

Regular article

A cognitive-behavioral treatment for incarcerated women with substance abuse disorder and posttraumatic stress disorder: findings from a pilot study[☆]

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Abstract

Treatment for comorbid substance use disorder (SUD) and posttraumatic stress disorder (PTSD) is of particular relevance for incarcerated women, whose rates of PTSD and SUD are considerably higher than women in the general population. Yet virtually no treatments have been developed or systematically evaluated that target concurrently the symptoms of PTSD and SUD in this underserved population. This preliminary study evaluates the initial efficacy of a cognitive-behavioral treatment, *Seeking Safety*, as an adjunct to treatment-as-usual in an uncontrolled pilot study of incarcerated women with current SUD and comorbid PTSD. Of the 17 incarcerated women with PTSD and SUD who received *Seeking Safety* treatment and had outcome data, results show that nine (53%) no longer met criteria for PTSD at the end of treatment; at a followup 3 months later, seven (46%) still no longer met criteria for PTSD. Additionally, there was a significant decrease in PTSD symptoms from intake to posttreatment, which was maintained at the 3-month followup assessment. Based on results from a diagnostic interview and results of urinalyses, six (35%) of the women reported the use of illegal substances within 3 months from release from prison. Measures of client satisfaction with treatment were high. Recidivism rate (return to prison) was 33% at a 3-month followup. Overall, our data suggest that *Seeking Safety* treatment appears to be appealing to incarcerated women with SUD and PTSD and that the treatment has the potential to be beneficial, especially for improving PTSD symptoms. However, these findings are tentative given that there was no control group. © 2003 Elsevier Inc. All rights reserved.

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1. Introduction

The dramatic increase in numbers of the female prison population since 1980 has been attributed to drug offenses, increasingly punitive responses to these crimes, and the lack of viable treatment for these women (Bloom, Lind, & Owen, 1994). Between 1990 and 1996, the rate of women's drug possession convictions increased by 41% and drug

trafficking convictions rose by 34% (U.S. Department of Justice, 1999a). A 1997 survey of state prisoners documented that over 40% of female inmates were under the influence of drugs at the time of their offense, compared to 32% of male inmates (U.S. Department of Justice, 1999b). In addition to high rates of drug use among women prisoners, incarcerated women report extensive histories of interpersonal violence (Singer, Bussey, Song, & Lungerhofer, 1995). The high rates of recidivism among women prisoners has been explained, in part, by the use of illegal substances compounded by high levels of physical and sexual abuse (Bloom et al., 1994).

Women inmates are five to eight times more likely to abuse alcohol than women in the general population, ten times more likely to abuse drugs, and 27 times more likely to use cocaine (Covington, 1998; Desjardins, Brochu, &

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Biron, 1992; Jordan, Schlenger, Fairbank, & Caddell, 1996; Teplin, Abram, & McClelland, 1996). Epidemiologic studies of women prisoners and female jail detainees awaiting trial have found that current drug use disorder rates range from 30% to 52%, and alcohol use disorder rates range from 17% to 24% (Jordan et al., 1996; Teplin et al., 1996).

Prevalence rates of posttraumatic stress disorder (PTSD) in the female prison population have been less well studied compared to those of substance use disorder (SUD). The only study, to date, to examine the rates of PTSD in women prisoners found that among female jail detainees awaiting trial, PTSD was the most common disorder, besides SUD, with prevalence rates of 33.5% for lifetime PTSD and 22.3% for current PTSD (Teplin et al., 1996). These rates of PTSD among women prisoners are more than two to three times higher than the rates of PTSD reported in a community sample of women (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Further, research has shown that 78% to 85% of incarcerated women have experienced at least one traumatic event (Jordan et al., 1996; Lake, 1993; Singer et al., 1995) compared to 69% of the general female population (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). In particular, childhood abuse is strongly associated with PTSD (Rowan & Foy, 1993) and is common among incarcerated women, with 23% to 48% of women prisoners reporting such experiences (Greenfeld & Minor-Harper, 1991; Singer et al., 1995). The co-occurrence of SUD and PTSD among incarcerated women is high (Zlotnick, 1997); a finding that is consistent with research with community samples that have found that women with current PTSD have a 1.4 to 5.5 times higher risk for comorbid SUD than women without PTSD (Helzer, Robins, & McEvoy, 1987; Kessler et al., 1995; Kulka et al., 1990).

