

Seeking Safety Plus Exposure Therapy: An Outcome Study on Dual Diagnosis Men†

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Abstract—This study arose out of a prominent clinical need: effective treatment for comorbid posttraumatic stress disorder (PTSD) and substance use disorder (SUD) in civilian men. This dual diagnosis is estimated to occur in up to 38% of men in substance abuse treatment, and generally portends a more severe clinical course than SUD alone. Clinical issues include self-harm, suicidality, perpetration of violence against others, and HIV risk behaviors. This study appears to be the first outcome trial to address a sample of civilian men with PTSD and SUD using manualized psychosocial treatment. It evaluates a novel combination treatment, Seeking Safety plus Exposure Therapy-Revised. The former is a coping skills treatment designed for PTSD and SUD; the latter is an adaptation of Foa's exposure therapy, modified for PTSD and SUD. In this small sample (n = 5) outpatient pilot trial, patients with current PTSD and current SUD were offered 30 sessions over five months, with the option to select how much of each type of treatment they preferred. Outcome results showed significant improvements in drug use; family/social functioning; trauma symptoms; anxiety; dissociation; sexuality; hostility; overall functioning; meaningfulness; and feelings and thoughts related to safety. Trends indicating improvement on 11 other outcome variables were also found. Treatment attendance, satisfaction, and alliance were extremely high. The need for further evaluation using more rigorous methodology is discussed.

Keywords—men, PTSD, substance abuse, substance dependence, therapy, trauma

Men experience trauma at high lifetime rates (60.7%), indeed, significantly higher rates than women (51.2%) (Kessler et al. 1995). The types of traumas men experience are typically different than those of women as well: more

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witnessing of someone being badly injured or killed, natural disaster, life-threatening accident, physical attack, combat, threat with a weapon, and being held captive or kidnapped (Kessler et al. 1995). The lifetime rate of post-traumatic stress disorder (PTSD) among men in community studies is 5% to 6% (Kessler et al. 1995; Breslau et al. 1991)

Men with PTSD are at particular risk for comorbid substance use disorder (SUD), with lifetime rates of alcohol use disorder estimated at 51.9% and drug use disorder at 34.5% (Kessler et al. 1995). These rates are notably higher than the 27.9% and 26.9% respective rates for women. Studies of PTSD in SUD treatment samples also indicate a high prevalence of PTSD: for example, rates of 58% lifetime and 38% current PTSD among men veterans on an inpatient substance abuse unit (Triffleman et al. 1995); 24% lifetime rates among men outpatient cocaine use disorder patients (Brady et al. 1998); 20% current rates among men outpatient cocaine dependent patients (Najavits et al. 1998a); and 11% lifetime rates for inner-city men on

methadone maintenance (Villagomez et al. 1995). The association between trauma per se and SUD is also well documented. In a large Veterans Administration database study, Ouimette and colleagues (2000) found that among 24,206 men with SUD, lifetime history of abuse (physical, sexual or both) was 27.7%. In Project MATCH, a large multisite treatment of alcoholism, 54% of men reported child abuse histories (Rice et al. 2001).

The clinical implications are notable for both genders. The combination of PTSD and SUD portends a more severe clinical course than SUD alone. When SUD patients with PTSD are compared to those without PTSD, the former evidence greater impairment on a wide variety of variables including other Axis I disorders, psychiatric symptoms, interpersonal and medical problems, employment problems, compliance with aftercare, motivation for treatment, inpatient admissions, substance use, positive beliefs about substances, and coping (Brown, Stout & Mueller 1999; Ouimette, Finney & Moos 1999; Najavits et al. 1998a; Ouimette et al. 1998, 1997; Brown, Recupero & Stout 1995; Brady et al. 1994). Clinical reports repeatedly emphasize the challenges of their treatment relationships, with uneasy alliances, multiple crises, and strong negative emotional responses by therapists (Nace 1988; Brady et al. 1994; Fullilove, Lown & Fullilove 1992).

Trauma and PTSD are associated with the use of "hard drugs" (cocaine and opioids) more than such drugs as marijuana (Najavits, Weiss & Shaw 1997; Cottler et al. 1992). Studies also indicate that substance users have a higher likelihood of experiencing subsequent traumatic events than nonusers (Cottler et al. 1992); this pattern is particularly salient in male samples when compared to females (Cottler, Nishith & Compton 2001; Brady et al. 1998). Males with a history of trauma are also described as having more behavioral problems than females, such as suicide attempts, violence, and high-risk sexual activities associated with HIV; females reportedly show more affective distress (Kalichman et al. 2001; Merrill et al. 2001; Paul et al. 2001; Darves Borno et al. 1998; Garnefski & Arends 1998). The "victim to perpetrator" process is of particular concern in males (Hulnick 1997), for whom distress over their trauma may be acted out in violence against others including rape, domestic violence, fighting, child abuse, and other assault. In treatment descriptions, a lack of connection to feelings is prominent among men with this dual diagnosis, described as a "tuned-out" patient style (Miller & Guidry 2001; Zaslav 1994). Problems of sexuality, isolation, and anger are also common (Dhaliwal et al. 1996). Comorbid PTSD and SUD is found among a number of different male populations, including men in prison; military veterans; police, firemen and rescue workers; men in community based substance abuse treatment; adolescent males; gays; and the homeless (Fondacaro, Holt & Powell 1999; Violanti & Paton 1999; Ruzek, Polusny & Abueg 1998; Blood & Cornwall 1996).

