

“Seeking Safety”: Outcome of a New Cognitive-Behavioral Psychotherapy for Women with Posttraumatic Stress Disorder and Substance Dependence

Lisa M. Najavits,^{1,2} Roger D. Weiss,^{1,2} Sarah R. Shaw,^{2,4} and Larry R. Muenz³

Women with current posttraumatic stress disorder (PTSD) comprise 30–59% of substance abuse treatment samples and experience a more severe course than women with either disorder alone. As yet, no effective treatment for this population has been identified. This paper reports outcome results on 17 women who completed a new manual-based 24-session cognitive behavioral group therapy protocol treatment, based on assessments at pretreatment, during treatment, posttreatment, and at 3-month follow-up. Results showed significant improvements in substance use, trauma-related symptoms, suicide risk, suicidal thoughts, social adjustment, family functioning, problem solving, depression, cognitions about substance use, and didactic knowledge related to the treatment. Patients’ treatment attendance, alliance, and satisfaction were also very strong. Treatment completers were more impaired than dropouts, yet more engaged in the treatment. Overall, our data suggest that women with PTSD and substance abuse can be helped when provided with a treatment designed for them. All results are clearly tentative, however, due to the lack of a control group, multiple comparisons, and absence of assessment of dropouts.

KEY WORDS: posttraumatic stress disorder; trauma; substance abuse; addiction; psychotherapy; group treatment.

¹Harvard Medical School, Boston, Massachusetts 02138.

²McLean Hospital, Belmont, Massachusetts 02178.

³University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania 19104.

⁴To whom correspondence should be addressed at Proctor III, McLean Hospital, 115 Mill Street, Belmont, Massachusetts 02178; e-mail LisaNajavits@hms.harvard.edu.

Among women with current substance use disorder, 30% to 59% are estimated to have concurrent PTSD (Brown, Recupero, & Stout, 1995; Dansky, Saladin, Brady, Kilpatrick, & Resnick, 1995; Fullilove et al., 1993; Najavits et al., 1998). Among women with current PTSD, substance use disorders are 1.4 to 5.5 times more prevalent than among women without PTSD (Helzer, Robins, & McEvoy, 1987; Kilpatrick, Resnick, Saunders, & Best, *in press*; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). These rates are not only very high, but are also about twice as high as the same disorders in men (Brown et al., 1995; Najavits, Weiss, & Shaw, 1997), underscoring women's particular vulnerability to this diagnostic combination. The much higher rate of PTSD in women compared to men and higher rate of PTSD once exposed to trauma (Kessler et al., 1995) help to explain the high incidence of these concurrent disorders.

Clinically, the combination of PTSD and substance abuse⁵ is marked by a more severe course than either disorder alone. In two studies in which substance abuse patients with current DSM-III-R PTSD were compared to substance abuse patients without PTSD, the former evidenced significantly greater impairment on a wide range of variables, including other Axis I disorders, psychiatric symptoms, compliance with aftercare, interpersonal and medical problems, and motivation for treatment (Brady, Killeen, Saladin, Dansky, & Becker, 1994; Najavits et al., *in press-a*). The dual diagnosis of PTSD and substance abuse is also associated with use of the most "severe" drugs, *i.e.*, cocaine and opioids (Dansky et al., 1995; Goldenberg et al., 1995; Grice, Brady, Dustan, Malcolm, & Kilpatrick, 1995). As therapy patients, women with both PTSD and substance abuse are anecdotally reported to be very difficult, with fragile alliances and negative emotional responses by therapists (Brady et al., 1994; Grice et al., 1995; Kovach, 1986; Rounsaville, Weissman, Wilber, & Kleber, 1982). Moreover, PTSD, unlike many other Axis I disorders (such as mood syndromes) is widely reported to worsen during early abstinence (Brady et al., 1994; Kofoed, Friedman, & Peck, 1993), making treatment of the substance abuse particularly challenging.

We were unable to locate any treatment outcome studies of women with PTSD and substance abuse nor any treatment manual with empirical validation (Najavits et al., 1997). Existing treatments for men with PTSD and substance abuse may not apply to women, as women with these disorders typically suffered repetitive childhood physical and/or sexual abuse, while men typically experienced war trauma or criminal victimization other than childhood abuse (*e.g.*, violent assault associated with the drug trade) (Brady et al., 1994; Brown, & Anderson, 1991; Fullilove et al., 1993; Grice et al., 1995;

⁵The term "substance abuse" will be used hereafter for all substance use disorders, as it is more commonly used in treatment settings.

Miller, Downs, & Testa, 1993; Najavits et al., 1997). Moreover, some existing treatments for PTSD alone and substance abuse alone may be problematic when the other disorder is present (e.g., the intensity of exposure therapy for PTSD may trigger a substance abuse relapse, and some aspects of 12-step groups for substance abuse are reportedly difficult for some trauma patients) (Solomon, Gerrity, & Muff, 1992).

