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Behavioral Couples Therapy for Comorbid Substance Use Disorders and Combat-related Posttraumatic Stress Disorder Among Male Veterans: An Initial Evaluation

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Abstract

Outcomes after behavioral couples therapy (BCT) were compared for 19 dually-diagnosed veterans with combat-related PTSD and a substance use disorder (SUD, primarily alcohol dependence) and 19 veterans with SUD only. Clients with and without comorbid PTSD had very similar pre-treatment clinical profiles on dimensions of substance misuse, relationship functioning, and psychological symptoms. Further, both PTSD and non-PTSD clients showed good compliance with BCT, attending a high number of BCT sessions, taking Antabuse, and going to AA. Finally, both PTSD and non-PTSD groups improved from before BCT to immediately after and 12-months after BCT. Specific improvements noted were increased relationship satisfaction and reductions in drinking, negative consequences of drinking, male-to-female violence, and psychological distress symptoms. Extent and pattern of improvement over time were similar whether the client had PTSD or not. The present results suggest that BCT may have promise in treating clients with comorbid SUD and combat-related PTSD.

Keywords

PTSD; couples therapy; alcohol dependence; dual-diagnosis; treatment outcome

1. Introduction

Substance use disorder (SUD) and PTSD comorbidity are quite high in treatment and community samples, with especially high SUD rates among military veterans with combat-related PTSD (e.g., Boudewyns et al., 1991). Also, veterans with PTSD have more severe SUD problems than veterans without PTSD. Further, some studies have found worse substance abuse treatment outcomes for veterans with PTSD compared to those without PTSD (e.g., Ouimette,

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Finney & Moos, 1999). These studies generally found that PTSD negatively affected treatment outcome in that SUD patients with PTSD drank more and had more severe psychosocial problems in the 2 years after SUD treatment.

Veterans with PTSD have more severe marital and family problems than veterans without PTSD (e.g., Jordan et al., 1992). Symptoms of PTSD, such as emotional numbing and interpersonal withdrawal, often impair the veteran's family relationships. In recognition of this fact, family concepts and therapy have appeared in the clinical traumatic stress literature. However, in the only controlled study of its kind, behavioral family therapy did not improve outcomes of an exposure-based treatment of combat-related PTSD without SUD (Glynn et al., 1999).

Returning to the treatment of SUD patients, behavioral couples therapy (BCT) has received consistent empirical support. BCT produces greater abstinence and better relationship functioning than individual-based treatment of SUD patients (O'Farrell & Fals-Stewart, 2006). However, studies have not examined whether BCT is a useful clinical intervention for patients with comorbid PTSD and SUD.

This exploratory study compared drinking, relationship, and psychological distress outcomes before and in the year after BCT for male veteran SUD patients with and without combat-related PTSD. We also examined extent of clients' participation and compliance during the course of BCT sessions. Based on past research, we hypothesized that SUD patients with PTSD, compared to those without PTSD, would have more severe problems before BCT, lower compliance during BCT, and worse outcomes in the year after BCT.

2. Method

2.1 Participants and BCT Treatment Program

Participants were 38 male substance abusing clients and their non-substance-abusing female partners drawn from 122 consecutive couples who entered a Veterans Affairs (VA) outpatient BCT program. Nineteen clients who met DSM-III-R criteria for lifetime combat-related PTSD were matched on demographics with 19 other veterans who did not suffer from combat-related PTSD. Table 1 shows the 2 groups had very similar demographics.

The BCT program (O'Farrell & Fals-Stewart, 2006) had weekly sessions over a 5-6 month period. BCT used a daily Recovery Contract to promote sobriety and counseling to increase positive activities and improve communication. For most patients, the Recovery Contract included 12-step meetings and daily Antabuse ingestion witnessed and verbally reinforced by the spouse.[1] The BCT program did not focus on PTSD.