The need for targeted treatment seems clear. Kessler and colleagues (1995) report a consistent finding that PTSD failed to remit in more than one-third of people even after many years, not only among those who did not receive professional treatment but also in the treated sample. According to Davidson, "It has been estimated that, on average, a person with PTSD will endure 20 years of active symptoms and will experience almost one day a week of work impairment . . . Rates of attempted suicide are as high as 19%" (Davidson 2001: 584). Notably, the authors were unable to locate a single published outcome trial of any type of manualized psychosocial treatment conducted in a sample of civilian men with PTSD and SUD (other than the mixed-gender studies by Triffleman 2000 and Brady et al. 2001 described below). We thus chose to focus on men as a way to provide treatment to a population that has been underserved and underresearched, as well as to better evaluate the impact of the treatment by controlling for gender.

With regard to the dual diagnosis of PTSD and SUD in particular, five manualized psychosocial treatments have been developed and empirically tested thus far. All fit either a coping skills model, e.g., Abueg and colleagues' (1994) 12-session relapse prevention model for veterans with alcoholism and Najavits' 25-session Seeking Safety (Najavits 2002; described in detail below), or a combination of coping skills plus exposure therapy. Exposure therapy (e.g., Foa & Rothbaum 1998) is a model in which the client describes the trauma in detail (called "imaginal exposure") and/or confronts current physical reminders of the trauma, such as going back to the location where a trauma occurred ("*in vivo* exposure"). Exposure therapy is designed to allow the client to explore the intense negative emotions of the trauma (e.g., rage, sadness, anxiety) and to work them through until such emotions decrease. Exposure therapy and similar past-focused PTSD treatments (such as eye movement desensitization and reprocessing; EMDR) have been found to be effective in clinical trials (Foa, Keane & Friedman 2000). One example of a model for PTSD and SUD that combines coping skills and exposure is Concurrent Treatment of PTSD and Cocaine Dependence by Brady and colleagues which combines *in vivo* and imaginal exposure plus relapse prevention (Back et al. 2001; Brady et al. 2001; Dansky & Brady 1998). Another is Triffleman and colleagues' Substance Dependence Posttraumatic Stress Disorder Therapy using relapse prevention plus *in vivo* exposure, without imaginal exposure (Triffleman 2000; Triffleman, Carroll & Kellogg 1999; Triffleman, Kellog & Syracuse-Stewart n.y.). More recently, Triffleman has added an imaginal exposure component based on the success of the Brady trial, but has not yet published results for this modified treatment (Triffleman 2003). Finally, Donovan and colleagues' Transcend model (Donovan, Padin-Rivera &

Kowaliv 2001) for military veterans in a 12-week partial hospital program includes war-zone trauma processing as one of numerous components. Other models have also been described, but either have not been manualized (Meisler 1999; Bollerud 1990), or published empirical results are not yet available (e.g., Miller & Guidry 2001; Vogelmann-Sine et al. 1998; Evans & Sullivan 1995; Trotter 1992).

The research by Brady and colleague and Triffleman and colleagues is particularly noteworthy: they were the first studies to focus on the use of exposure therapy specifically in SUD samples, an idea that for many years was considered inappropriate. A concern repeatedly expressed in the clinical literature was that until patients demonstrated the ability to stay substance-free for a sustained period of time (e.g., six months), exposure would be too dangerous as it would flood them with feelings they were not prepared to handle and thus might worsen substance abuse (Ruzek et al. 1998; Keane 1995; Solomon, Gerrity & Muff 1992; Chu 1988). Indeed, even Foa, one of the primary researchers of exposure therapy for PTSD has identified it as a "second line" treatment if a patient has SUD (Brady et al. 2001). Thus, the Brady and Triffleman studies paved an important path in the treatment of PTSD and SUD by demonstrating that exposure not only did not appear to make patients worse, but, at least in those who could tolerate the work, improved their PTSD symptoms, and at least in two of the three trials conducted their substance use and psychiatric symptoms decreased (Brady et al. 2001; Triffleman 2000; Triffleman, Kellog & Syracuse-Stewart n.y.).