As a result of the lack of empirically based treatments for women with PTSD and substance abuse, a new manualized cognitive-behavioral group psychotherapy was developed by the first author under a National Institute on Drug Abuse Behavioral Therapies Development grant. The treatment (described in detail in Najavits, Weiss, & Liese, 1996) consists of 24 structured sessions, evenly divided among cognitive, behavioral, and interpersonal coping skills. Its title, "seeking safety," refers to the central tenet of the treatment: that safety is the highest priority in recovery from both disorders, with "safety" defined as abstinence from all substances, reduction in self-destructive behavior, establishment of a network of supportive people, and self-protection from dangers associated with the disorders (e.g., HIV risk and domestic violence). All sessions were designed to attend to themes believed most salient for this population: for example, *asking for help*, *self-care*, *setting boundaries*, *self-nurturing*, *fighting triggers*, and *HIV risk*. Each coping skill was selected for its relevance to both disorders, thus promoting an integrated treatment in which substance abuse and PTSD are simultaneously addressed.

A strong emphasis was placed on making the treatment accessible and engaging to maximize patient involvement, using strategies such as an inspirational quotation to start each session, illustrations, a list of practice exercises, simple language (e.g., "rethinking" rather than "cognitive restructuring"), a small set of core concepts that are repeated throughout the treatment (e.g., "Help from others is essential"), and memory devices to help patients remember key points. The tone of the treatment is optimistic, current-focused, and compassionate. For each session, the therapist is provided with a detailed therapist guide describing the session, a patient hand-out for use during the session to guide skill rehearsal, and a feedback sheet to obtain patients' views of the session and test their acquisition of didactic material. The therapist is also provided with extensive background materials, including a literature review of current knowledge about this population and a discussion of key process issues (e.g., the use of both *praise* and *accountability*, and the monitoring of countertransference).

The goal of this paper is to describe initial empirical results of the treatment, including patient retention, outcome, and satisfaction with the treatment; therapist adherence; and a comparison of treatment completers versus dropouts at baseline.

Method

Participants

The sample consisted of 27 women who met inclusion/exclusion criteria for the study and who attended at least one session of the treatment. Patients were recruited via newspaper advertising and word-of-mouth. All met current DSM-IV criteria for both PTSD and substance dependence. For inclusion, women were also required to report active substance use within the past 30 days, a more stringent criterion than DSM-IV to ensure a sample that was actively using substances. Patients were excluded if they had a history of schizophrenia or organic mental disorder, were receiving methadone-maintenance treatment, were mandated to treatment, or had characteristics that would interfere with completion of treatment (e.g., mental retardation, chronic homelessness, impending incarceration, or a life-threatening/unstable medical illness). Patients were defined as “completers” if they met an *a priori* definition of a minimum dose of treatment of six or more sessions ($n = 17$). Patients who attended five or fewer sessions were considered dropouts ($n = 10$).

Protocol

Three treatment groups were conducted, the first two by the senior author (LMN), and the third by a licensed clinical social worker. Sessions were 90 minutes long and were held twice weekly for 12 weeks. The treatment was free, and patients could obtain a total of \$50 for completing all assessments over 6 months.

Measures

Assessments consisted of two types: major (at pretreatment, posttreatment, and 3-month follow-up) and at treatment sessions. All measures were administered at major assessments unless otherwise indicated. Dropouts after pretreatment were not assessed, as the priority in this study was to evaluate the impact of the group on completers. Measures were as follows.

Patient Characteristics

Three measures were administered to obtain baseline information on patients at pretreatment. Sociodemographic information was assessed on

the Life Experiences Questionnaire-Revised (Bryer, Nelson, Miller, & Krol, 1987). Diagnoses of PTSD and substance dependence were obtained from the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1994), administered by a trained Ph.D. or LICSW diagnostician (with training by the University of Pennsylvania Center for Psychotherapy Research Assessment Unit as part of another study). DSM-III-R Axis II disorders were assessed with the self-report Wisconsin Personality Inventory (WISPI; Klein et al., 1993).

Patient Retention and Outcome

Retention. This was assessed by number of sessions attended.

Substance use. The Addiction Severity Index-5th edition (ASI) interview (McLellan et al., 1992) was administered by a bachelor-level research assistant and included seven subscales: medical, employment, alcohol use, drug use, legal, family/social, and psychiatric (with varied scaling depending on the question). A self-report Substance Use Inventory (Weiss, Hufford, Najavits, & Shaw, 1995) was administered weekly at treatment sessions. The inventory asked patients on which of the preceding 7 days they had used alcohol or any of seven major types of drugs. Patients were asked not to include medications that were prescribed for them and taken as directed. In addition, an observed urine toxicology screen and a breath alcohol test were obtained at every treatment session (with the urine screens testing for six major drug types, using gas chromatography-mass spectroscopy confirmation of positives). Urine and breath alcohol results were performed only on the second and third treatment groups.