2.2 Procedures and Measures

After a screening interview and signing a consent form, each couple had assessment sessions at baseline, immediately after end of BCT, and quarterly in the year after BCT. Clients had further PTSD assessment if VA records or client intake responses said they had served in a war zone or had seen combat. Of the 26 BCT clients who screened positive for war-zone service, 23 agreed to complete the PTSD measures described below, 20 met at least lifetime criteria for PTSD, and 1 dropped out shortly after baseline, leaving a total of 19 in the SUD-PTSD sample.

[1]For patients unwilling or not medically cleared to take Antabuse, the Recovery Contract involved a brief daily discussion in which the patient stated his or her intent not to drink or use drugs that day and the spouse expressed support for the patient's efforts to stay abstinent. In addition, female partners were encouraged to attend Al-Anon and some did so but we do not have systematic data on this point.

Included were measures of: (1) SUD and PTSD sections of the Structured Clinical Interview for DSM-III-R (SCID-P; Spitzer, Williams, Gibbon, & First, 1990); (2) questionnaires about combat-related trauma exposure and PTSD (see Table 2); (3) alcoholism severity and problem (see Table 3); (4) relationship functioning (see Table 3); and (5) psychological distress symptoms (see Table 3).

3. Results

3.1 Pretreatment Characteristics and Treatment Process of the PTSD and Comparison Groups

Characteristics of SUD-PTSD Group showed all 19 clients met diagnostic criteria for lifetime PTSD, 9 also had current PTSD, 9 had subthreshold symptoms, and 1 had no current PTSD-related distress. Lack of a current PTSD diagnosis for some was not surprising; it had been over 20 years since the trigger event, and average age of symptom onset was 22.1 years. Eleven had current or recent VA counseling for PTSD. Table 2 shows elevated scores on PTSD-related questionnaires consistent with the SCID PTSD diagnoses. These men had been exposed to significant wartime stressors as shown on the CES. Pearson correlations show that the extent of combat exposure (on CES) was moderately related to current PTSD features and symptoms (on PCL and M-PTSD which were substantially correlated).

The SCID showed that 17 in the PTSD group and 15 in the comparison group had current alcohol dependence and the remainder had lifetime alcohol dependence.[2] Current drug dependence was also present for 2 men (1 cocaine, 1 cannabis) in the PTSD group and 1 man (cocaine and cannabis) in the comparison group. Although current alcohol and drug diagnoses were quite similar for the two groups, multiple lifetime SUD diagnoses were more frequent in the PTSD group ($X^2 = 12.12$, $p<.001$).[3]

Pretreatment scores on drinking, relationship, and psychological symptom measures shown in Table 3 did not differ for PTSD and non-PTSD groups. In terms of drinking, groups did not differ on PDA in the past year or on alcohol problem severity measures, with both groups having very elevated MAST, Alcohol Dependence Scale, and DrInC scores. On relationship functioning, the two groups were very similar on DAS relationship satisfaction and on CTS frequency of male-to-female violence in the past year. Psychological distress symptoms_on the SCL-90-R also were quite similar for the two groups.

Treatment process measures in Table 3 show that both PTSD and non-PTSD clients participated to a similar extent in BCT. Both groups attended a high number of BCT sessions. About 80% of both groups took Antabuse and attended at least one 12-step meeting.

3.2 Outcomes After BCT and At 12-month Follow-up

Table 4 shows pretreatment, post-treatment, and 12-month follow-up scores for PTSD and non-PTSD groups on drinking, relationship, and psychological symptom measures. Repeated measures ANOVAs showed a similar pattern of results for each outcome variable in Table 4

[2]Of those with lifetime rather than current alcohol dependence, in the PTSD group, 1 was in partial and 1 in full remission; and in the comparison group 4 were in full remission. The cases diagnosed with alcohol dependence in full remission had been abstinent for at least 6 months, and thus were considered in remission using DSM-III-R criteria, but none had been abstinent longer than 12 months and all had been seriously dependent on alcohol in the months immediately before the period of abstinence. The case in partial remission had met criteria for dependence prior to the past 6 months but had only 1 or 2 DSM-III-R dependence symptoms in the past 6 months.