Despite the obvious need for effective substance abuse treatment programs in prison settings, the research literature is limited and little research supports the effectiveness of prison substance abuse treatment programs (Leukefeld & Tims, 1992). Furthermore, of the existing studies, most have been conducted with men or mixed groups of prisoners (Henderson, 1998; Peters, Strozier, Murrin, & Kearns, 1997). Additionally, virtually no treatments have been developed specifically to meet the needs of women prisoners with SUD (Prendergast & Wellisch, 1995). The few programs that exist in jails and prisons are often designed using approaches first developed for male inmates (Peters et al., 1997). Numerous authors have advocated the need for gender-specific substance abuse treatments for incarcerated women based on research findings, which have identified differential needs between male and female inmates (e.g., Austin, Bloom, & Donahue, 1992; Henderson, 1998; Peters et al., 1997; Prendergast & Wellisch, 1995). In particular, these authors have consistently stressed the importance of services for incarcerated women that address both drug abuse and victimization (i.e., sexual violence and domestic violence). Finally, incarcerated

women themselves appear motivated to receive services for both substance abuse and interpersonal violence. In a survey designed to assess the needs of incarcerated women, the service most frequently rated as very important was a service related to childhood physical and sexual abuse, and over 80% rated drug dependency/addiction-related services as very important (Sanders, McNeill, Rienzi, & DeLouth, 1997).

Seeking Safety therapy, an existing treatment, is an integrative cognitive-behavioral treatment of SUD and PTSD. It is a manual-based treatment (Najavits, 2002) that draws upon the tradition of cognitive-behavioral therapy of substance abuse (Beck, Wright, Newman, and Liese, 1993; Carroll, Rounsaville, & Gawin, 1991; Marlatt & Gordon, 1985), PTSD treatment (Herman, 1992), and educational research (Najavits & Garber, 1989). The treatment consists of 25 topics (e.g., asking for help, coping with triggers) that address the cognitive, behavioral, interpersonal, and case management needs of persons with SUD and PTSD. *Seeking Safety* is a first-stage therapy, emphasizing stabilization, coping skills, and the reduction of self-destructive behavior. Therefore the primary goals of treatment are abstinence from substances and personal safety (Najavits, 2002). This treatment appears to be a promising intervention for incarcerated women with PTSD and SUD because it targets many of the deficits found in this population that may interfere with their recovery and place these women at risk for reoffending, such as impulsiveness, anger dyscontrol, and maladaptive lifestyle activities. *Seeking Safety* is currently one of the few psychosocial treatments for women with comorbid PTSD and SUD with efficacy data (Hien, Cohen, Caren Litt, Meile, & Capstick, under review; Najavits, Weiss, Shaw, & Muenz, 1998). For example, in an uncontrolled pilot study of *Seeking Safety* therapy in a sample of community women with SUD and PTSD (Najavits et al., 1998), at the end of treatment, there were significant decreases in trauma-related symptoms, substance use and a range of other clinical variables which included social adjustment, suicidal risk, and depression.

The overall goal of this study was to evaluate the initial feasibility, acceptability, and efficacy of *Seeking Safety* therapy as an adjunct to treatment-as-usual (TAU) in an uncontrolled pilot study of 18 incarcerated women with SUD and comorbid PTSD. Based on the promising results from the pilot study of *Seeking Safety* treatment with community women with SUD and PTSD (Najavits et al., 1998), as well as a randomized controlled trial with inner-city women (Hien et al., under review), we expected that incarcerated women with SUD and PTSD would find *Seeking Safety* treatment acceptable, and that after receiving *Seeking Safety* treatment they would report satisfaction with treatment and alliance with treatment providers, as well as decreased severity in PTSD symptoms and substance use. Because there are only 18 participants in the current study, it is important to emphasize the pilot nature of these data.

2. Method

2.1. Participant selection

All participants were recruited from a voluntary, residential substance abuse treatment program in a minimum security wing of a woman's prison facility. Potential recruits were approached approximately 12–14 weeks prior to their release date. All participants met DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, 4th ed.; APA, 1994) criteria for PTSD within the previous month as determined by the Clinician-Administered Posttraumatic Stress Disorder Scale-I (CAPS-I) (Blake et al., 1990), and met criteria for a current (i.e., last month) substance dependence disorder prior to entering prison as determined by the Structured Clinical Interview for DSM-IV-Patient version (SCID) (First, Spitzer, Gibbon, & Williams, 1996). Participants were excluded if they were actively psychotic (hallucinating or delusional) at the time of recruitment, could not understand English well enough to understand the consent form or the assessment instruments, or were diagnosed with organic brain impairment.

