BRIEF REPORT

Does Seeking Safety Reduce PTSD Symptoms in Women Receiving Physical Disability Compensation?

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Objective: This secondary analysis investigated the impact of 12 sessions of *Seeking Safety (SS)* on reducing posttraumatic stress disorder (PTSD) symptoms in a sample of dually diagnosed women with physical disabilities versus nondisabled (ND) women. *SS* is an evidence-based and widely implemented manualized therapy for PTSD and/or substance use disorder. It is a present-focused model that promotes coping skills and psychoeducation. *Design:* As part of the National Institute on Drug Abuse Clinical Trials Network (NIDA CTN), 353 participants with current PTSD and substance use disorder (SUD) were randomly assigned to *partial-dose SS* or *Women's Health Education (WHE)* group therapy conducted in community-based substance abuse treatment programs. The women were categorized as participants with disabilities (PWD; $n = 20$) or ND ($n = 333$) based on the question, "Do you receive a pension for a physical disability?" PTSD was assessed on the Clinician-Administered PTSD Scale (CAPS) at baseline and follow-ups after treatment (1 week, 3 months, 6 months, and 12 months). *Results:* PWD experienced sustained reductions in PTSD symptoms when treated with *SS* but not *WHE*. Indeed, PTSD symptoms of PWD in *WHE* returned to baseline levels of severity by 12-month follow-up. This pattern of results was not observed among ND women, who sustained improvements on PTSD in both treatment conditions. *Implications:* These results suggest strong potential for using *SS* to treat PTSD among women with physical disabilities, and speak to the genuine need to address trauma and PTSD more directly with PWD. Our results are also consistent with other findings from the NIDA CTN trial, in which virtually all significant results evidenced *SS* outperforming *WHE*.

Keywords: women with disabilities, trauma, PTSD, substance abuse, Seeking Safety

Impact and Implications

- The current analysis presents one of the first investigations of evidence-based trauma treatment among individuals with physical disabilities.

- Initial results suggest strong potential for using *Seeking Safety* to treat PTSD among women with physical disabilities. However, more research is needed to investigate effects of the full model within a larger, more diverse sample of women with disabilities.

- More broadly, current findings support the notion there is a genuine need to address trauma and PTSD more directly with individuals with physical disabilities.

Introduction

Our goal was to examine the impact of *Seeking Safety* (*SS*; Najavits, 2002) on reducing posttraumatic stress disorder (PTSD) symptoms in a sample of women with physical disabilities versus nondisabled (ND) women. *SS* is an evidence-based and widely implemented manualized therapy for PTSD and/or substance use disorder. It is a present-focused model that focuses on coping skills and psychoeducation (Najavits & Hien, 2013).

The Americans with Disabilities Act defines a physical disability as "any physical impairment that substantially limits one or more major life activities," which persists for more than 6 months. This definition includes physiological disorders or conditions, cosmetic disfigurements, or anatomical losses (e.g., musculoskeletal, sensory, and/or neurological systems). PTSD is strongly associated with a range of physical disabilities, including neurological conditions, musculoskeletal conditions (Sareen, Cox, Clara, & Asmundson, 2005), and chronic pain (Asmundson, Coons, Taylor, & Katz, 2002).

There are various major linkages between PTSD and physical disability. One, for example, is that trauma can lead to both physical disability and PTSD (Jurisic & Marusic, 2009). In this scenario, the resulting physical symptoms may serve as a persistent reminders of the trauma and trigger PTSD symptoms (Asmundson et al., 2002). Second, individuals with physical disabilities are more likely to develop PTSD than ND individuals, for reasons such as reduced access to economic and social resources in the aftermath of trauma (Cutter, Boruff, & Shirley, 2003; Morrow, 1999; Peek & Stough, 2010; Shih, Schell, Hambarsoomian, Belzberg, & Marshall, 2010). Third, individuals with PTSD are more likely to develop physical disability (O'Donnell et al., 2013; Ramchand, Marshall, Schell, & Jaycox, 2008). Possible causes are stress-related alterations in neurobiology and immune functioning, reduced engagement in health behaviors, avoidance of medical care, and increased engagement in health-risk behaviors (Schnurr & Green, 2004).