This article reports the results of a pilot outcome trial evaluating, in a sample of men with PTSD and SUD, a combination of Seeking Safety and Exposure Therapy-Revised (an adaptation of the model developed by Foa and Rothbaum 1998). Seeking Safety is selected as it is the coping skills approach that has received the most empirical validation thus far for use with this dual diagnosis (e.g., Najavits, Gallop & Weiss Under review; Cook et al. In press; Morrissey et al. 2005; Hien et al. 2004; Zlotnick et al. 2003; Holdcraft & Comtois 2002; Najavits et al. 1998b). Foa's exposure therapy model (Foa & Rothbaum 1998) was selected as the base for the exposure component because it has received the most empirical validation of any exposure-based model, and served as the basis for the Brady study (Brady et al. 2001; Foa 2000).

The combination treatment, Seeking Safety plus Exposure Therapy-Revised, has several features that distinguish it from existing models. While the Brady and colleagues and Triffleman and colleagues studies had positive outcomes and an extremely important impact, they also had several limitations. For Brady and colleagues (2001), many patients (61.5%) did not meet the minimum dose of the treatment, although it was noted that most of those who dropped out before completing the minimum dose did so prior to their first exposure sessions. For Triffleman and

colleagues, an initial uncontrolled pilot trial did not show reduction in substance use outcome (Triffleman, Kellog & Syracuse-Stewart n.y.); a second controlled trial did, but only at follow-up (Triffleman 2000). Both the Brady and Triffleman studies also excluded suicidal patients (in Brady, patients with suicidal ideation, and in Triffleman, patients with acute suicidality that required ongoing therapy).

Coffey, Dansky and Brady (2003) and Coffey, Schumacher, Brimo and Brady (2005) provide a discussion of caveats in implementing exposure therapy in clients with SUD and PTSD. For example, they suggest that those best suited for exposure are those with relatively minor dissociation, no traumas before age 15, vivid images of the trauma, those who can tolerate and modulate distress, and those without high levels of anger. Several similar caveats are listed in an article by Vogelmann-Sine and colleagues (1998) regarding EMDR. Difficulties implementing exposure therapies are also documented in PTSD patients without SUD (Tarrier & Humphreys 2000; Ehlers et al. 1998; Scott & Stradling 1997). These difficulties accrue both to patients (particularly those with greater impairment) and to therapists, many of whom have been found not to implement exposure treatments as much as is believed needed, despite its strong empirical base (Zayfert & Becker 2000; Ehlers et al. 1998; Scott & Stradling 1997).

Thus, the combination of Seeking Safety plus Exposure Therapy-Revised was designed to increase the acceptability of a combined coping skills/exposure model for both patients and therapists, to promote high attendance, and to be useable across a very broad range of PTSD/SUD patients (e.g., those with suicidal ideation). Features of the revised version of Foa and Rothbaum's Exposure Therapy (Najavits 2000a) are described later in this article.

Three research topics are addressed: a description of the sample at baseline (which documents the severity of the patients being treated), results for treatment attendance and outcome, and patient satisfaction with the treatment.

METHOD

Participants

The sample consisted of five men who met inclusion/exclusion criteria for the study and completed the intake assessment (one additional man dropped out prior to completing the intake). Patients were recruited via fliers posted in McLean Hospital and word-of-mouth in 2000. All met current DSM-IV criteria for both PTSD and substance dependence (the most severe form of substance use disorder). They also had to report active substance use within the past 60 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 bipolar I disorder (mania), psychotic disorder, were mandated to treatment, or had characteristics that would interfere with completion of

treatment (mental retardation, chronic homelessness, impending incarceration, or a life threatening/unstable medical illness).

Protocol

Patients were offered free treatment in exchange for completing assessments; they were not given payment of any kind for participating in the study. They were told they could have a maximum of 30 sessions over five months, spaced according to their preference (as a way to promote compliance and give the patient control, a key element in PTSD/SUD treatment; see Najavits 2002); however, it was suggested that they start out with two sessions per week. Sessions were one hour each. The treatment was designed as a stand-alone intervention, but patients were allowed to be in external treatments during their participation. Initial diagnostic assessments and all treatment were conducted by a first-year postdoctoral fellow (a female Ph.D. counseling psychologist), under supervision from the first author based on weekly reviews of audiotapes and adherence ratings. In addition, the postdoctoral fellow completed training in the treatment prior to conducting it for this study. The training consisted of conducting a full round of the Seeking Safety treatment, reading the manuals for both Seeking Safety and Exposure Therapy (the latter using the Foa and Rothbaum manual; 1998), related readings (e.g., on substance abuse treatment and cognitive-behavioral therapy), and weekly supervision based on audiotapes of her sessions.