2.2. Overview of procedures

All study therapists were trained in the *Seeking Safety* treatment. Training consisted of didactic teaching of relevant material. Additionally, therapists delivered practice groups to clients and received weekly group telephone supervision from Dr. Najavits. Dr. Najavits determined whether therapists were qualified to deliver the treatment. She based her decision on ratings of therapists' adherence and competence to the treatment on a subset of tapes from the practice sessions. For the duration of the study, therapists received weekly group telephone supervision from Dr. Najavits. Two of the study therapists were substance abuse counselors who worked in the prison setting and the other therapist was an external clinical psychologist.

3. Seeking Safety treatment

3.1. Seeking Safety

Treatment sessions were provided in addition to TAU and were voluntary. All sessions were run according to the procedures described in the manual (see Najavits, 2002, and www.seekingsafety.org for a more detailed description of the treatment). Treatment sessions were 90 minutes long and were held in a group format twice a week for just over 12 weeks. There were three to five women in a group.

3.2. Treatment-as-usual

Treatment-as-usual is a voluntary, residential therapeutic program within the minimum security wing of the women's

prison. The standard treatment is an abstinence-oriented program that focuses on substance abuse as a disease and as a maladaptive behavior pattern and on the 12-step model (Alcoholics Anonymous, Cocaine Anonymous, Narcotics Anonymous). Treatment is primarily in group format in which all women are required to participate in order to remain in the program.

3.3. Research design and measures

Assessments were conducted at pretreatment, posttreatment (during incarceration) and 6 and 12 weeks postrelease (i.e., after release from prison). A trained research assistant administered all measures. Participants could obtain a total of \$50 for completing both postrelease assessments.

The CAPS-I (Blake et al., 1990) provided a diagnosis of lifetime and current PTSD and degree of PTSD symptoms (a composite score of the intensity and severity of PTSD symptoms) for the past month. The CAPS-I has demonstrated sound psychometric properties (Blake et al., 1990). The Trauma History Questionnaire (Greene, 1995) was given at pretreatment to assess lifetime trauma history, including physical, sexual, general disaster, and crime-related traumas.

The Addiction Severity Index (ASI; McLellan, Kushner, et al., 1992) and the SCID (First et al., 1996) were used to assess substance use outcomes. The ASI provided a measure of severity of substance abuse in the past 30 days. At intake (during incarceration) the women were assessed for substance use in the 30 days prior to entering prison. The SCID provided a diagnosis of lifetime and current (i.e., past month) alcohol or drug use or dependence. Substance use was also assessed with urinalysis.

At posttreatment, participants' opinions about treatment were assessed on the Helping Alliance Questionnaire-II (HAQ-II; Luborsky, et al., 1996) and the Client Satisfaction Questionnaire (Attkisson & Zwick, 1982). At posttreatment, patients' perceptions of the helpfulness of treatment components of *Seeking Safety* treatment were assessed with the End-of-Treatment Questionnaire (Najavits, 1994). Additionally, the Treatment Service Review, a measure of service utilization (McLellan, Alterman, Cacciola, Metzger & O'Brien, 1992) was administered at the postrelease assessments.

An Adherence-Competence Scale (Najavits & Liese, 1997) assessed therapist adherence (amount of the behavior) and competence (skillfulness of the behavior) in delivery of *Seeking Safety* treatment. One complete treatment session audiotape was rated by Dr. Najavits for each weekly group supervision session.

3.4. Data analysis approach

Characteristics of participants at baseline were investigated using frequency data. Participants' satisfaction with

Seeking Safety treatment as assessed with the End-of-Treatment Questionnaire, Client Satisfaction Questionnaire, and Helping Alliance Questionnaire was analyzed with descriptive statistics. Treatment outcome was defined as change in current (i.e., past thirty days) PTSD symptom severity (measured by the composite score of the CAPS) and in drug and alcohol problems (measured by the ASI) from the month prior to incarceration. These outcomes were analyzed using paired *t*-tests. Percent of women who no longer met criteria for a diagnosis of PTSD as defined by the CAPS and use of substances as assessed by the SCID and urinalysis results at followup were reported descriptively.

4. Results

The sample of incarcerated women who participated in this study ($N = 18$) had similar sociodemographic and criminologic characteristics (i.e., age, ethnicity, type of offense, and length of sentence) to the population of incarcerated women in the minimum security wing of the woman's prison facility, which was the site of the present study (see Table 1). Table 1 also shows the types of traumatic events reported. The mean age of first onset

for PTSD was 15.0 ($SD = 7.53$) years of age and the mean age of first onset for SUD was 12.21 ($SD = 4.4$) years of age. The lifetime average length of abstinence from all substances prior to prison was 11 months ($SD = 9.55$) (see Table 1 for subtypes of substance use disorder).