PTSD and trauma-related symptoms. DSM-III-R PTSD symptoms were assessed by the Modified PTSD Symptom Scale (MPSSR; Falsetti, Resnick, Resick, & Kilpatrick, 1993), with two subscales, severity (scaled 0 to 4) and frequency (scaled 0 to 5). The Trauma Symptom Checklist-40 (TSC-40; Elliott & Briere, 1990) evaluated more subtle symptomatic sequelae of long-term childhood trauma, such as "fear of men" (scaled 0 to 4).

Traumatic event history. Two self-report measures were administered only at pretreatment to assess lifetime history of trauma: the Trauma History Questionnaire (THQ; Greene, 1995) and the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994). The THQ yields three frequency scores: physical/sexual, general disaster, and crime-related traumas. The CTQ (scaled 1 to 5) provides five scores: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect.

Treatment domains. Because the treatment manual was evenly divided among cognitive, behavioral, and interpersonal domains, the following

measures were included. (1) *Cognitive*. Patients' acquisition of didactic information was evaluated using a multiple-choice Didactic Questionnaire (Najavits, 1994a). Cognitions about substance use were examined on the Beliefs About Substance Abuse Questionnaire (Beck, Wright, Newman, & Liese, 1993; scaled 1 to 7). (2) *Behavioral*. The Coping Strategies Inventory (CSI; Tobin, Holroyd, Reynolds, & Weigal, 1989) was administered to examine adaptive ways of coping (e.g., expressing feelings) and maladaptive coping styles (e.g., self-blame) (scaled 1-5). (3) *Interpersonal*. The Social Adjustment Scale (SAS; Weissman, & Bothwell, 1976) assessed social functioning in seven areas: work, social/leisure, extended family, marital, parental, family unit, and economic (scaled 1-5).

Additional measures. The Brief Symptom Inventory (BSI; Derogatis, Richels, Uhlenhuth, & Covi, 1974) targeted psychological symptoms (scaled 0 to 4). The Suicidal Behaviors Questionnaire (SBQ; Linehan & Addis, 1990) addressed frequency of self-harm incidents and ideation. The Treatment Services Review measured service utilization (TSR; McLellan, Alterman, Cacciola, & Metzger, 1992). The Modified Weekly Self-Help Questionnaire evaluated self-help group attendance (Weiss & Najavits, 1994).

Patient Satisfaction with Treatment

At sessions 3 and 24, patients' view of treatment was assessed on the Helping Alliance questionnaire-II, both patient and therapist versions (HAQ-II; Luborsky et al., 1996) (scaled 1 to 6), and the Client Satisfaction Questionnaire (Attkisson & Zwick, 1982) (scaled 1 to 4). The End-of-Treatment Questionnaire (Najavits, 1994b) addressed patients' perceptions of the helpfulness of treatment components, at posttreatment and follow-up (scaled -3 to +3).

Therapist Assessments

Adherence. An Adherence-Competence Scale (Najavits & Liese, 1993) assessed therapist performance of specific interventions and group processes, each rated on adherence (amount of the behavior) and competence (skillfulness of the behavior), scaled -3 to +3. Ratings were completed by an independent expert in cognitive-behavioral therapy (B. S. Liese), based on audiotapes of 17 full sessions. Only the third group leader was evaluated because she alone conducted the treatment yet was independent of its development.

Therapists' emotional response to patients. The Ratings of Emotional Attitudes to Clients by Treaters (REACT) questionnaire (Najavits et al., 1995) measured therapists' positive and negative emotional responses to patients at sessions 3 and 24 (scaled 1 to 5).

On all measures, higher scores indicate greater impairment, except for the HAQ-II, the ASI employment composite, the TSR, the CSI, and the Adherence-Competence Scale. The rate of assessment completion was 100% at 1 month; 89% at 2 months, 82.4% at posttreatment; and 76.5% at follow-up.

Data Analysis

Five topics were addressed: (1) characteristics of the patient sample at baseline, (2) patient retention and outcome, (3) patient satisfaction with the treatment, (4) therapist variables, and (5) treatment dropouts versus completers at baseline. Topics 1, 3, and 4 were addressed using frequency data. Topic 2 was analyzed via generalizing estimating equations analysis (Zeger & Liang, 1986), paired *t*-tests, and Pearson correlations. Topic 5 was analyzed using two-tailed, independent samples *t*-tests. Results are reported only for findings significant at $p \leq .05$. Although the large number of statistical tests might have increased the Type I error rate, the exploratory nature of the study and the small sample size raised the equally important concern regarding decreased power (i.e., Type II error); thus, we did not control for Type I error. Use of a multivariate repeated measures analysis rather than separate tests might also have been preferable; however, occasional missing data prevented its use.

