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Seeking Safety Therapy for Co-Occurring Posttraumatic Stress Disorder and Substance Use Disorder: A Case Study in Iran

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Abstract

Literature documents the high prevalence of trauma and posttraumatic stress disorder (PTSD) in individuals with substance use disorders, which complicate the clinical profile of patients and present challenges for treatment providers. Although several evidence-based integrated therapies are developed for comorbid PTSD/SUD (substance use disorder), there is a considerable gap addressing this co-occurrence and none of such practices are studied yet on such patients. Through A-B-A single subject design, the current study aimed at exploring the effectiveness of seeking safety (SS), an integrative evidence-based therapy for PTSD/SUD, to reduce PTSD and SUD symptoms in a 32-year-old female with both disorders. Measures of PTSD checklist (PTSD checklist-civilian; PCL-C), addiction severity index (ASI), brief symptom inventory (BSI), and coping inventory for stressful situations (CISS-21) were completed by the participant at baseline, intervention, and 2-month follow-up. Results were analyzed through visual analysis and computing 3 effect size indices including standardized mean difference (SMD), mean baseline reduction (MLR), and percent of non-overlapping data (PND). Clinically significant reductions in PTSD symptoms, psychological distress, and ASI scores, as well as improvement in coping skills were observed at intervention phase and maintained at 2-month follow-up, which indicated that the participant benefited from SS.

Keywords: Seeking Safety, Comorbidity, Substance Use Disorder, Posttraumatic Stress Disorder

1. Introduction

Comorbidity research consistently shows high co-occurrence of posttraumatic stress disorder (PTSD) and substance use disorder (SUD) in both clinical and general population (1). In the drug treatment settings, the comorbid PTSD/SUDs is associated with more substance-related problems. During the treatment of SUD, individuals with comorbid PTSD/SUD are at higher risk for relapse (2), have lower rates of remission from SUD, and higher ongoing negative consequences of their substance use (3). In addition, comorbid SUD/PTSD is associated with worse physical health outcomes versus having SUD without PTSD (4) or PTSD without SUD (5). Co-occurrence of both PTSD and SUD is also associated with greater financial strain, unemployment, and likelihood of suicide attempts, compared with the occurrence of either disorder alone (6).

Drug treatment providers usually apply a sequential treatment approach to individuals with comorbid PTSD/SUD that is treating the addiction first, and then, addressing the PTSD, when the abstinence is achieved. In such approaches, clients with histories of SUD and trauma might be overlooked in treatment settings due to the com-

plexity of their issues, or may receive treatment for one issue, while the other issue remains unaddressed, which may contribute to poorer outcomes and higher costs (7). Emerging research shows that an integrated approach addressing both disorders simultaneously by the same practitioner is the best approach (8). Such an approach allows for addressing both disorders adequately, and provides the opportunity for the clients to understand how these disorders might be linked.

Moreover, the research suggests that an integrated approach is often more successful both in short and long term, more cost-effective, and more sensitive to the unique needs of clients (8), and failing to provide an integrated treatment may lead to negative outcomes such as inability to achieve prolonged periods of stability with respect to substance abuse or trauma symptomology. Part of this inability is attributable to clients' lack of knowledge about how to deal with trauma symptoms once their primary coping mechanism (i.e., drugs or alcohol use) is removed (9).

Seeking safety (10) (SS) is an integrated manualized treatment program that teaches cognitive, behavioral, and

interpersonal skills focused broadly on increasing females' skills to establish safety including safety of substances, improving interpersonal skills to help them disengage from unsafe relationships (i.e., domestic violence and substance-using friends), and developing better emotion regulation, and coping skills to avoid extreme psychological and behavioral complications such as dissociation and self-harm (11). The SS protocol is a detailed treatment manual with 25 separate sessions. SS is designed as the first stage recovery from both disorders and does not focus on emotional processing through exposure technique. SS is also one of the most studied integrated treatments for comorbid PTSD/SUD, and is evidence-based. Due to the considerable gap in addressing co-occurrence of PTSD and SUD in treatment settings in Iran, the current study aimed at investigating the effectiveness of SS on the treatment outcome in a patient with comorbid PTSD/SUD.