4.1. Satisfaction with seeking safety treatment

There was a high degree of acceptance of the treatment. Of the women who were approached to participate in the study 90% agreed to participate in it. All the women who were offered treatment began treatment. Of those women who received the *Seeking Safety* treatment, the attendance rate for the treatment was 83% of available sessions. Some women were unexpectedly released early, that is, before the 12-week period allowed for the study. On average, women attended 14 sessions with a range of 6 to 24 sessions. Only two women dropped out of *Seeking Safety* treatment, one due to her decision to transfer out of the substance abuse program in prison and one due to medical hospitalization (posttreatment data were collected on the latter participant).

The mean ratings on the End-of-Treatment Questionnaire where ratings can range from -3 to $+3$ (Najavits, 1994) were at 2.50 or above. More specifically, *the therapist overall ratings were $M = 3.00$ ($SD = 0$), the treatment overall ratings were $M = 2.83$ ($SD = 0.39$) focus on the relationship between PTSD and SUD ratings were $M = 3.00$ ($SD = 0$), helpfulness of treatment for PTSD ratings were $M = 2.93$ ($SD = 0.29$) and helpfulness of treatment for SUD ratings were $M = 2.83$ ($SD = 0.39$).* The mean score on the Client Satisfaction Questionnaire (Attkisson & Zwick, 1982) was 4.7 ($SD = 0.53$) on a 6-point scale for all therapists at the end of treatment. Patient alliance for all therapists at the end of treatment, as measured by the HAQ-II (Luborsky et al., 1996) showed a combined mean of 3.45 ($SD = 0.52$) on a 4-point scale.

4.2. Therapist assessments

For all three therapists, the average overall adherence score was 2.25 ($SD = 0.45$) and the average overall competence score was 1.90 ($SD = 0.45$) on the Adherence and Competence Scale (Najavits & Liese, 1997), which uses a rating scale that ranges from -3 to $+3$.

4.3. Outcome of participants who received Seeking Safety treatment

Of the women who received *Seeking Safety* treatment ($N = 18$), there was followup data for 17 (94%) woman at posttreatment, 16 (89%) at 6 weeks postrelease, and 15 (83%) at 3 months postrelease (i.e., after release from prison). Within 6 weeks of release, 2 (11%) of the woman returned to prison, and within 3 months of release 6 (33%) returned to prison. The postrelease assessments included all

Table 1
Baseline demographic, criminologic, type of trauma, and substance abuse: Characteristics in a sample of incarcerated women ($N = 18$)

Characteristics	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
Race		
White	12 (66.7)	
African American	2 (11.1)	
Hispanic	1 (5.6)	
Other	3 (16.7)	
Age		31.9 (4.2)
Education		
High School Graduate	6 (33.3)	
Marital status		
Never married	12 (66.6)	
First time in prison	2 (11.1)	
Nature of Crime		
Felony	5 (27.8)	
Number of previous arrests with conviction		8 (11.3)
Trauma Histories		
Sexual abuse	17 (94.4)	
Physical abuse	17 (94.4)	
Repeated trauma	18 (100)	
Age of first trauma		8.22 (4.9)
Subtypes of Substance Use Disorders		
Substance Dependence	18 (100)	
Current Polysubstance Use Disorder	5 (27.8)	
Lifetime Polysubstance Use Disorder	13 (72.2)	
Preferred Current Substance		
Cocaine	9 (50.0)	
Alcohol and Drugs	4 (22.2)	
Number of Lifetime Periods of Abstinence		2.22 (1.52)

* Current = within 30 days prior to entering prison.

participants, even those who were reincarcerated. At 12 weeks, seven (46%) of the 15 women reported that they had received no alcohol, drug, or psychological services on the Treatment Services Review during this postrelease period.

Results show that at posttreatment nine (53%) women no longer met criteria for PTSD, at 6 weeks after treatment seven (44%) no longer met criteria for PTSD, and at 3 months after the treatment seven (46%) no longer met criteria for PTSD. Paired *t*-tests found that there was a significant decrease in current PTSD symptoms from pretreatment to posttreatment ($t[17] = 3.81, p = .002$), from pretreatment to 6 weeks postrelease ($t[16] = 2.67, p = .02$) and from pretreatment to 3 months postrelease ($t[15] = 2.25, p = .04$).