Results

Patient Characteristics

Sociodemographics

Fifteen women (88%) were Caucasian and 2 (12%) were African-American; mean age was 35.9 ($SD = 8.53$); 59% had children. Twenty-four percent were married or cohabiting, with 76% single, divorced, or separated. Fifty-nine percent attended or completed college; 41% had high school or lower education. Employment (i.e., at least part-time or attending school) was 41%; 59% were unemployed or disabled. Mean household income was \$22,872 ($SD = \$27,959$).

Substance Use

DSM-III-R substance dependence disorders (on the SCID) included: 41% drug dependence, 41% alcohol dependence, and 18% both. Breakdown by substance type was 59% alcohol, 29% cannabis, 24% cocaine, 6% anxiolytics, 6% sedatives, and 6% non-prescription sleeping pills. On the ASI, patients reported substance use an average of 8 days in the month prior to treatment. SCID severity ratings for substance use disorders (scaled 0–8, with 8 the most severe) indicated a severe sample ($M = 6.25$, $SD = .87$).

Trauma/PTSD

All women reported five or more lifetime traumas, with first trauma at a mean age of 7 years ($SD = 7.1$). Ninety-four percent reported sexual abuse, 88% physical abuse, and 71% other criminal victimization. SCID severity ratings for PTSD ($M = 6.42$, $SD = 1.0$) were also high. On all five subscales of the CTQ (emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect), our sample was more severe than all normative female samples reported by the scale's authors ($N = 396$), including substance abusers, psychiatric outpatients, adolescent inpatients, chronic pain patients, and undergraduates (Bernstein et al., 1994; Bernstein, personal communication, April, 1995).

Other Psychopathology

On the WISPI, personality disorder diagnoses were: paranoid 47%, avoidant 29%, borderline 29%, dependent 24%, schizoid 18%, schizotypal 18%, passive-aggressive 18%, narcissistic 12%, obsessive-compulsive 12%, antisocial 6%, histrionic 6%. Most patients (65%) met criteria for at least one personality disorder. On the Social Adjustment Scale total score, our sample was more impaired at baseline ($M = 2.72$, $SD = .38$, $n = 17$) than all four female samples ($N = 473$) from Weissman, Prusoff, Thompson, Harding, and Myers (1978), including a community sample, acute depressives, alcoholics, and schizophrenics.

Concurrent Treatment

Assessment of patients' service utilization indicated that they had received relatively little care outside of the protocol treatment. On the TSR, the mean number of days in the past month in which patients received

services of any kind (including psychological, medical, legal, and employment) was .90 at pretreatment ($SD = 1.09$). On the Addiction Severity Index, about half of the sample (52.9%) reported use of psychotropic medication in the month prior to treatment.

Patient Retention and Outcome

Retention

Of 27 patients who attended at least one group session, 17 (63%) were completers (i.e., attended six or more sessions); 10 (37%) were classified as dropouts. A more conservative analysis, using all patients regardless of whether they attended at least one group session, results in a dropout rate of 45.2%, i.e., 14 of the 31 patients who met eligibility criteria for the study. The mean percentage of sessions attended was 67% ($SD = .18$) among completers and 13% ($SD = .07$) among dropouts. Sessions that were not attended were appropriately canceled 49% of the time; i.e., the patient called in advance. All of the following results are reported for the 17 completer patients, unless otherwise indicated. A comparison of completers versus dropouts is included below.

Outcome

Significant results were found in a variety of domains, with virtually all indicating improvement among completers.

Substance use. The main measure of substance use was the Weekly Substance Use Inventory. Results show a significant ($p < .008$) increase in *substance abstinence* over time, using generalized estimating equations analysis (Zeger & Liang, 1986); see Fig. 1. In addition, decreases were found in *drug use* (on the ASI Drug Use Composite) from pre- to posttreatment, and from pretreatment to the 3-month follow-up. See Table 1 for these and all subsequent results in this section, unless otherwise noted. Moreover, the correlation of the ASI Drug Use Composite between posttreatment and the follow-up was $r = .89$ ($n = 12$, $p < .01$), indicating strong maintenance of gains over time. A reduction in *alcohol use* was found (on the ASI Alcohol Use Composite) from posttreatment to follow-up.