[3]In the PTSD group, 8 men met lifetime abuse or dependence criteria for substances other than alcohol for a total of 34 diagnoses (7 cannabis, 5 cocaine, 5 stimulants, 4 opioids, 4 hallucinogens, 4 sedative/hypnotic/anxiolytic, 2 polydrug, 3 other). In the comparison group, 6 men met lifetime abuse or dependence criteria for substances other than alcohol for a total of 12 diagnoses (2 cannabis, 5 cocaine, 2 stimulants, 1 opioids, 1 sedative/hypnotic/ anxiolytic, 1 polydrug). However, the percentage of drug-using days during the year before BCT did not differ for the two groups (8.11 ± 18.52, PTSD group; 3.52 ± 11.53, non-PTSD group; t (18) = 1.14, p = .271).

-- a significant main effect for time with non-significant effects for group and the group by time interaction. Thus each outcome showed improvement from before BCT to immediately after and 12-months after BCT; and extent of improvement and pattern of change over time was similar for PTSD and non-PTSD clients. In terms of drinking, days abstinent increased and negative consequences of drinking decreased after BCT in both groups. Relationship functioning improved similarly over time in the two groups, with increased DAS overall satisfaction scores and decreased CTS frequency of male-to-female violence. Psychological distress symptoms improved similarly in the two groups as shown by decreases in SCL-90-R scores from before BCT to immediately after and 12-months after BCT.

4. Discussion

Among male alcohol dependent veterans treated with BCT, the expectation that those with PTSD would have more severe pre-treatment problems, comply with BCT to a lesser degree, and have worse outcomes immediately after BCT and in the year after BCT was not supported in this study. Clients with and without comorbid PTSD had very similar pre-treatment clinical profiles on dimensions of substance misuse, relationship functioning, and psychological symptoms. Further, both PTSD and non-PTSD clients showed good compliance with BCT, attending a high number of BCT sessions, taking Antabuse, and going to AA. Finally, both PTSD and non-PTSD groups improved from before BCT to immediately after and 12-months after BCT on the drinking, relationship, and psychological outcomes studied. Specific improvements noted were increased relationship satisfaction and reductions in drinking, negative consequences of drinking, male-to-female violence, and psychological distress symptoms. Generally, extent and pattern of improvement over time were similar whether the client had PTSD or not.

This was the first study examining outcomes of couple therapy with a dual-diagnosed SUD-PTSD sample. Findings suggest that a lifetime or current diagnosis of combat-related PTSD does not necessarily have a detrimental effect on substance abuse treatment outcome when these dual-diagnosed clients are treated with BCT. The present results suggest that BCT may have promise in treating clients with comorbid SUD and combat-related PTSD. Future research is needed to determine whether the potential of BCT to help these dual diagnosis patients and their families is borne out in randomized controlled studies.

This study had limitations that may have affected the findings. First, the small sample size may have limited power to detect differences between PTSD and non-PTSD groups, leading us to mistakenly accept the null hypothesis. Second, we did not assess either group for traumatic events and symptoms that were not combat-related, and SUD-only clients were not interviewed using the PTSD section of the SCID at all, so undetected trauma symptoms may have affected study findings in unknown ways. Third, other Axis I disorders (anxiety, affective disorders) were not assessed in either sample, so their impact on study findings is unknown. Fourth, the study did not have a no-treatment control group so we cannot conclude that BCT caused improvements observed. Fifth, nearly 60% of PTSD clients had current or recent VA counseling for PTSD, but the extent and the impact of this counseling is unknown. Sixth, although all had lifetime PTSD, only some had current PTSD with subthreshold symptoms for the remainder. Taken together with the prior point, this suggests that some stabilization of PTSD and some adjunctive PTSD treatment may be needed for BCT to be effective with SUD-PTSD clients.