2. Method

2.1. Procedure

An A-B-A single subject design was applied to assess the effectiveness of SS for a patient with comorbid PTSD/SUD.

Initial interview was conducted using a structured clinical interview for diagnostic and statistical manual of mental disorders, 4th edition (DSM-IV) and structured clinical interview for DSM-IV axis I disorders (SCID-I), as a part of screening process of the psychological status of patients in a residential treatment center. Patients with comorbid SUD/PTSD were invited to participate in a SS treatment program voluntarily. A written informed consent was obtained; then, the recruited participant completed 3 baseline assessments by a 2-week interval. The first assessment was conducted when she resided in the center, and 2 other assessments were conducted after her discharge. After completion of baseline assessments, biweekly personal SS treatment sessions were provided by a trained PhD student of clinical psychology (SJ). Therapist had the certificate of SS exam and received the clinical supervision certificate from a trained, PhD level, assistant professor of clinical psychology (FL). During 12 weeks of intervention, 6 assessments of ASI by 2-week interval and 8 assessments of other measures by 10-day interval were completed. Follow-up included 3 assessments by 2-week interval. During the study, the patient received no other treatments. Study assessments were conducted by the study therapist.

Data analysis was conducted through computing 3 effect size indices for case study designs including standardized mean difference (SMD), mean baseline reduction (MBLR), and percent of non-overlapping data (PND).

The values of $SMD \geq 0.8$, $SMD = 0.5 - 0.8$, and $SMD < 0.5$ respectively indicated the powerful, moderate, and weak

effect of the intervention. MBLR is applicable when the purpose of intervention is to reduce the dependent variables. PND represents the percent of data improvement in the subsequent phase compared with previous phase. The results of visual data analysis were also provided by inter- and intra-relationships of the variables including mean, median, range, trend, and relative and absolute changes of dependent variables.

The study protocol was approved by the research ethics committee of Iran University of Medical Sciences (IUMS), Tehran, Iran.

2.2. Case Presentation

The patient was a 32-year-old and divorced female; she had been stayed in the residential drug treatment center for 20 days when she was first interviewed by the therapist. She had 14 years education. At the time of intake, she was living with her 60-year-old uncle who was an alcohol user. She was unemployed and financially dependent on her uncle. She had a 6-year-old daughter, but had no connection with her. Her social support network was so limited and had no intimate non-drug user friend, no connection with her siblings, and limited connection with her mother via social networks.

2.3. History and Presenting Complaints

She was the second child with 2 sisters and 1 brother. She reported a normal life until she was 17, when her 12-year-old sister died due to the car accident in front of her eyes. Other family members were in the car and had serious injuries, but survived.

This accident affected the family intensely; her mother blamed her father for the accident and her father was so depressed that quitted his work and got retired early.

She tried to avoid this tension by smoking alone at her room. At 19 she started occasional use of methamphetamine in parties and at home, but when her parents divorced and the father left them to live in another city, she increased her substance use and left the university at 20.

Her mother immigrated to the United States when she was 21 and she felt deep loneliness since she had limited connection with her married sister and younger brother who did not approve her lifestyle. Since then, she spent most of her times with her boyfriend and started daily use of methamphetamine and cannabis.

She started using alprazolam and lorazepam at the age of 22 and kept using until the age of 27. She also started cocaine use at 23 and kept using it daily for 2 years.

She reported that using substance was a way to forget the miseries of life and feel more energetic. She also enjoyed getting high with friends and felt more connected.

She got pregnant at 27 and married her boyfriend, but after giving birth to her child, she left them. Her family rejected her when she tried to make new connection with them and she moved to live with her uncle.

Although she had used diverse substances, her main problem was using methamphetamine and cannabis. She had tried to quit using drugs twice, but she could not maintain abstinence more than 1 week.

She had decided to enter drug treatment since she was tired of current situation and she hoped to connect with her family after achieving abstinence.

2.4. Measures

SCID-I for axis I and II disorders were applied only at first interview to screen patient for other comorbid disorders. Following measures were applied at baseline, and other study assessments.