To date, there has been only one investigation of evidence-based trauma therapy among individuals with physical disabilities. The researchers reported positive outcomes for past-focused (exposure-based) CBT among motor vehicle accident survivors with PTSD, 91% of whom acquired a "lingering physical injury" (Blanchard et al., 2003). These injuries persisted an average of 11.5 months after the accident, meeting criteria for "disability" under the Americans with Disabilities Act. Yet, studies of evidence-based therapies for PTSD have not yet investigated treatment outcomes among individuals with preexisting physical disabilities. Additionally, no studies have explored the impact of present-focused trauma approaches within this population. Present-focused models, which emphasize coping and education rather than exposure, have evidenced consistent positive outcomes, particularly for complex PTSD populations who have been excluded from the standard PTSD treatment outcome literature (Najavits & Hien, 2013).

Analyzing data from the National Institute on Drug Abuse Clinical Trials Network (NIDA CTN), our primary research objective was to compare PTSD outcomes between dually diagnosed participants with disabilities (PWD) versus ND participants who received group-modality *SS* or *Women's Health Education* (*WHE*; a manualized health education treatment).

Method

Participants

Data for this analysis were derived from a study conducted within the NIDA CTN. Study procedures and data collection are briefly described below. For a detailed description of methods, see Hien et al. (2010), and for a summary of prior findings from that trial, see Najavits and Hien (2013).

Data were collected at seven community-based treatment programs offering intensive outpatient substance abuse treatment, varying by U.S. region and level of urbanicity. Inclusion criteria for the clinical trial were: (a) age 18–65, (b) proficiency in English, (c) substance use within the past 6 months and a current diagnosis of substance use disorder, and (d) at least one lifetime traumatic event and meeting *DSM–IV* criteria for either full or subthreshold PTSD in the past 30 days. Subthreshold PTSD differs from full PTSD in that participants could meet either Criterion C (avoidance/numbing) or Criterion D (hyperarousal), but not both as required in the full diagnosis. Exclu-

sion criteria were: (a) significant risk of suicidal/homicidal intent or behavior, (b) history of schizophrenia spectrum diagnosis, or (c) psychosis in the past 2 months. A total of 353 women participated in the study.

For this secondary analysis, individuals were categorized as PWD or ND, based on the following question from the baseline administration of the Addiction Severity Index-Lite (ASI): "Do you receive a pension for a physical disability?" The ND group included 333 women, 164 assigned to *SS* and 169 assigned to *WHE*. The PWD group included 20 women (5.7% of the total sample), 12 assigned to *SS* and eight assigned to *WHE*. Reported physical disabilities included orthopedic problems (i.e., back, wrist, ankle, foot), chronic pain, asthma, HIV, and heart conditions.

Procedure

Participants completed an initial screening interview to assess eligibility, followed by a baseline assessment. After completion of baseline assessment, participants were randomly assigned to a treatment group. Randomization was stratified by substance use diagnosis and prescription psychotropic medication use. Participants were assigned to either *SS* or *WHE* group treatment for 6 weeks (two sessions per week). After treatment, participants were reassessed at 1-week, 3-, 6-, and 12-month timepoints. Baseline and posttreatment interviews were conducted by independent assessors who remained blind to treatment assignment.

Study Interventions

SS is a present-focused, cognitive–behavioral therapy developed to help people attain safety from trauma/PTSD and substance abuse (Najavits, 2002). A partial dose of *SS* was used in the current clinical trial (12 topics rather than 25), and it was delivered in group format in just 6 weeks to align with the duration of substance abuse treatment in the community programs in the study. *SS* offers psychoeducation and coping skills. Examples of topics are *Setting Boundaries in Relationships; Compassion; Creating Meaning;* and *Asking for Help.* For more on *SS*, see www.seekingsafety.org.