The treatment, Seeking Safety plus Exposure Therapy-Revised, combines Seeking Safety (Najavits 2002) and a revised version of Foa and Rothbaum's (1998) Exposure Therapy. All patients were required to have at least four Seeking Safety sessions (Introduction/Case Management, Safety, PTSD, and Grounding), and at least one Exposure Therapy-Revised session (an information session in which patient and therapist discuss whether or not to engage in exposure work). After that, they decided at each session what type of session was most appropriate given the patient's needs and current state. Thus, while each patient was offered the same total dose of treatment (30 sessions) the relative amount of each component, Seeking Safety and Exposure Therapy-Revised, could differ.

Seeking Safety. This is a coping skills therapy specifically designed for patients dually diagnosed with current PTSD and SUD. The treatment (Najavits 2002) consists of 25 topics evenly divided among cognitive, behavioral, and interpersonal topics. Each topic provides a new "safe coping skill" relevant to both disorders. While originally developed for women in outpatient group treatment (Najavits et al. 1998b), the manual has since been expanded to both genders, to individual treatment, and to a wide variety of settings (inpatient, residential, day treatment) based on clinical experience (Najavits 2003). It is designed as a structured treatment to make the best use of available time, yet also as highly flexible to adapt to patient needs. Its

primary goals are abstinence from all substance use and decrease in PTSD symptoms. The treatment is based on five principles: (1) safety as the priority of first-stage treatment; (2) integrated treatment of PTSD and SUD; (3) a focus on ideals; (4) four content areas: cognitive, behavioral, interpersonal, and case management; and (5) attention to therapist processes.

Examples of the 25 treatment topics are: Safety; Detaching from Emotional Pain (Grounding); Asking for Help; Taking Good Care of Yourself; Compassion; Honesty; Recovery Thinking; Integrating the Split Self; Commitment; Creating Meaning; Community Resources; Healing From Anger; and Setting Boundaries in Relationships. Topics can be conducted in any order based on patient preference; each topic was designed to be independent of the others to allow maximal flexibility. Topics have several handouts from which patients and therapists can, similarly, select those they most want to cover. The treatment is described in detail in a manual (Najavits 2002), and a book chapter (Najavits 2003).

Exposure Therapy-Revised. Exposure therapy is a well-known intervention, and one of the most widely studied interventions for PTSD (Foa 2000; Astin & Resick 1998). Thus, exposure therapy per se will not be described here; rather, just the revisions to Foa's exposure model in the current study, as developed by the first author (Najavits 2000a). Briefly, these are as follows:

1. **Patients are allowed to fluidly process multiple traumatic events within an exposure session rather than focusing on a single event.** The therapist is instructed, however, to keep the affect level high during the session to maintain the exposure intensity.
2. **An explicit, extensive, and written set of safety parameters are required.** This is designed to address the high-risk and impulsive nature of PTSD/SUD patients, especially as the present sample included suicidal patients. The safety parameters include having the therapist available by page throughout the treatment (and testing whether the patient would follow through on paging outside of the session); a written contract on emergency procedures if the patient worsened; voicemail check-ins outside of sessions in which the patient reported how he was doing; using the check-in and check-out procedures from Seeking Safety for exposure sessions as well; a written agreement on how substance use would be handled during the treatment; and instructions to the therapist to prevent "retraumatizing" the patient during the exposure.
3. **The patient is encouraged to process both trauma memories and painful SUD memories.** For example, painful SUD memories may include time lost due to substance use, damage to the body, disappointing or abandoning people, etc.

4. **The patient and therapist together decide on whether, when, and how much exposure to implement over the course of treatment.** Only one session on exposure is required (an informational session to discuss how exposure works). After that, the patient and therapist decide at the start of each session what type of session is most appropriate given the patient's needs and current state. This appears crucial as many PTSD/SUD patients have unstable and crisis-oriented lives. For example, if a patient used a substance that week or was evicted, it is considered inappropriate to conduct an exposure session at that point. Also, patients are never required to do exposure, and they are encouraged to decide for themselves whether or not they want to do that work.
5. **Shorter sessions (one hour) are conducted.** This is designed to make the exposure more tolerable for patients and also to fit the length of standard therapy sessions (as most substance abuse patients are subject to managed care limits).
6. **The therapist's role is strongly emphasized.** For example, there are extensive discussions of countertransference, and the therapist is guided to take a "good parent" stance with a large amount of explicit empathy.
7. **Methods for overcoming resistance to exposure are emphasized.** Resistance to the work is understood as a natural part of the process and there are extensive suggestions on how to overcome it.

Measures

Major assessments were conducted at pre- and post-treatment; in addition, weekly urinalysis screens were obtained to assess substance use. All measures below were administered at major assessments, and are self-report, unless otherwise indicated. Also, higher scores indicate greater impairment unless noted otherwise.