PTSD checklist-civilian (12): The severity of PTSD symptoms was assessed using PCL-C, which is a self-report measure consisting of 17 items assessing symptoms of PTSD and the extent to which the respondent experienced each of them during the last month. The Persian version of PCL-C has good reliability and validity (13).

Addiction severity index (14): A semi-structured interview that assesses 7 potential problem areas commonly affected by drug and alcohol dependence was used to assess the current status of the patient in terms of medical status, employment status, legal problems, family-social relations, drug use, alcohol use, and psychiatric status. The Persian version of ASI has high reliability and validity (15).

Brief symptom inventory (16): The 53-item self-report symptom inventory assesses 9 symptom dimensions including anxiety, depression, phobia, paranoid ideation, obsession, somatization, psychoticism, interpersonal sensitivity, and hostility. It also provides a global index of distress (GSI). The Persian version of BSI has good validity and reliability (17). The current study used the most valid scales of BSI including anxiety, depression, and GSI to assess psychological distress of the patient.

Coping Inventory for Stressful Situations-short form (18): It is a 21-item self-report questionnaire, which measures problem, emotion, and avoidance-oriented copings. This measure also showed good reliability and validity in the Iranian population (19). CISS was used to assess the coping style of the patient and its changes throughout the intervention.

2.5. Initial Assessment

Based on SCID-IV for axis I and II disorders, the patient was diagnosed with current PTSD, which appeared first when she was 17 years old and was associated with the mortal accident and death of her sister.

PCL showed high severity of PTSD symptoms. The avoidance symptoms had the highest score; then, intrusion and arousal respectively had high scores at baseline.

She was also diagnosed with current methamphetamine and cannabis dependence, and showed the lifetime evidence of cocaine and anxiolytic dependence. Her test results were positive for cannabis and methamphetamine when she first entered the treatment center.

ASI showed problems in drug use, family relationships, employment, and psychiatric areas. She reported symptoms of despair, anxiety, and tension, which caused distress; and she reported that managing them was of great importance to her.

On CISS, she showed highest score for emotional coping and then, avoidance through employing distraction techniques. She barely used problem-oriented copings and using drugs was the main strategy for her to relieve from emotional pain or forgetting problems.

2.6. Treatment Process

Treatment took place during 12 weeks, including 24 sessions (90 minutes) biweekly. Initial sessions of this therapy are essential due to the atmosphere of trust, therapeutic alliance, and validating patient emotions and concerns that should be established and maintained throughout the treatment in which the patient takes the main responsibility of her own treatment.

In the first session, the treatment was introduced to the patient and she was encouraged to provide her concerns and questions about this treatment. Case management needs of the patient were also assessed and discussed until a list of needs were prepared.

Her uncle was a heavy alcohol user and offered drugs to her; therefore, she decided to have the least contact with him. She also decided to stay at residential center for 2 days of each weekend. She had no safe activity for leisure time, and finding a source of financial support was among her primary needs. The therapist and patient agreed to work on these issues during the treatment process. Maintaining abstinence, connecting with at least 1 family member, coping with negative emotions without using substance, and increasing safe and healthy activities were listed as patient's goals to be achieved at the end of treatment.

Session 2 focused on the concept of safety as the first stage of recovery, identifying safe and unsafe coping skills, and the importance of using safe coping skills in any situations.

The meaning of safety for the patient was also discussed; she considered the safety as one of treatment goals and introduced safety as living with family in a safe home

with no drugs and least tension, being protected from unsafe relationships, and asking help whenever necessary.

Session 3 focused on psycho-education about PTSD and the link between PTSD and substance use. The patient was asked to identify how her PTSD symptoms and substance use were related. She reported how using substances such as cocaine and especially methamphetamine helped her to feel energetic and forget bad feelings; she also recognized how doing self-destructive behaviors such as cutting her hand helped her to decrease her pain. She recognized her substance use as the main cause of losing her family, which in turn caused feeling worse and using more substances. She confirmed that learning new ways of coping with negative emotions may help her to safely manage her feelings.

She also learned how to use a technique to decrease emotional pain named grounding, which helped the patient to distract focus from intrusive thoughts to neutral aspects of the environment.