WHE is a psychoeducational manual focused on health promotion with the following topics: pregnancy, nutrition, diabetes, hypertension, and HIV/sexually transmitted diseases. This attention control condition, also conducted in group format, provided equal therapeutic attention, expectancy of benefit, and an issue-oriented focus, but without the trauma focus of *SS*.

Measures

For the current secondary analysis, we analyzed PTSD symptoms using the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995), a widely used interview to obtain *DSM–IV* PTSD diagnosis and past 30-day frequency and intensity of symptoms. The CAPS was administered at baseline and follow-up timepoints after treatment ended.

We compared baseline sociodemographic and clinical characteristics between PWD and ND participants. Clinical characteristics were selected based on common comorbidities with PTSD: substance use, mood, and anxiety disorders. We used the following measures: ASI; Brief Symptom Inventory (BSI); Clinical Global Impression (CGI); PTSD Symptom Scale–Self-Report (PSS-SR); and Substance Use Inventory (SUI).

Statistical Analyses

Baseline sociodemographic and clinical characteristics between PWD and ND participants were compared using t tests (for continuous variables) and chi-square tests (for categorical variables). Generalized estimating equations (GEE) were applied to test the relationship between disability status and PTSD symptoms across the four study timepoints. The CAPS total score was modeled as a function of disability status; intervention type; time of follow-up assessment; baseline CAPS score; and baseline age (as a covariate). Two interaction variables were also tested and included in the final model: Intervention Type × Time of Follow-Up, and Disability Status × Intervention Type × Time of Follow-Up.

Results

Sample characteristics are listed in Table 1. There were no significant differences between groups on most sociodemographic factors, PTSD symptoms, or substance use at baseline. Significant differences were found on the ASI Medical Composite, BSI Somatization subscale, and CGI Depression subscale, with PWD exhibiting higher levels of severity than ND participants. Increased severity on medical and somatic measures is expected of this population, and the BSI is known for overpathologizing the physical symptoms of PWD (Elliott & Umlauf, 1991; Heinrich & Tate, 1996). Additionally, it is likely that the CGI Depression score was inflated by PWD's reports of disability-related somatic symptoms (Olkin, 1999; Vahle, Andresen, & Hagglund, 2000). Therefore, for the purposes of the current study, differences on these measures are considered an accurate representation of between-groups characteristics and are not used as control variables. Additionally, results indicate that PWD were an average of 7 years older than the ND women at baseline, $t(351) = -4.66$, $p < .001$. Age was found to be positively correlated with CAPS scores; therefore, age was entered as a covariate in all subsequent analyses.

We further analyzed the baseline characteristics of the PWD group by treatment condition. No significant baseline differences emerged, except for the CGI sedatives subscale, $t(12) = 2.28$, $p = .047$. PWD in *SS* evidenced baseline sedative abuse in the mild-to-minimal range ($M = 2.78$) compared with minimal-to-none ($M = 1.20$) among PWD in *WHE*.

GEE results for the model are presented in Table 2. When analyzed by treatment condition, PWD and ND participants differed in PTSD outcome over the 12-month follow-up period. As can be seen in Table 2, the interaction among disability status, intervention type, and time of assessment significantly predicted follow-up CAPS scores. See Figure 1 for a graph of this interaction among PWD, and Figure 2 for ND participants.

PWD's PTSD symptoms decreased much more in *SS* compared with *WHE* over the 12-month follow-up period. From baseline to treatment completion, PWD in both *SS* and *WHE* evidenced clinically significant change on the CAPS (*SS M* = 37.00; *WHE M* = 31.00; Weathers, Keane, & Davidson, 2001). However, over subsequent follow-up timepoints, PWD enrolled in *WHE* returned to near-baseline levels of PTSD by 12-months ($M = 56.00$). PTSD gains were sustained only by PWD enrolled in *SS,* whose CAPS scores further reduced to 18.18 by 12-month follow-up, in the asymptomatic/few symptoms range.