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Table 1

Demographic Information on the SUD-PTSD Sample (n=19) and on the SUD-only Matched Comparison Sample (n=19)

	PTSD Sample	Comparison Sample	*t or* X^2	*p*
Matching Variables				
Client				
Age	48.32 (7.70)	48.16 (8.30)	0.21	.836
Years Education	13.05 (2.51)	13.00 (1.60)	0.11	.916
Length of Relationship	14.53 (13.03)	13.42 (11.47)	0.83	.419
Race/Ethnicity			0.00	1.00
White	94.74%	94.74%		
African-American	5.26%	5.26%		
Other	0	0		
Partner				
Age	44.79 (7.51)	45.47 (8.21)	-0.39	.702
Years Education	13.79 (2.10)	12.95 (2.32)	1.22	.238
Race/Ethnicity			-1.51	.132
White	84.2%	89.5%		
African-American	10.5%	5.3%		
Other	5.3%	5.3%		
Couple Characteristics				
Marital Status			0.00	1.00
Married	84.2%	89.5%		
Cohabiting	15.8%	10.5%		

Note. Data presented are mean with standard deviation in parentheses for continuous variables and percentage of subjects in each category for categorical variables. The two samples were compared with paired t-tests for continuous variables and McNemar Chi-Square for categorical variables.

Table 2

Scores on PTSD-Related Measures and Intercorrelations Among These Measures for N = 19 Men with Combat-Related PTSD

Measure	Mean	SD	Range	Correlation with M-PTSD	Correlation with CES
PTSD Checklist Military Version (PCL-M)[a]	48.8	16.7	19-83	r = .68***	r = .44*
Mississippi Scale for Combat-Related PTSD (M-PTSD)[b]	97.4	10.0	80-120	--	r = .43*
Combat Exposure Scale (CES)[c]	24.2	5.2	15-33	--	--

*** $p < .001$

* $p < .06$

[a] The *PTSD Checklist – Military Version* (PCL-M; Weathers, Litz, Huska, & Keane, 1994) consists of 17 self-report items congruent with the DSM-IV criteria for PTSD. It assesses severity of symptoms on a 1 (*not at all*) to 5 (*extremely*) scale and indicates respondent's level of distress in the past month.

[b] The *Mississippi Scale for Combat-Related PTSD* (M-PTSD; Keane, Caddell, & Taylor, 1988) is a 35-item questionnaire that assesses PTSD symptoms on a 1 to 5 frequency scale. A cutoff score of 107 indicates the presence of PTSD, although a score of 100 has also been used.

[c] The *Combat Exposure Scale* (CES; Keane et al., 1989) assesses frequency of combat experiences on a Likert-type 1 to 5 scale with responses ≥ 3 indicating extensive exposure to death and life-threatening circumstances. Total scores range from 7 (no combat exposure) to 35 (extreme exposure).

Table 3

Pre-Treatment Characteristics of the SUD-PTSD Sample (n=19) and the SUD-only Comparison Sample (n=19)

	PTSD Sample	Comparison Sample	*t* or X^2	*P*
Drinking and Related Variables				
Percent Days Abstinent Past Year[a]	36.77 (32.26)	45.53 (36.05)	-0.80	.432
MAST[b]	37.05 (13.06)	36.21 (13.0)	0.18	.856
Alcohol Dependence Scale[c]	18.89 (10.40)	18.0 (8.79)	0.28	.780
DrInC Lifetime Total[d]	30.89 (8.76)	29.32 (11.56)	0.45	.655
DrInC Past 90 Days Total[d]	43.37 (31.06)	39.21 (29.61)	0.50	.621
Relationship Functioning				
Dyadic Adjustment Scale[e]	90.74 (19.62)	98.53 (20.30)	-1.21	.242
CTS Frequency of M to F Violence[f]	7.26 (13.59)	6.21 (14.79)	0.23	.818
Psychological Symptoms				
SCL-90-R Total Score[g]	75.32 (70.30)	64.16 (49.31)	0.55	.586
Treatment Process Indicators				
Total # BCT Sessions Attended	18.84 (5.65)	21.58 (7.97)	-1.05	.307
Attended AA during treatment (%)	78.9%	78.9%	0.00	1.00
Took Antabuse during treatment (%)	84.2%	78.9%	0.00	1.00

Note. Data presented are mean with standard deviation in parentheses, unless stated other wise. The two samples were compared with paired t-tests for continuous variables and McNemar Chi-Square for categorical variables.