The following sessions mainly focused on psycho-education about both PTSD and substance use, defining the disorders, discussing how substance abuse prevented the patient from healing of PTSD, choosing a way to quit substance use, planning to maintain abstinence, and using safe coping skills such as how to ask for help, how to use compassionate self-talk instead of self-blaming, taking care of herself, identifying dangerous situations and planning safety procedures, problem solving, and anger management.

With the progress of treatment, more cognitive topics such as maladaptive thinking related to PTSD and substance use, setting boundaries in relationships, and distinguishing safe relationships from unsafe ones were discussed.

In each session, the patient was encouraged to start a discussion on her issues and explain how these new skills may help her.

Some sessions were critical in the treatment. In session 6, the patient came up with a metaphor of her own used during the treatment sessions effectively; she suggested that using substances is similar to being numb when you are walking with bare feet on the road of broken glasses leading to nowhere; you feel no pain, but you are damaging yourself with walking on unsafe road without protection. This metaphor came to her mind when she read the handout, which analogized the recovery process with climbing a mountain; although it is hard, it worth trying.

At session 8, finally the therapist could contact the patient's brother, the only accessible family member, and he agreed to cooperate after 2 sessions discussing the patient conditions. She moved to live with her brother at session 16. Although she was excited at first, after a while some new negative thoughts such as being useless and weak

compared with her brother, and losing her independency raised. These thoughts were discussed with cognitive techniques and then, she was encouraged to identify how she can cope safely with these thoughts based on what she had learned. Extra sessions were also held with her brother since he did not know how to treat the patient, and he had his own concerns.

She also had an unrealistic goal to reconnect her parents together and she thought this is the only way for her to heal. After validating her feelings and her need for family support, she was reminded that she can only set personal goals that can be accomplished merely by herself; and then, by the cognitive techniques she realized the meaning of such demand for herself and set more realistic goals, which were achievable.

Urine analysis was taken before each session and she was abstinent during the treatment period and follow-up.

At the end of the treatment, the patient was living with her brother; she was planning a trip to her father's home for New Year vacations, and was starting a part-time job as a roller skate coach, which was her previous job for 2 years. Again, she had new anxieties about encountering her dad, reminding of a broken family, and the absence of her mother. The last session was devoted to these situations and both the therapist and patient provided some imaginary scenarios, and patient was encouraged to describe how she can cope safely with these situations.

During the follow-up stage, patient continued her contact with therapist in case she needed help. Although this contact may obscure the results, for ethical reasons and considering the limited sources that were accessible to the patient, this connection was preserved; however, there was not a formal intervention session. On the other hand, this connection might be considered as a positive treatment outcome.

The visual analysis of data, as well as the effect size indices for dependent variables are presented at [Tables 1 and 2](#), which indicate powerful effect of intervention to reduce PTSD symptoms (SMD = -8.9), GSI (SMD = -4.21), drug use (SMD = -0.85), family relationships (SMD = -11.84), psychiatric status (SMD = -4.12), and improvement of coping skills in terms of more problem-oriented (SMD = 9.2) and less emotion-oriented coping strategies (SMD = -6.0) at intervention phase. Avoidance-oriented coping strategies also increased (SMD = 1.5), although it was based on the treatment purposes in which the strategy of avoidance changed with avoiding dangerous situations, contacting therapist, and replacing drug use with more safe avoidance and distraction techniques. Occupational status of the patient showed an improvement at follow-up phase (PND = 66%).