Patient characteristics. Pre-treatment description of the sample was obtained from several measures. Diagnoses of current PTSD and current substance dependence were obtained from the Structured Clinical Interview for DSM-IV (First et al. 1997), and exclusionary diagnoses (lifetime manic or psychotic disorders) were assessed using the Mini-International Neuropsychiatric Interview (Sheehan et al. 1998). A Timeline Interview (Najavits 1994) evaluated age of onset for PTSD and SUD. All diagnostic assessments were administered by the postdoctoral fellow under supervision from the first author using audiotapes of the interviews. Lifetime history of trauma was obtained from the Trauma History Questionnaire (Green 1996), which obtains frequency scores for physical and sexual abuse, general disaster, and crime-related traumas. Level of suicidality was obtained from the Suicidal Behaviors Questionnaire (Linehan & Addis 1990). Sociodemographic

characteristics and substance use for the 30 days prior to intake was assessed on the intake version of the Addiction Severity Index-Fifth Edition (McLellan et al. 1992b), a widely-used interview measure (see next section for a description of this measure).

Patient attendance and outcome. Attendance was assessed by the number of sessions attended. The Addiction Severity Index-5th Edition (McLellan et al. 1992b) was the primary outcome measure of substance use. It is an interview that results in seven composite scores related to addiction: medical, employment, alcohol use, drug use, legal, family/social, and psychiatric. A bachelor-level research assistant administered the ASI at pre- and post-treatment. If a patient was in a controlled environment during the prior thirty days, the pre-treatment Addiction Severity Index was conducted for the most recent "typical 30 days" of substance use to obtain an accurate description. The ASI was modified by the first author to differentiate substances that were taken as prescribed from those not taken as prescribed (more than prescribed or without a prescription) for substances such as benzodiazepines, marijuana, methadone, and opiates. For outcome purposes, ASI results are reported both for the original version and for this modified version. In addition to the ASI, a urine toxicology screen was obtained weekly to test for six major drug types, using gas chromatography-mass spectroscopy confirmation of positives.

PTSD-related symptoms were measured using the Trauma Symptom Checklist-40 (TSC-40; Elliott & Briere 1990), a self-report measure evaluating PTSD-related symptoms with six subscales: depression, anxiety, dissociation, sexuality, sexual trauma index, and sleep. It is scaled 0 to 4.

General psychiatric symptoms were assessed on the Brief Symptom Inventory (Derogatis & Melisaratos 1983), scaled 0 to 4, with nine subscales (somatization, obsessive-compulsive, interpersonal sensitivity, anxiety, depression, hostility, phobic anxiety, paranoid ideation and psychoticism). The Suicidal Behaviors Questionnaire (Linehan & Addis 1990) addressed frequency of self-harm incidents and ideation. The Social Adjustment Scale (Weissman 1978) assessed social functioning in seven areas: work, social/leisure, extended family, marital, parental, family unit, and economic; it is scaled 1 to 5. Only the single item known as the "clinical global improvement subscale" was used from the Clinical Global Impressions Scale (Guy 1976); this was completed by patient, therapist, and independent evaluator, and scaled 1 to 7. The Global Assessment of Functioning (American Psychiatric Association 1994) is a single-item measure scaled 1 to 100, and was completed by the research assistant based on the post-treatment evaluation and information from the therapist. On the latter measure, higher scores are positive.

The Treatment Services Review measured service utilization (McLellan et al. 1992a) in interview format, scaled

as number of days in the past 30 that each treatment type was used.

The World Assumptions Scale (Janoff-Bulman 1989) assessed cognitions related to PTSD, and is scaled 1 to 6 (with higher indicating positive cognitions). Beliefs About Substance Use (Wright 1992) assessed cognitions related to substance use, and is scaled 1 to 7.

A Patient Preferences Questionnaire (Najavits 2000b) was obtained at intake only to assess patients' preferences for Seeking Safety versus Exposure Therapy (with each described briefly as part of the measure), scaled 0 to 100%. A Safety Questionnaire (Najavits & Litz 1999) assessed the central theme of the treatment, safety, in seven domains scaled -3 to +3. A Core Components Questionnaire (Najavits 1995) assessed 42 coping skills and 24 core concepts associated with Seeking Safety, and is scaled 0-5. On all of these measures, higher scores are positive.

Patient satisfaction with treatment. At sessions 12 and post-treatment, patients' alliance was assessed on the Helping Alliance Questionnaire-II, both patient and therapist versions (Luborsky et al. 1996); this is scaled 1 to 6. The Client Satisfaction Questionnaire (Attkisson & Zwick 1982) was obtained at post-treatment (scaled 1 to 4), along with two treatment-specific measures: a Seeking Safety Feedback Questionnaire (Najavits 2002: 374-377) that addressed patients' perceptions of the helpfulness of Seeking Safety treatment components, and an Exposure Therapy-Revised Feedback Questionnaire (scaled -3 to +3). For all of these measures, higher scores indicate greater satisfaction.