[a] *Percentage days abstinent (PDA)* are days when the client did not drink or use drugs and was not in jail or hospital for substance use from the Timeline Followback Interview (TLFB; Sobell & Sobell, 1996) for the year before BCT.

[b] The *Michigan Alcoholism Screening Test* (MAST; Seltzer, 1971) is a widely-used 25-item screening instrument for alcohol problems that summarizes the respondents' problems with alcohol misuse.

[c] The *Alcohol Dependence Scale* (ADS; Skinner & Allen, 1982) is a 34-item measure of alcohol dependence symptoms.

[d] The *Drinker Inventory of Consequences* (DrInC; Miller, Tonigan, & Longabaugh, 1995) is a 45-item measure of negative consequences due to alcohol misuse that yields a total score for lifetime and for past 90 days.

[e] The *Dyadic Adjustment Scale* (DAS; Spanier, 1976) is a widely used 32-item measure of relationship satisfaction for which a couple DAS total score was computed by averaging male and female partner's scores within each couple.

[f] The *Conflict Tactics Scale* (CTS; Straus, 1979) measured the frequency of male-to-female violence acts (e.g., slapped or hit) in the year before and the year after BCT. Scores used the higher report on each CTS item from the two members of each couple.

[g] Total Score on the *Symptom Checklist 90 - Revised* (SCL–90–R; Derogatis, 1983) measured extent of psychological distress symptoms experienced by the client.

Table 4

Drinking-Related, Relationship, and Psychological Symptom Outcome Variables Across Time for the SUD-PTSD and the SUD-only Groups

Outcome Measures	Mean Score (SD)		Time (w/in subjects)		Group (B/W subjects)		Time x Group	
			df (2,72)		df (1,36)		df (2,72)	
	PTSD	Comparison	F	*p*	F	*p*	F	*p*
Drinking Related Outcomes								
Percent Days Abstinent[a]			48.41	<.001	2.49	.123	0.06	.878
Pretreatment	36.77 (32.26)	45.53 (36.05)						
Posttreatment	88.13 (26.77)	99.71 (0.74)						
12M Follow-Up	77.75 (30.96)	85.66 (20.20)						
DrInC Past 90 Days Total			28.10	<.001	0.12	.735	0.83	.410
Pretreatment	43.37 (31.06)	39.21 (29.61)						
Posttreatment	7.47 (16.06)	0.83 (2.50)						
12M Follow-Up	10.84 (19.71)	16.74 (28.66)						
Relationship Functioning								
Dyadic Adjustment Scale			6.55	.004	1.96	.170	0.15	.825
Pretreatment	90.74 (19.62)	98.53 (20.30)						
Posttreatment	102.19 (21.10)	111.24 (16.69)						
12M Follow-Up	97.26 (16.18)	102.68 (25.81)						
CTS Frequency of M to F Violence[b]			7.22	.012	.003	.956	0.10	.749
Pretreatment	7.26 (13.59)	6.21 (14.79)						
Posttreatment	NA	NA						
12M Follow-Up	0.50 (1.15)	1.19 (2.76)						
Psychological Symptoms								
SCL-90-R Total Score			9.19	.001	1.92	.175	1.31	.274
Pretreatment	75.32 (70.30)	64.16 (49.31)						
Posttreatment	63.35 (66.46)	30.89 (32.73)						
12M Follow-Up	55.42 (66.42)	31.85 (31.28)						

Note. Group by Time repeated measures ANOVAs assessed treatment effects by group (SUD-PTSD or SUD-only) over time (pre, post, 1-year follow-up). Missing data (for fewer than 10% of cases at post and 20% at 12-month) was substituted with collateral partner data when available, or with a group mean score at the post period, or the score from the closest adjacent time period for 12-month.

[a]Percentage days abstinent from the TLFB is given for the year before BCT, the pre- to post-treatment interval, and the year after BCT.

[b]The CTS scores, which reflect the year before and the year after BCT, were only measured at baseline and 12-month follow-up. Therefore there is not a post score and the ANOVA examined only 2 time periods.