In contrast, ND participants showed decreases in PTSD symptoms over time, regardless of enrollment in *SS* or *WHE*. At treatment completion, ND participants enrolled in both *SS* and *WHE*

Table 1

Baseline Sample Characteristics by Disability Status

	Disability ($n = 20$) %	No disability ($n = 333$) %
Ethnicity		
Hispanic	5.0%	6.6%
Non-Hispanic	95.0%	93.4%
Race		
White	50.0%	56.2%
Non-White	50.0%	44.8%
	Mean (*SD*)	Mean (*SD*)
Age*	45.3 (6.4)	38.3 (9.3)
Clinician administered–PTSD scale		
Total score	64.3 (18.5)	62.8 (19.5)
Symptom B: Re-experiencing	17.2 (7.2)	16.9 (6.8)
Symptom C: Avoidance/numbing	26.1 (10.3)	25.7 (10.2)
Symptom D: Hyperarousal	21.1 (6.6)	20.2 (7.6)
Addiction severity index-lite		
Medical composite*	0.6 (0.3)	0.4 (0.3)
Employment composite	0.8 (0.3)	0.7 (0.3)
Alcohol composite	0.2 (0.2)	0.2 (0.2)
Drug use composite	0.2 (0.1)	0.2 (0.1)
Legal composite	0.1 (0.2)	0.1 (0.2)
Family/social composite	0.3 (0.2)	0.3 (0.2)
Psychological composite	0.4 (0.1)	0.4 (0.2)
Brief symptom inventory		
Global severity index	1.4 (0.6)	1.2 (0.7)
Somatization*	1.3 (0.7)	0.9 (0.7)
Obsessive–compulsive	1.8 (0.8)	1.6 (1.0)
Interpersonal sensitivity	1.6 (1.2)	1.4 (1.0)
Depression	1.6 (1.0)	1.3 (0.9)
Anxiety	1.4 (0.9)	1.4 (0.9)
Hostility	1.0 (0.8)	0.9 (0.7)
Phobic anxiety	0.8 (0.8)	1.0 (0.9)
Paranoid ideation	1.4 (0.9)	1.3 (0.9)
Psychoticism	1.3 (0.9)	1.2 (0.9)
Clinical global impression		
Global current severity	4.7 (0.9)	4.6 (0.9)
PTSD	4.8 (1.0)	4.5 (1.0)
Depression*	4.3 (1.6)	3.7 (1.2)
Alcohol abuse/dependence	3.0 (1.7)	3.5 (1.8)
Cocaine abuse/dependence	4.1 (1.4)	4.0 (1.6)
Heroin abuse/dependence	1.8 (1.5)	1.6 (1.2)
Marijuana abuse/dependence	2.4 (1.8)	2.9 (1.7)
Sedative abuse/dependence	2.2 (1.8)	2.1 (1.5)
Other drugs abuse/dependence	3.9 (1.4)	3.6 (1.7)
PTSD symptom scale–self-report		
Total score	24.6 (9.4)	21.5 (10.8)
Re-experiencing cluster	6.5 (3.7)	5.5 (3.5)
Avoidance/numbing cluster	10.0 (4.2)	8.5 (5.3)
Hyperarousal cluster	8.3 (3.4)	7.5 (3.7)
Substance use inventory		
# Days using drugs/alcohol	1.7 (2.6)	1.7 (2.9)
# Days using IV/SC drugs	0.0 (0.0)	0.1 (0.6)
# Days with urge, desire, craving	3.1 (3.0)	3.2 (3.2)
Strength of urge	1.6 (1.4)	1.7 (1.3)

* Significant difference between groups at .05 level.

evidenced 30-point reductions on the CAPS. These scores continued to decrease through 12-month follow-up, falling to the mild/subthreshold range (*SS M* = 22.16; *WHE M* = 20.50).