Data Analysis

Three topics were addressed: (1) characteristics of the patient sample at baseline; (2) patient retention and outcome; and (3) patient satisfaction with the treatment. Topics 1 and 3 were addressed using frequency data. Topic 2 was analyzed using two-tailed paired-samples *t*-tests comparing intake to end-of-treatment. For all measures, total and subscale scores were evaluated. Results are reported for findings significant at $p \leq .05$ (with trends at .10 or below noted as well). Although the 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 of decreased power (i.e., Type II error); thus, we did not control for Type I error. However, for all scales, the number of comparisons conducted is reported. Throughout, results are for all five men, and all findings indicate improvement unless otherwise noted.

RESULTS

Patient Characteristics

Sociodemographics. All five men were Caucasian, with a mean age of 37.60 years ($SD = 5.60$). Most (60%) were married, with an average of 2.20 dependents. All worked

full-time, were lower to middle class (technician, security guard, corrections officer, musician, and court officer), and had a mean monthly income of \$2920 ($SD = \1005).

Substance use. On the ASI at intake, the men reported drug problems an average of 22 days out of the past 30 ($SD = 11.50$), alcohol problems an average of six days ($SD = 13.41$); and their primary substance problem as other drugs (four patients) rather than alcohol (one patient). Substances used in the 30 days prior to intake were cannabis, cocaine, alcohol, polysubstances, and nonprescribed opiates, amphetamines, and sedatives.

Trauma/PTSD. On the Trauma History Questionnaire, the men reported an average age of 8.80 ($SD = 2.59$) for first trauma, and an average of 9.6 different types of trauma (with a breakdown of 6.2 types of general/natural disaster traumas, 1.6 types of sexual trauma, 1.4 types of physical trauma, and .40 crime trauma). No patient had combat trauma. Patients had experienced an average of two to 10 traumas each. On the Timeline Interview, the mean age for PTSD onset was 14.43 years ($SD = 3.82$) and mean age of SUD onset 17.86 years ($SD = 6.47$). All patients reported that their PTSD came first, and that they believed that their PTSD and SUD were related.

Suicidality. The level of suicidality is reported for the sample because, to our knowledge, this is the first outcome study on the use of Exposure Therapy in a SUD sample with suicidal ideation. On the Suicidal Behaviors Questionnaire, four (80%) men reported suicidal thoughts in the prior three months, and three (60%) had a plan for future suicide. Notably, three (60%) reported that SUD made them suicidal, and three (60%) reported that their PTSD made them suicidal, highlighting the importance of treatment for these conditions.

Other psychopathology. On the Social Adjustment Scale total score, this sample was more impaired at baseline ($M = 2.34$, $SD = .63$) than three of the four male samples ($n = 473$) from Weissman's study (1978), specifically a community sample, alcoholics, and schizophrenics.

Concurrent treatment. Assessment of patients' service utilization are reported for post-treatment, thus reflecting the 30 days prior to the end of their participation in the study.

Key types of psychiatric treatment were as follows: no patients had been hospitalized for detoxification from either alcohol or drugs; none were on any medication either to detoxify from or prevent substance use (e.g., Antabuse, Naltrexone, methadone); four patients (80%) attended at least one Alcoholics Anonymous meeting (with an average of 3.80 meetings attended, $SD = 4.12$); no patient had been hospitalized for psychiatric issues; three patients (60%) were on psychiatric medication; no patient had seen a psychiatric specialist (outside of the treatment provided on this study), although three (60%) had a "significant discussion with a psychiatric specialist" (which

could have been their medication psychiatrist¹; and one patient (20%) had attended relapse prevention treatment (20 sessions attended).

Patient Attendance and Outcome

Attendance. Treatment attendance was exceptional, with an average of 30 sessions (SD = 0), indicating that each patient attended all 30 sessions offered to him. The mean number of Seeking Safety sessions was 21 (SD = 4) and mean number of Exposure Therapy-Revised sessions 8.8 (SD = 4.38). The range for number of exposure sessions was two to 13, and the first exposure session was conducted, on average, at session 6 (SD = 3.94).