Urinalysis/breath alcohol test results were used to validate the accuracy of patients' self-report of substance use (on the Substance Use Inventory) by calculating the percentage of matches (Carroll et al., 1994). Results show extremely reliable data (Weiss et al., 1998). Of 59 pairs of data, 73% of self-reports were consistent with urinalysis/breath alcohol results. In the

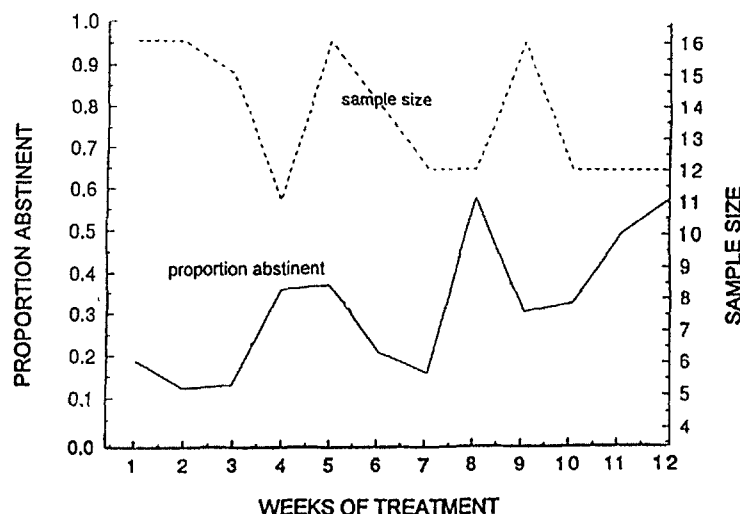


Fig. 1. Abstinence from all substances among completers, by treatment week.

27% of inconsistent reports, only one instance occurred in which the test was positive and the self-report negative; all other noncorresponding results were cases of negative tests with positive self-reports, which could indicate substance use that occurred earlier in the week.

PTSD and trauma-related symptoms. Decreases were also found in *subtle trauma symptoms* (the TSC-40 total score) and in *depression* (the TSC-40 depression subscale) from pretreatment to follow-up. No significant results were found on the MPSSR.

Treatment domains. Significant findings were found in each of the skill areas targeted by the treatment. (1) *Cognitive.* *Dysfunctional attitudes about substance use* on the Beliefs About Substance Abuse Questionnaire decreased from pre- to posttreatment and from pretreatment to follow-up. On the Didactic Questionnaire, patients' *percentage of correct responses* on the multiple choice quiz on material from the treatment increased significantly from pre- to posttreatment, with patients, on average, attaining approximately 77% ($SD = 15$, $n = 10$) correct on the posttreatment quiz. (2) *Behavioral.* On the Coping Strategies Inventory, the *willingness to work hard* subscale increased from pre- to posttreatment. (3) *Interpersonal.* On the Social Adjustment Scale, *overall social adjustment* and *family role functioning* improved from pre- to posttreatment. When compared to norms (Weissman et al., 1978), these data indicate that while our patients at base-

Table 1. Patient Outcome: Change Over Time

Measure	Pre-Tx to Post-Tx		F ^a	Pre-Tx to 3-month Follow-Up		F ^b
	Pre-Tx M (SD)	Post-Tx M (SD)		Pre-Tx M (SD)	Post-Tx M (SD)	
ASI						
Drug use composite	.17 (.11)	.11 (.09)	3.05*	.15 (.10)	.11 (.10)	2.74*
SBO						
Suicidal thoughts	3.43 (1.65)	2.92 (1.49)	2.46*			
Future suicide risk	2.14 (1.79)	1.64 (1.78)	2.19*			
TSC-40						
Trauma-related symptoms-total				1.79 (.44)	1.48 (.60)	2.32*
Depression subscale				1.93 (.57)	1.56 (.63)	2.37*
Beliefs About						
Substance Abuse						
Dysfunctional attitudes	3.85 (.92)	2.93 (1.03)	3.00**	3.75 (.88)	2.88 (1.23)	2.18*
Didactic Questionnaire						
% of correct responses	.65 (.19)	.77 (.15)	-4.04**			
Coping Strategies Inventory						
Problem solving	2.42 (.72)	3.07 (1.07)	-2.61*			
SAS						
Overall social adjustment	2.70 (.39)	2.33 (.45)	3.07**			
Extended family role area	3.03 (.80)	2.21 (.64)	4.12**			
BSI						
Somatization	1.30 (.93)	1.82 (1.13)	-2.82*	1.33 (.96)	1.74 (1.28)	-2.52*
REACT ^c						
Negative emotional reactions	1.49 (.28)	1.91 (.37)	-3.17*			

Note. An additional significant finding was a decrease from post-treatment to follow-up ($M = .29, SD = .15$, to $M = .21, SD = .16$; $t(11) = 2.18, p = .05$) on the ASI alcohol use composite.

^aSample size for these comparisons ranged from 8 to 13.

^bSample size for these comparisons ranged from 9 to 12.

^cData collected at sessions 3 and 24.

* $p \leq .05$, two-tailed.

** $p \leq .01$, two-tailed.

line were more impaired than a schizophrenic sample and a community sample, by posttreatment they were less impaired than those samples.

Additional findings. Decreases were found in *suicidal thoughts* and *future suicide risk* (on the SBQ) from pre- to posttreatment. The *somatization* subscale of the BSI showed an increase from pre- to posttreatment and from pretreatment to follow-up. This might be interpreted as greater awareness of physical symptoms due to reduced substance use, however.