Table 1. Visual Analysis Results and Effect Size Indices for PCL and CISS Scales

Condition	PCL			Intrusion			Avoidance			Arousal			Problem-Oriented			Emotion-Oriented			Avoidance-Oriented		
	Bas	Int	Fol	Bas	Int	Fol	Bas	Int	Fol	Bas	Int	Fol	Bas	Int	Fol	Bas	Int	Fol	Bas	Int	Fol
Median	48	32	12	16	9	5	21	15	2	11	7.5	4.3	6	16.5	17	12	2	4	7	9	10
Mean	48.7	30.1	10.6	16.3	8.5	5	21.3	15.2	5	11	6.4	4.3	5.3	16	16	11.3	4.4	4	7.7	9.4	8.7
Range	4	29	4	3	6	2	1	17	2	0	6	3	2	12	5	2	17	2	2	6	6
Rel change1	15	17	2	1	2.5	0.5	0.5	10.5	1	0	2	0.5	0	5.5	0.5	0	0.5	1	1	1	3
Abs change2	3	29	4	2	6	1	1	17	2	0	6	-1	2	2	4	-2	16	1	-2	-1	6
Trend	↓	↓	↓	↓	↓	↓	↓	↓	↓	-	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Stability	stb	stb	stb	stb	stb	n-stb	stb	n-stb	n-stb	stb	n-stb	stb	stb	n-stb	stb	stb	n-stb	stb	stb	stb	n-stb
Intrarelationship of Variables																					
PCL	Intrusion			Avoidance			Arousal			Problem-Oriented			Emotion-Oriented			Avoid-Orient					
	Int to fol	Bas to Int	Int to Fol	Bas to Int	Int to Fol	Bas to Int	Bas to Int	Int to Fol	Bas to Int	Int to Fol	Bas to Int	Int to Fol	Bas to Int	Int to Fol	Bas to Int	Int to Fol	Bas to Int	Int to Fol			
↓ to ↓	↓ to ↑	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↑	↓ to ↓	- to ↓	↓ to ↑	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↓ to ↓	↑ to ↓	↑ to ↓	
Effect	0	+	0	0	0	+	-	+	0	0	0	0	0	0	0	0	-	0	-	0	
Level rel change	-8	-12.5	-5	-1.5	-8.5	-3	-1.5	13.5	4.5	-10	1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
level abs Change	-7	0	-5	1	-2	-3	1	13	2	6	3	0	3	3	3	3	3	3	0	3	
Median change	16	20	7	4	13	3.5	3.2	-10.5	-0.1	10	-2	-2	-1	-1	-1	-1	-1	-1	-2	-2	
Mean change	18.5	19.4	7.8	3.5	6.1	4.6	2.1	-10.6	0	6.9	0.4	-1.7	0.7	0.7	0.7	0.7	0.7	0.7	-1.7	-1.7	
PND	100%	23%	100%	66%	100%	100%	0%	100%	0%	87%	0%	37%	33%	33%	33%	33%	33%	33%	37%	37%	
SMID	-8.9	-1.8	-5.1	-1.5	-10.5	-2.1	-0.8	9.2	0	-6.0	-0.1	1.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	1.5	1.5	
MBLR	-0.3	-0.6	1	-0.4	-0.9	0	-0.3	5	0	7.5	-0.1	2	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	2	2	