Outcome. Significant results were found on a wide variety of measures when comparing means at pre- versus post-treatment. Of the seven *Addiction Severity Index* composite scores, significant reductions were found for drug use (.26 to .12, $t = 2.73$, $p = .05$) and family/social functioning (.30 to .24, $t = 2.78$, $p = .05$), with a trend for psychiatric problems (.54 to .26, $t = 2.14$, $p = .10$). Moreover, the revised ASI drug use section (Najavits 1999) separated any drug that could be taken by prescription into "taken as prescribed" versus "not per prescription." When the drug composite was analyzed to omit drugs taken as prescribed, the decline in drug use was even more significant (.26 to .10, $t = 2.9$, $p = .04$). *Urinalysis* was conducted weekly, and only 20.07% (19 of 92) were positive for substances during patients' participation in the study; all but one of these were from one patient (i.e., 18 of the 19 positive urinalysis results). *Trauma Symptom Checklist-40* scores showed reductions in the total score (1.27 to .38, $t = 3.24$, $p = .03$), and, of the six subscales, significant reductions in anxiety (.96 to .26, $t = 2.91$, $p = .04$), dissociation (1.39 to .23, $t = 3.27$, $p = .03$), and sexual abuse trauma index (1.26 to .23, $t = 2.88$, $p = .04$), with trends for depression (1.5 to .39, $t = 2.55$, $p = .06$), and sleep problems (1.77 to .53, $t = 2.45$, $p = .07$). Other psychiatric symptoms were assessed on the *Global Assessment of Functioning*, with significant improvement (43 to 63.6, $t = -4.03$, $p < .02$); the *Brief Symptom Inventory* on one of its nine subscales, hostility (1.48 to .4, $t = 3.09$, $p < .04$); and the *Suicidal Behaviors Questionnaire* with trends for three of 16 items analyzed: thoughts about killing self (2.8 to 2.0, $t = 2.14$, $p < .10$), plan to harm or kill self (1.0 to .2, $t = 2.14$, $p < .10$) and wanting to kill self due to SUD (1.2 to .2, $t = 2.24$, $p < .09$). On the *Clinical Global Impressions Scale* improvement was found on the only subscale evaluated in this study (the global improvement subscale) at post-treatment by patients' self-report (1.4), therapist report (1.4) and assessor report (2.2), scaled 1 to 7 (1=very much improved, 7=very much worse). Other measures included the *World Assumptions Scale* assessing beliefs related to PTSD, with significant improvement in one of its three scores, meaningfulness (37.8 to 44.7, $t = -4.76$, $p < .01$). On the

Social Adjustment Scale, only a trend was found for work role area (3 to 1, $t = 2.72$, $p = .07$) out of the its seven subscales.

Treatment-specific measures were also evaluated. The *Safety Questionnaire* showed, among seven domains assessed, significant improvement in feelings (-1 to 1, $t = -3.12$, $p < .04$), thoughts (-1 to 1.8, $t = -14.0$, $p < .000$), trends for family (.5 to .25, $t = -3.0$, $p = .058$) and total score (.05 to 1.23, $t = -2.58$, $p = .06$). The *Core Components Questionnaire* showed trends for its total score (2.94 to 3.63, $t = -2.48$, $p < .07$) and one of its two subscales, coping skills (2.20 to 3.22, $t = -2.25$, $p < .09$).

Only one outcome scale did not show significance, *Beliefs about Substance Use*, although means were in the direction of improvement. Finally, patients' utilization of services were evaluated on the *Treatment Services Review* with a finding of no significant increase from pre- to post-treatment on any of its five subscales (medical, employment, alcohol, drug, and psychological). We also evaluated whether the number of patients on psychiatric medication changed from pre- to post-treatment, as this is a major intervention that could impact outcome, but it was identical at both points (three patients, 60%).

Patient Satisfaction

Patients' self-reports of connection to the treatment were very high on both the *Client Satisfaction Questionnaire*, with a mean of 3.82 (SD = .15) on the 1-4 scale at post-treatment, and the *Helping Alliance Questionnaire-II*, with a mean of 5.78 at session 12 (SD = .35) and 5.86 at post-treatment (SD = .23), scaled 1-6. Patients were also asked to evaluate each of the two treatment components at the post-treatment, with scaling from -3 (very harmful) to +3 (very helpful). On the *Seeking Safety Feedback Questionnaire* they reported a mean of 2.68 (across 49 items that listed particular features of the treatment). On the *Exposure Therapy-Revised Feedback Questionnaire* they reported a mean of 3.0 for exposure sessions and also for the combination of Seeking Safety plus Exposure Therapy-Revised; they also reported that the exposure sessions helped them with both PTSD (2.75) and SUD (2.75). On a scale of 0% to 100%, they reported a mean of 76.25 for "how resolved your PTSD feels," and 97.5% for "would recommend this treatment"; they also reported that it took 1.75 weeks to feel comfortable with the treatment. These results are particularly striking because at intake they were assessed on a *Patient Preferences Questionnaire* that described the two treatments; that measure showed a significant difference in "appeal" of the treatments, scaled 0% to 100% (86.43 for Seeking Safety versus 53.57 for Exposure Therapy-Revised, $t = -3.2$, $p < .02$), although their "willingness" to engage in each of the treatments was closer (96.43 for Seeking Safety versus 85.00 for Exposure Therapy-Revised, a nonsignificant difference).