Patient Satisfaction with Treatment

On every measure of patient satisfaction with treatment, results were consistently high and remained so through the follow-up. On the Client Satisfaction Questionnaire (scaled 1 to 4, with 4 the highest), the mean was 3.03 at session 15 ($SD = .44$, $n = 10$), with maintenance through the end of treatment ($M = 3.10$, $SD = .43$, $n = 13$) and follow-up ($M = 3.06$, $SD = .43$, $n = 13$). Patient alliance with the treatment (on the HAQ-II, scaled 1 to 6, with 6 the strongest alliance) showed a mean of 4.75 ($SD = .67$, $n = 16$) at session 3 and 4.94 ($SD = .83$, $n = 12$) at the end of treatment. The correlation between patient and therapist versions of the scale was significant at both session 3 ($r = .57$, $n = 15$, $p = .01$) and the end of treatment ($r = .81$, $n = 14$, $p < .0001$), indicating similarity in their view of the therapeutic bond.

Mean ratings on the End-of-Treatment Questionnaire provide information on the specific aspects of treatment patients found most and least helpful. The five aspects rated the most positive were as follows (at the end of treatment and 3-month follow-up, respectively; with all items scaled -3, very harmful to +3, very helpful): *Focus on abstinence from all substances* $M = 2.43$ ($SD = .85$, $n = 14$) and $M = 1.92$ ($SD = 1.08$, $n = 12$); *The therapist overall* $M = 2.43$ ($SD = .94$, $n = 14$) and $M = 2.17$ ($SD = 1.19$, $n = 12$); *Option to reach the therapist outside of sessions* $M = 2.31$ ($SD = 1.11$, $n = 13$) and $M = 1.67$ ($SD = 1.3$, $n = 12$); *Focus on coping skills* $M = 2.14$ ($SD = .95$, $n = 14$) and $M = 2.33$ ($SD = .78$, $n = 12$); *The treatment overall* $M = 2.07$ ($SD = 1.14$, $n = 14$) and $M = 2.33$ ($SD = 1.07$, $n = 12$). The three aspects rated most negative were: *The 24-session length of the treatment* [patients stated that it was too short] $M = 1.00$ ($SD = 1.86$, $n = 12$) and $M = .60$ ($SD = 2.07$, $n = 10$); *Option to call other group members outside of sessions* $M = .64$ ($SD = 1.55$, $n = 14$) and $M = .33$ ($SD = 1.37$, $n = 12$); *The assignment of a "group partner"* $M = -.20$ ($SD = .45$, $n = 5$) and $M = -.25$ ($SD = 1.39$, $n = 8$). It is also noteworthy that the *"Support of other group members"* received only a moderate rating ($M = 1.57$, $SD = 1.02$, $n = 14$; $M = .92$, $SD = 1.08$, $n = 12$).

Therapist Assessments

Adherence. We first evaluated two basic psychometric characteristics of the instrument, internal consistency and item ranges. Internal consistency via Cronbach's alpha was high at .92 (*total score*), .83 (*specific interventions subscale*), and .80 (*group processes*). Seventy-eight percent of the items used at least three points of the 6-point scale, indicating adequate use of the range. Results on the measure (scaled -3 to +3) also showed high ratings for the third group leader (the only nonauthor therapist). Ratings (based on 17 session tapes) were: *total score* ($M = 2.30$, $SD = .44$); and subscales *Adherence—Specific Interventions*, $M = 2.12$ ($SD = .61$); *Adherence—Group Processes*, $M = 2.64$ ($SD = .35$); *Competence—Specific Interventions*, $M = 2.09$ ($SD = .62$); and *Competence—Group Processes*, $M = 2.58$ ($SD = .35$).

Therapists' emotional response to patients. Therapists reported strong positive feelings toward patients at both sessions 3 ($M = 3.46$, $SD = .57$, $n = 11$) and 24 ($M = 3.47$, $SD = .54$, $n = 15$) on the REACT positive feelings subscale, scaled 1 to 5 (with 5 the most positive). There was no significant change in positive feelings over time. However, negative feelings toward patients, while lower overall, increased between sessions 3 and 24 (see Table 1).

Completers Compared to Dropouts at Pretreatment

We compared the 17 treatment completers to the 10 dropouts on all available measures at pretreatment. Results show a striking pattern: *completers were consistently more impaired than dropouts*. These results could not be explained by sociodemographic characteristics, on which they were equivalent. Also, completers were found to be more engaged in the treatment than dropouts at session 3.