Discussion

Overall, we found that PWD experienced lasting reductions in PTSD symptoms when treated with *SS* but not *WHE*. Indeed,

Table 2
Estimates of Generalized Estimation Equation Parameters for PTSD Outcome

Parameter	Estimate	SE	CI (95%) Lower	CI (95%) Upper	Wald Chi-Square	p
Main effects						
Age (covariate)	0.28	0.11	0.06	0.51	6.00	0.014
Baseline CAPS score	0.54	0.06	0.43	0.66	85.70	<0.001
Follow-up time point	−5.43	1.39	−8.15	−2.71	15.27	<0.001
Intervention type	−0.55	3.00	−6.45	5.34	0.03	0.855
Disability status	−4.42	5.84	−15.87	7.03	0.57	0.450
Interactions						
Intervention × Follow-up	−2.49	1.87	−6.16	1.17	1.78	0.182
Disability × Intervention × Follow-up	3.33	1.49	0.40	6.26	4.96	0.026

PTSD symptoms of PWD in *WHE* returned to baseline levels of severity by 12-month follow-up, indicating that the initial improvement in PTSD symptoms among PWD in *WHE* that was visible at the end of treatment was entirely lost during the follow-up; that is, they ended up at the same PTSD levels with which they had begun the study. In contrast, ND women did sustain their improvements in PTSD in both *SS* and *WHE*.

We also explored whether these results might be explained by baseline differences between treatment conditions in sociodemographic or clinical characteristics. But no such differences were found. Indeed, the only difference between conditions was that PWD enrolled in *SS* reporting more severe sedative use at baseline. That these women later exhibited marked, lasting reductions in PTSD symptoms aligns with findings that *SS* outperforms *WHE* among women with more severe substance use disorder (Hien et al., 2010).

One reason why *SS* may have outperformed *WHE* for PWD is that it aligns with best practices described in the literature on behavioral health care for individuals with disabilities (Olkin, 1999). Overlaps include emphasizing therapist flexibility; assisting with case management and coordination of services; framing goals as positive ideals; introducing a wide array of behavioral, cognitive, and interpersonal coping skills; promoting the development of a healthy support network; supporting empowerment and giving clients control; and encouraging a spirit of perseverance (Najavits, 2002; Nosek et al., 2004; Olkin, 1999). However, we are not able to dismantle particular treatment characteristics in this study, and thus additional research would be needed on this topic.

Limitations of our analysis should also be named. First, the small PWD sample size ($n = 20$) reduced statistical power. Second, the variable to identify PWD was not an ideal measure of disability ("Do you receive a pension for a physical disability?"). It does not capture
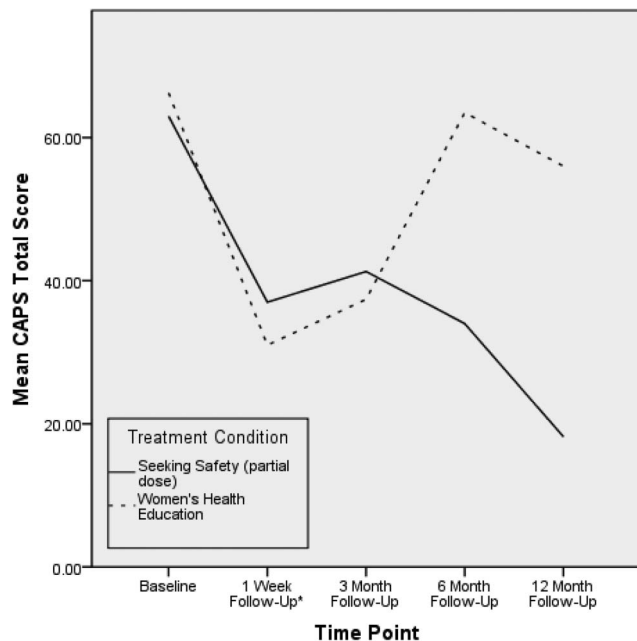