DISCUSSION

This pilot trial sought to evaluate a novel combination treatment, Seeking Safety plus Exposure Therapy-Revised, in a sample of five outpatient men with current PTSD and SUD. The combined treatment has as its goal the best of both coping skills and trauma processing models. Where Seeking Safety promotes building coping skills, Exposure promotes processing feelings. Where Seeking Safety focuses on the present, Exposure focuses largely on the past. Where Seeking Safety helps build internal strength, Exposure gives permission for the patient to feel weak and vulnerable. Where Seeking Safety is structured, Exposure is more open-ended. In short, both types of treatment are hypothesized as necessary for true recovery from PTSD and SUD, and appear to represent two opposite but essential processes of treatment. While prior studies have evaluated combinations of coping skills and exposure treatments (e.g., Brady et al. 2001; Foa 2000; Triffleman 2000; Marks et al. 1998), this study was unique in studying a PTSD/SUD sample, its inclusion of suicidal patients, and its revised version of Exposure Therapy. Recently, Coffey and colleagues (2005) described modifications of exposure therapy for an inner-city community mental health center, but outcome results are not available.

The revisions to Exposure Therapy were created to address the very real clinical concerns about SUD patients' potential for worsening when undergoing such an affectively intense treatment (Back et al. 2001; Ruzek, Polusny & Abueg 1998; Keane 1995). In particular, concerns about increased substance use, harm to self and others, and drop-out from treatment are prominent. Thus, Foa's exposure therapy model was revised for this study (Najavits 2000b) in several ways: (1) allowing patients to fluidly process multiple traumatic events within an exposure session (rather than focusing on a single event); (2) creating explicit, extensive, and written safety parameters to address the high-risk and impulsive nature of PTSD/SUD patients; (3) allowing the patient to process both trauma memories and painful SUD memories; (4) allowing the patient and therapist together to decide whether, when, and how much exposure to implement over the course of treatment; (5) shorter sessions (one hour); (6) making the therapist's role prominent (emphasis on countertransference, taking a "good parent" stance); and (7) viewing patients' resistance to exposure as a natural part of the work, and giving the therapist extensive guidelines on how to overcome this.

These outcome results were notable in the diversity and number of improvements found, particularly with a sample of only five patients. There were significant improvements in drug use and family/social functioning on the Addiction Severity Index; trauma symptoms; anxiety; dissociation; and sexuality on the Trauma Symptom Checklist-40; overall functioning on the Global Assessment of Functioning;

hostility on the Brief Symptom Inventory; meaningfulness on the World Assumptions Scale; and feelings and thoughts related to safety on the Safety Questionnaire. Trends were found for 11 other comparisons on a wide variety of measures, all in the direction of improvement. Notably, this included suicidal thinking and plans on the Suicidal Behaviors Questionnaire, which is particularly important due to concerns about self-harm in this population. Urinalysis results during treatment were consistent with the self-reported low amount of drug use. Finally, the level of satisfaction, alliance, attendance (100% of available sessions), and retention in the treatment were also extremely strong. Given the severity and chronicity of both PTSD and SUD in the sample (both with onset during childhood), the authors were frankly surprised at the degree of success in this small trial.

However, limitations of the study must also be taken into account: the lack of a control condition; the lack of control over external treatments (although we can note that patients did not increase their use of such during the study, and were all outpatients outside of any controlled environment); the use of just one therapist (although the therapist was in her first postdoctoral year, indicating that the treatment appears to be teachable to someone at that level); the lack of control of Type I error (although the number of significant results far exceeds the 5% that would be expected by chance); the lack of follow-up data after treatment ended; and finally, the small sample. Thus, further evaluation of this treatment combination with more rigorous methodology would appear to be warranted.

Despite the early nature of this pilot trial, these results are consistent with prior studies that also found positive outcomes for time-limited outpatient exposure-based therapies in PTSD/SUD samples (Brady et al. 2001; Triffleman 2000). (See also Donovan et al. 2001 for a description of improvements in a partial-hospital treatment sample.) Of particular note is that the studies found improvement in substance use, which might suggest that when PTSD is adequately addressed patients' need for substances (e.g., as self-medication) diminishes. The fact that all of the men in the sample had PTSD onset prior to SUD onset further underscores this point. Clearly, however, the need to better understand which patients can safely and effectively engage in such treatment, and how to adapt treatment to this population, are topics requiring further study. In this sample, for example, all of the five men were employed, were Caucasian, and were willing to voluntarily attend treatment. The need for extensive therapist training and supervision can also be noted.

Finally, there is a need for further studies of civilian men. This study is, to our knowledge, the first outcome study focusing solely on civilian men with PTSD and SUD using manualized treatment. High rates of trauma, PTSD, and SUD among men have previously been found in a

number of epidemiologic studies, but treatment studies have been slower to arise. It is hoped that the positive results of this small pilot study will encourage further work in this area.

NOTES

1. The Treatment Services Review is worded in a way that prevents clarifying this issue.

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