Symptoms. Completers were significantly more severe than dropouts on the ASI *family/social composite* ($M = .46$, $SD = .24$ versus $M = .22$, $SD = .15$, $t(23) = 2.75$, $p = .01$); in PTSD symptoms on the MPSSR *frequency subscale* ($M = 2.16$, $SD = .48$ versus $M = 1.64$, $SD = .63$, $t(19) = 2.16$, $p = .04$), the TSC-40 *total score* ($M = 1.73$, $SD = .44$ versus $M = 1.27$, $SD = .36$, $t(18) = 2.48$, $p = .02$), *sexual abuse subscale* ($M = 1.86$, $SD = .60$ versus $M = 1.09$, $SD = .48$, $t(18) = -3.06$, $p = .01$), and *sleep disturbance subscale* ($M = 2.35$, $SD = .55$ versus $M = 1.31$, $SD = 1.10$, $t(9.40) = -2.47$, $p = .04$), and the CTQ *total score* ($M = 17.45$, $SD = 3.11$ versus $M = 12.39$, $SD = 4.56$, $t(22) = -3.21$, $p = .004$), and subscales on *emotional abuse* ($M = 4.37$, $SD = .68$ versus $M = 2.90$, $SD = 1.18$, $t(22)$

= -3.89, $p = .001$), *physical abuse* ($M = 3.37$, $SD = .99$ versus $M = 2.14$, $SD = 1.23$, $t(22) = -2.66$, $p = .01$), *emotional neglect* ($M = 3.64$, $SD = .76$ versus $M = 2.81$, $SD = .96$, $t(22) = -2.29$, $p = .03$), and *physical neglect* ($M = 2.49$, $SD = .93$ versus $M = 1.44$, $SD = .37$, $t(22) = -3.08$, $p = .01$); the Risk for AIDS Behaviors *sexual risk subscale* ($M = .21$, $SD = .09$ versus $M = .10$, $SD = .06$; $t(11) = 2.44$, $p = .03$); the Social Adjustment Scale *extended family role area* ($M = 3.03$, $SD = .71$ versus $M = 2.03$, $SD = .52$, $t(22) = -3.50$, $p = .002$); the Brief Symptom Inventory *interpersonal sensitivity subscale* ($M = 2.58$, $SD = .76$ versus $M = 1.67$, $SD = 1.06$, $t(22) = 2.42$, $p = .02$); and the Beliefs About Substance Abuse *total score* ($M = 3.76$, $SD = .91$ versus $M = 2.76$, $SD = 1.15$; $t(22) = 2.33$, $p = .03$).

Satisfaction with treatment. Completers showed greater satisfaction with the treatment than dropouts on the Helping Alliance questionnaire *patient version* ($M = 4.81$, $SD = .65$ versus $M = 3.71$, $SD = 1.06$, $t(17) = 2.62$, $p = .02$) and even on the *therapist version* ($M = 4.69$, $SD = .61$ versus $M = 3.17$, $SD = 1.23$, $t(9.71) = 3.21$, $p = .01$), at session 3. On the REACT at session 3, therapists reported stronger negative emotions toward dropouts than completers ($M = 2.18$, $SD = .71$ versus $M = 1.45$, $SD = .29$; $t(17) = -3.12$, $p = .01$) and lower positive emotions toward dropouts than completers ($M = 2.61$, $SD = .53$ versus $M = 3.27$, $SD = .57$; $t(17) = -3.30$, $p = .01$).

Additional findings. Completers reported lower attendance at other services on the Treatment Services Review *psychological services being received* ($M = 1.73$, $SD = 2.81$ versus $M = 4.63$, $SD = 2.08$, $t(17) = -2.46$, $p = .03$), but greater *attendance at self-help groups* on the Modified Weekly Self-Help Questionnaire ($M = .47$, $SD = .47$ versus $M = .09$, $SD = .20$, $t(12.98) = 2.26$, $p = .04$). On sociodemographic variables there were no significant differences between completers and dropouts (in age, income, education, marital or employment status).

Discussion

In this first known empirical trial of a new psychotherapy specifically designed for women with PTSD and substance dependence, women who completed at least six sessions of the treatment showed significant improvements in a variety of domains. Their substance use decreased significantly from pre- to posttreatment, with strong maintenance of those gains through the follow-up. They evidenced a reduction in trauma-related symptoms, but only by the 3-month follow-up. This slower emergence of trauma-related symptom reduction is consistent with clinical descriptions of this population, which suggests that trauma-related symptoms may not improve with

initial abstinence (Brady et al., 1994; Kofoed et al., 1993). By posttreatment, the women also improved on suicide risk and suicidal thoughts, social adjustment, family functioning, problem solving, depression, cognitions about substance use, and didactic knowledge related to the treatment.

Such improvements are likely related to at least two positive processes. First, women in the sample improved in each of the three domains hypothesized as mechanisms of action of the treatment: cognitive, behavioral, and interpersonal (with eight sessions of the treatment devoted to each). Moreover, they gave some of their highest ratings at the end of treatment to several cognitive concepts that were emphasized in the therapy (e.g., "Honesty is essential"). In short, it appears that the treatment had an impact on the target areas it was designed to affect and that such improvements may help to account for the symptomatic improvement seen in our sample.