Figure 1. Women with disabilities: Change in PTSD symptoms over time, *SS* versus *WHE*. *1-week follow-up time point closest to end of treatment.
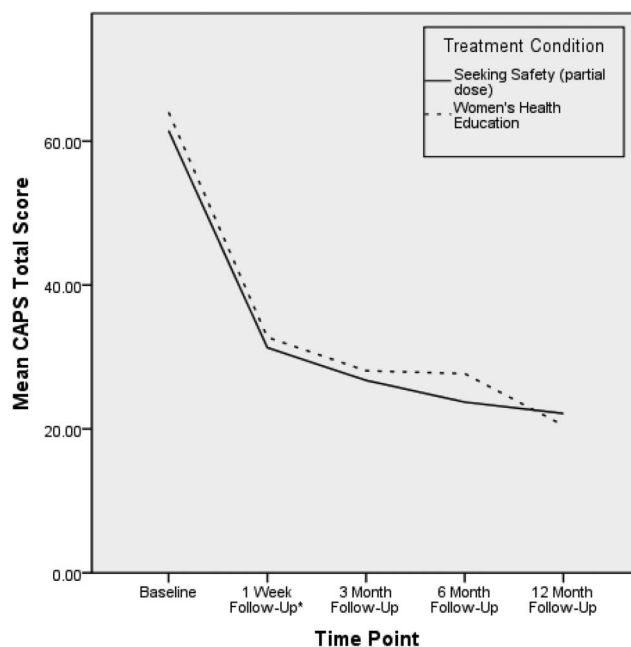

Figure 2. Nondisabled women: Change in PTSD symptoms over time, *SS* versus *WHE*. *1-week follow-up time point closest to end of treatment.

participants with disabilities who are not receiving disability benefits; does not account for onset of disability (i.e., from birth or acquired later in life); does not identify whether the disability was trauma-related; and does not identify the type of physical disability (e.g., chronic pain, amputation, injury). Third, available data on disability type indicated that the PWD had orthopedic problems, chronic pain, asthma, HIV, and heart conditions. Women with sensory disabilities (e.g., hearing or vision loss) were not represented. Thus, our results may not generalize to the heterogeneous population of women with physical disabilities. Fourth, data on when the index trauma occurred was not collected; therefore, we were unable to compare groups and, if necessary, control for variations in the recency of trauma. Fifth, the *SS* therapy was conducted as a partial dose that was less than half of the standard dose. Although the success of the partial dose might suggest that the full dose of *SS* would be even more helpful among PWD, future research would be needed to examine this question. Finally, male PWD were not studied, and it is unclear whether results would generalize to them.

The current analysis presents the second investigation we know of that used an evidence-based trauma treatment among individuals with disabilities (Blanchard et al., 2003). Initial results suggest strong potential for using *SS* to treat PTSD among women with physical disabilities. The *SS* model may be particularly relevant for this population by providing a trauma focus without requiring clients to delve into painful trauma memories, and instead offering a present-focused, optimistic focus on coping skills and education. The barriers that often keep PWD from obtaining treatment (e.g., isolation, lack of providers skilled to treat them, lack of accessibility, lack of knowledge of their options) are, sadly, deepened by PTSD itself, which adds another layer of isolation, lack of empowerment, and perceived lack of choices. They are a vulnerable population for whom trauma is bound up closely with disability, in many cases (Asmundson et al., 2002; Jurisic & Marusic, 2009); yet trauma is often a neglected aspect of their psychotherapeutic treatment (Mona, Cameron, & Crawford, 2005; Olkin, 1999). Our main finding, that PWD had better outcomes in *SS* than *WHE*, speaks to the genuine need to address trauma and PTSD more directly with PWD.

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