Based on the self-report of substance use from the SCID and results of urinalysis, within the 6 weeks followup, five (29%) of the women reported use of illegal substances. Within 3 months one other woman reported substance use. There was a total of six (35%) women who reported using illegal substances within 3 months of release. Participants showed a significant decrease in drug and alcohol use from pretreatment to 6 weeks postrelease ($t[16] = 6.09, p = .001$; $t[16] = 3.06, p = .002$), respectively, and from pretreatment to 3 months postrelease ($t[15] = 4.61, p = .001$; $t[15] = 2.88, p = .01$), respectively.

5. Discussion

Findings from this preliminary study showed that *Seeking Safety* treatment was acceptable to incarcerated women with SUD and PTSD, that the participants found the treatment appealing (there was very strong alliance and satisfaction with *Seeking Safety* treatment and retention rate in treatment was high) and that treatment has the potential to be helpful (treatment had some favorable outcomes and the women felt helped by the treatment). More specifically in terms of the clinical outcomes, incarcerated women who received *Seeking Safety* treatment as an adjunct to TAU reported significant improvements in PTSD symptoms from pre- to posttreatment, which were maintained through 3 months after release. Additionally, at 6 weeks postrelease, there were significant decreases in severity of substance use. Overall, these results suggest that women prisoners are able to engage in treatment and view treatment as beneficial, despite their marked impairment. Despite these promising findings, a high recidivism rate was still found for these women.

This is the first empirical study to examine the effects of a treatment for women prisoners with comorbid PTSD and SUD. The findings from this open clinical trial suggest that women who received *Seeking Safety* treatment as an adjunct to TAU showed a significant improvement in PTSD symptoms and that nearly half of the women no longer met criteria for PTSD 3 months after release from prison. These findings are consistent with our

initial hypotheses and are significant as PTSD is usually a chronic disorder and individuals who receive treatment take, on average, 36 months to recover from their PTSD (Kessler et al., 1995). However, the impact of *Seeking Safety* treatment on substance use is difficult to interpret because some of the women were in a controlled environment (i.e., prison) for the 6 weeks to 3 months followup period.

A controlled trial by Hien et al. (under review) provides a useful comparison for the results of this study. Hien et al. studied urban low-income mostly minority women with PTSD and SUD. *Seeking Safety* evidenced significantly greater reduction than a treatment-as-usual control in substance use frequency and intensity, PTSD symptoms, and psychiatric symptom severity. PTSD improvements were sustained at 6-month followup. These findings, in combination with the current study and other pilot studies on *Seeking Safety* (e.g., Najavits et al., 1998), suggest that a treatment targeting PTSD and substance abuse may be helpful for women with notable clinical severity and life problems. However, it would also appear that incarcerated women may have special needs that require additional attention when conducting treatment with them. Specifically, assistance with re-entry into the community and transferring skills to the community setting may be important. A current study by the first author, funded by the National Institute on Drug Abuse, is adding a post-release phase of *Seeking Safety* sessions to help the re-entry process. Also, since nearly half of the participants in this study did not receive any form of professional treatment for their substance use or emotional difficulties within 3 months of release from prison, an expansion of *Seeking Safety* treatment to the postrelease period may substantially improve upon the initial findings of the current study. Numerous researchers have recommended a continuum of care for substance abusers in the criminal justice system because these clients often face a wider range of problems than other substance abusing clients, such as the perceived stigma of a criminal record and dual problems of recovery and reentry into society (Barthwell et al., 1995; Hiller, Knight, & Simpson, 1999; Peters et al., 1997). Therefore, if at postrelease, women are not actively engaged in treatment, they are at increased risk of resorting to the maladaptive behaviors, such as substance use, that precipitated their incarceration (Lake, 1993).

While the current form of *Seeking Safety* treatment appears a promising approach for incarcerated women with comorbid PTSD and SUD, the findings of our pilot study have several limitations. Without a control group to show that any gains occurred at a significantly higher rate among those women who received *Seeking Safety* treatment compared to a non-*Seeking Safety* treatment group, results remain tentative. The improvement in the PTSD symptoms may have been a function of time or the natural course of the disorder for this population of women. Additionally, it is difficult to interpret findings related to substance use outcomes, as a large percentage of women were in a controlled

environment during follow-up. The small sample limits any generalizability of the findings to other incarcerated women in different prison settings. Other considerations are whether the *Seeking Safety* treatment as it was delivered in this study (with its intensive training, supervision, and schedule of sessions) would be feasible in a prison setting.

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