Table 2. Visual Analysis Results and Effect Size Indices for BSI and ASI Scales

Condition	GSI			Anxiety			Depression			Occupation			Drug			Family Relationship			Psychiatric			
	Bas	Int	fol	Bas	Int	fol	Bas	Int	fol	Bas	Int	fol	Bas	Int	fol	Bas	Int	fol	Bas	Int	fol	
Intrarelationship of Variables																						
Median	0.33	0.22	0.18	1.16	0.66	0.16	1.5	1	0.5	0.75	0.75	0.5	0.22	0.18	0.15	0.86	0.55	0.23	0.59	0.32	0.3	
Mean	0.33	0.23	0.18	1.22	0.62	0.22	1.27	1.02	0.55	0.75	0.75	0.57	0.32	0.16	0.14	0.88	0.54	0.26	0.58	0.33	0.29	
Range	0.05	0.13	0.02	0.83	1	0.17	1	1.33	0.16	0	0	0.28	0.33	0.11	0.04	0.05	0.62	0.11	0.12	0.39	0.08	
Rel change	0.01	0.07	0.01	0.25	0.17	0.08	0.5	0.34	0	0	0	0.14	0.16	0.1	0	0.02	0.56	0.33	0.04	0.13	0.03	
Abs change	0.03	0.48	-0.02	2.82	0	0.17	-1	1.66	0	0	0	0.28	0.73	0.1	0	0.05	0.52	0.1	0.08	0.79	0.08	
Trend	↓	↓	↑	↑	↓	↓	↑	↓	-	-	↓	↓	↓	↓	-	↑	↓	↓	↓	↓	↓	
Stability	stb	n-stb	stb	n-stb	n-stb	n-stb	n-stb	n-stb	n-stb	n-stb	stb	n-stb	stb	n-stb	stb	stb	n-stb	stb	stb	n-stb	n-stb	
Interrelationship of Variables																						
GSI																						
Bas to Int	↓ to ↓	Int to fol	↓ to ↑	Bas to Int	Int to fol	↓ to ↓	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Int to fol	
Direction change	0	+	0	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Level rel change	-0.08	-0.02	-0.33	-0.25	-0.25	-0.5	-0.5	-0.25	-0.25	-0.12	-0.01	-0.01	-0.14	0.03	0.05	-0.24	0.05	0.05	-0.24	0.01	0.01	
Family Relationship																						
Bas to Int	↓ to ↓	Int to fol	↓ to ↑	Bas to Int	Int to fol	↓ to ↓	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Bas to Int	Int to fol	Int to fol	
Level abs change	-0.06	-0.04	-1.33	0	-0.5	0	-0.5	0	0	0	0	0	-0.07	0.05	0.01	-0.02	0.01	-0.02	0.01	0.03	0.03	
Median change	0.11	0.04	0.5	0.5	0.25	0	0	0.18	0.18	0.04	0.03	0.32	0.31	0.03	0.32	0.27	0.32	0.27	0.02	0.02	0.02	
Mean change	0.1	0.05	0.6	0.6	0.4	0.25	0.25	0.47	0	0.16	0.02	0.28	0.34	0.02	0.28	0.25	0.28	0.25	0.04	0.04	0.04	
PND	100%	0%	75%	12.5%	66%	66%	12.5%	0%	0%	50%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	
SMD	-4.21	-0.99	-1.43	-0.48	-1.15	-0.48	-0.48	-1.15	0	-0.85	-0.45	-1.15	-11.84	-0.45	-1.15	-4.12	-1.15	-1.15	-4.12	-0.31	-0.31	-0.31
MBLR	1.60	-0.2	0.20	0.33	-0.45	0.33	0.33	-0.45	0	-0.67	-0.14	-0.51	11.40	-0.14	-0.51	1.42	-0.51	-0.51	1.42	-0.09	-0.09	-0.09

3. Discussion

It was the first study assessing an integrated evidence-based treatment for both PTSD and SUD in Iran and showed how applying an integrated treatment can improve the treatment outcome.

The results showed that the patient could benefit from this treatment. At the end of each session, the patient was asked to say what part of the session was more helpful for her, and she expressed the following elements: knowing more about the problems she was experiencing and the link between them, the supportive and respectful structure of the therapy, which was different from other treatment settings, feeling that someone cares about her, being compassionate to herself, understanding about the maladaptive thoughts and behaviors developed during these years and the opportunity for change, having some external force, which made her control herself when she felt craving (urine analysis), and her family support, which helped her to maintain her motivation for change in difficult situations.

Patients with SUD often experience problems in different areas of function and often lack enough skills to manage such problems. Maintaining abstinence without addressing these diverse problems, if not impossible, is so hard. Comorbid disorders including PTSD increase this complexity. SS offers a wide variety of treatment topics covering basic as well as more complicated needs of such patients in different areas. In addition, the employed structured, motivational, and supportive approach provided the patient with predictability, sense of control, and safety that can facilitate the therapeutic alliance and help the patient to take the responsibility for her recovery.

The importance of case management needs of patients, especially those of females, was an implication of the current study. Without helping patients with their basic needs, they cannot move toward recovery. Therefore, assessing and addressing such needs should be considered seriously by treatment providers.

The results of the current study were consistent with that of previous research (20) and suggested that SS can be used effectively in patients with both PTSD and SUD disorders.

The current study had some limitations. The first assessment in baseline was done at residential treatment center and 2 other assessments were conducted after patient's discharge. The PTSD symptoms and psychological distress score were so high at the first assessment and reduced after her discharge, which necessitated more assessments to get a stable trend. But, due to ethical and practical issues it was not possible to wait for more assessments;

however, she had the same scores at the 2 last baseline assessments.

Lack of control over the participant to address external validity threats was another limitation. Further investigations with randomized controlled trials are needed to generalize such results to Iranian population.

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Footnote

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