action plan in the event of relapse.^a Psychoeducation and dyadic restructuring of barriers to acknowledging gains.^b Complete and share written posttreatment recovery impact question responses. Compare these to Session 2 recovery impact questions responses to evaluate changes in ways of thinking about AUD and PTSD recovery and traumatic events.^b

Note. AUD = alcohol use disorder; PTSD = posttraumatic stress disorder.

^aIntervention adapted from *Behavioral Couples Therapy for Alcoholism and Drug Abuse* (O’Farrell & Fals-Stewart, 2006). ^bIntervention adapted from *Cognitive-Behavioral Conjoint Therapy for Posttraumatic Stress Disorder: Therapist’s Manual* (Monson & Fredman, 2012).

Results were mostly consistent with study hypothesis in supporting the efficacy of CTAP in reducing the primary outcomes (PTSD and PDHD) and improving secondary outcomes (BDI-II and DAS). The majority of the nine veterans reliably improved on PTSD measures, although one veteran showed reliable worsening on the CAPS (see Table 1). There were significant pre- to posttreatment reductions on the CAPS ($M = 58.89$, $SD = 17.57$ vs. $M = 40.22$, $SD = 24.30$), $t(8) = 2.67$, $p = .028$, $d = 0.94$; veteran-reported PCL-S ($M = 57.72$, $SD = 13.18$ vs. $M = 43.78$, $SD = 17.26$), $t(8) = 3.46$, $p = .009$, $d = 1.22$; and partner-reported PCL-S ($M = 54.89$, $SD = 14.31$ vs. $M = 35.67$, $SD = 14.67$), $t(8) = 4.81$, $p = .001$, $d = 1.70$. Six

veterans showed reliable improvement on PDHD (see Table 1), and there was significant group-level PDHD improvement ($M = 29.01$, $SD = 39.16$ vs. $M = 16.19$, $SD = 29.74$), $t(8) = 2.85$, $p = .022$, $d = 1.01$. Reliable change on the DAS was mixed, with similar proportions improving versus showing no change or worsening (see Table 1). Group-level change in the DAS was nonsignificant for veterans ($M = 96.12$, $SD = 25.04$ vs. $M = 100.76$, $SD = 24.10$), $t(8) = .74$, $p = .482$, $d = 0.26$; and partners ($M = 92.85$, $SD = 30.08$ vs. $M = 101.49$, $SD = 21.54$), $t(8) = 1.48$, $p = .177$, $d = 0.52$. Four veterans and three partners had reliable reductions in depression (see Table 1), and group-level change was significant for veterans ($M = 27.81$,

$SD = 13.89$ vs. $M = 17.62$, $SD = 15.18$), $t(7) = 2.46$, $p = .043$, $d = 0.93$; and partners ($M = 12.63$, $SD = 9.15$ vs. $M = 6.41$, $SD = 9.87$), $t(7) = 2.80$, $p = .027$, $d = 1.06$.

Discussion

Findings from this study provide preliminary support for the efficacy of CTAP as an intervention to reduce co-occurring problematic alcohol use and PTSD. These results extend research on BCT for AUD (O'Farrell & Fals-Stewart, 2006) and CBCT for PTSD (Monson & Fredman, 2012) in showing that these treatments can be successfully integrated into a single protocol that concurrently addresses AUD and PTSD.

The mixed findings regarding relationship adjustment may have been related to participants' relatively high pretreatment relationship adjustment, which may have reduced the potential for further improvements in this domain. Additional research is needed to understand whether CTAP produces differential benefits for relationally distressed versus nondistressed couples.

There are a number of study limitations. First, the small sample size limited statistical power and may have yielded unstable parameter estimates. Although the 25% attrition rate from the study (3 of 12) was similar to or better than other PTSD treatment outcome studies, this further contributed to the small sample size. Second, the findings are limited to veterans with primary AUD and may not apply to veterans with primary substance use disorders other than alcohol, or to veterans whose partners also have AUD or PTSD. Third, the study was uncontrolled, making it impossible to make causal inferences about the effects of CTAP. Controlled studies with a larger sample size are needed to provide a more rigorous test of the efficacy of CTAP. Fourth, although the mean self-reported PTSD severity score was similar to that found by Monson and colleagues (2012), the mean clinician-rated PTSD severity score was descriptively lower, suggesting there may have been sample-specific differences. Bearing in mind these limitations, the present study did suggest that CTAP is a promising treatment for veterans with co-occurring AUD and PTSD.

The couples in this study taught us several important points, which were incorporated into delivering CTAP. First, most veterans were unwilling to comply with an abstinence-based goal for their alcohol use. Therefore, we modified the original interventions from BCT for AUD (O'Farrell & Fals-Stewart, 2006), which focus exclusively on abstinence, and the interventions were delivered in accordance with supporting individualized alcohol use goals that typically included low-risk drinking and harm reduction goals. Second, there were differences between and within the couples as to how they viewed PTSD, AUD, or relationship problems as primary issues. Therefore, it was important to connect the various interventions offered in CTAP to each partner's personalized goals and to help the couples continue to work collaboratively, despite differences between partners in their motivations, which sometimes changed during the course of therapy.

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