Second, the treatment was highly appealing to women in the study. The retention rate (63%) was higher than most other studies of substance abuse populations with comparable lengths of treatment (Crits-Christoph & Siqueland, 1996). Moreover, patients in the completer group attended 67% of available sessions, suggesting that once engaged, they attended frequently. Our definition of "completer" as attending at least 25% of sessions was also more stringent than many other studies of substance abuse samples (cf. the 16% dose in Carroll et al. [1994]), and the majority of women who were eligible for the study met this criterion. The very strong patient alliance and satisfaction data also suggest that patients felt helped by the treatment.

These results call into question the commonly held view of this population in the literature, i.e., that they are difficult to treat and unlikely to attend treatment or to benefit from it (Brady et al., 1994; Grice et al., 1995; Kovach, 1986; Rounsaville et al., 1982). In fact, our data indicate that when provided with a treatment that is adapted to their needs, such women are highly responsive and able to demonstrate marked improvements. This is particularly noteworthy considering the level of impairment: all women were substance dependent and actively using at the start of treatment; many were polysubstance dependent; most had histories of severe, repetitive childhood sexual and/or physical abuse; most had co-occurring personality disorders; were single and unemployed; and were more severely impaired than all other patient samples for whom norms were available.

An unexpected finding was the higher level of impairment in those who completed treatment compared to those who dropped out. Completers were more symptomatically severe than dropouts on all measures and showed more engagement in the treatment. Thus, it appears both from the data and from clinical report that dropouts left the treatment because they

had less extreme symptoms and were less allied with the treatment. This could suggest the need for future experimentation by using the manual in a group that is more homogeneous in severity, and/or to modify the treatment manual for less severe patients.

The therapist data were also interesting. Therapists and patients had highly correlated views of the alliance, and, by session three, therapists gave significantly higher alliance ratings to the women who ultimately stayed in treatment. Therapists also had a predominance of positive feelings toward patients throughout the treatment in contrast to anecdotal literature (Grice et al., 1995, Kovach, 1986; Rounsaville et al., 1982) that describes strong negativity on the part of therapists. However, we did find that therapists' increased significantly in their negative reactions over time, an unexpected finding consistent with another study of substance abuse patients (Najavits et al., 1995).

It was also interesting to note aspects of the treatment that women found most and least helpful. Patients gave their very highest rating to the treatment philosophy of "abstinence from all substances," indicating that, despite their severity, they were able to ally with this very difficult yet essential treatment goal. The focus on coping skills was also highly endorsed. This suggests that when a patient is in early recovery from PTSD or substance abuse, containment through cognitive-behavioral strategies may be the preferred treatment strategy (rather than exploration of patients' trauma history, for example; Herman, 1992; Kaufman, 1989). The therapists' impact was highly valued by patients, as was the ability to reach the therapist outside of sessions (which, paradoxically, was rarely used). These results are consistent with research on substance abuse patients that indicates that the therapist accounts for substantial outcome variance (Najavits & Weiss, 1994).

What women found less helpful was somewhat surprising. For example, all ratings regarding other group members were relatively lower (the support of other group members, the opportunity to call group members outside of sessions, and the attempt to assign a "group partner"). These findings belie the notion that group treatment is primarily effective because of support by others with similar problems. Indeed, the therapists reported that patients felt fear of being triggered by other group members with regard to their PTSD and substance abuse, felt competitive with them, and had interpersonal conflicts at times that they had difficulty resolving. Thus, a group for such severe patients in early recovery appears to work less by group affiliation and more by the presence of a strong theory, therapist, and containment model. Such results may suggest that the treatment could also be helpful if conducted as an individual treatment rather than as group therapy, though we have not evaluated this question.

The study findings must be interpreted in light of several very significant limitations. The absence of a control group is the most serious methodological flaw and renders all outcome results tentative. Until it can be shown that gains occur at a significantly higher rate among treated than among untreated women, competing explanations for the results cannot be ruled out. For example, improvements could be due to the natural course of the disorders, to various uncontrolled treatments patients attended concurrently with the group treatment, or simply to the passage of time. However, patients had extremely little treatment outside of the study treatment, suggesting that benefits achieved are not likely due to uncontrolled treatments. We also did not follow dropouts over time and thus are not able to determine whether those in treatment improved at a higher rate. The small sample size precludes generalization and prevents analysis of additional questions that would be of interest (such as the relationship between various baseline patient variables and outcome). The use of only one therapist in addition to the senior author forestalls any conclusions about the ability to transmit the treatment successfully to other therapists. The 3-month follow-up period, while meaningful, is not adequate to study the long-term impact of the treatment and the course of the disorders. Finally, there may have been an inflation of Type I error rate due to multiple statistical tests.

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