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Implementation of integrated therapies for comorbid post-traumatic stress disorder and substance use disorders in community substance abuse treatment programs

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Abstract

Issues—The high prevalence of trauma and post-traumatic stress disorder (PTSD) in individuals with substance use disorders (SUDs) presents a number of treatment challenges for community treatment providers and programs in the USA. Although several evidence-based, integrated therapies for the treatment of comorbid PTSD/SUD have been developed, rates of utilisation of such practices remain low in community treatment programs.

Approach—The goal of this article was to review the extant literature on common barriers that prevent adoption and implementation of integrated treatments for PTSD/SUD among substance abuse community treatment programs.

Key Findings—Organisational, provider-level and patient-level factors that drive practice decisions were discussed, including organisational philosophy of care policies, funding and resources, as well as provider and patient knowledge and attitudes related to implementation of new integrated treatments for comorbid PTSD and SUD.

Implications and Conclusions—Understanding and addressing these community treatment challenges may facilitate use of evidence-based integrated treatments for comorbid PTSD and SUD.

Keywords

substance use disorder; post-traumatic stress disorder; PTSD comorbidity; psychotherapy; evidence-based practice

Introduction

A considerable literature documents the high co-occurrence of post-traumatic stress disorder (PTSD) and substance use disorders (SUDs). Among patients seeking treatment for SUD, rates of current (past 12 months) PTSD range from 25% to 50% [1–7]. If left untreated, individuals with PTSD/SUD are at increased risk for relapse and the development of other

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mental health problems. Individuals with comorbid PTSD/SUD evidence more severe PTSD symptoms, higher rates of Axis I and II disorders, greater physical disability and higher rates of suicide attempts as compared with individuals with either PTSD or SUD alone [8]. In addition, patients with PTSD/SUD present to treatment with more severe psychosocial problems, are more likely to drop out of treatment and demonstrate worse clinical outcomes as compared with patients with SUD only [9–11]. In order to help prevent treatment failures and increases in readmission rates, community substance abuse programs need to address the common and complex problem of PTSD/SUD comorbidity. Although recent health-care changes in the USA now provide greater coverage for mental health and substance abuse treatment, the number of allowed treatment episodes and the length of treatment are limited, and provider payments will be based more on patient outcomes than services provided [12].

Several integrated treatment models that address symptoms of both PTSD and SUD concurrently have been developed over the decade [13–19]. Support for integrated treatment comes from several studies demonstrating that improvements in PTSD symptoms are more likely to result in improvements in SUD symptoms than the reciprocal relationship. That is, SUD symptom reduction does not necessarily result in PTSD symptom reduction [20,21]. Community substance abuse treatment programs are challenged with overcoming a number of barriers to implementation of integrated, evidence-based therapies that can potentially provide long-term sustained recovery.

Trauma-informed care

Over the past 20 years, community substance abuse treatment programs in the USA have moved towards a trauma-informed delivery system. ‘Trauma-informed care’ is a service delivery approach whereby programs (i) recognise the high rates of exposure to trauma in the patient populations they serve and (ii) provide a safe environment and services that accommodate the needs of patients presenting with a history of significant trauma. Components of trauma-informed care include recognition, awareness and knowledge of high rates of trauma exposure, as well as the potential effects of trauma exposure on the individual patient and across the entire treatment delivery system. Providing education about trauma and its consequences enables providers and organisations to create treatment environments that are more healing and less re-traumatising [22].

The Substance Abuse and Mental Health Services Administration’s (SAMHSA) National Center for Trauma-Informed Care provides publically funded community SUD treatment programs with technical assistance, resources, training and grant funding to support trauma-informed care systems. Community programs also rely on SAMHSA to help identify specific trauma-focused interventions that directly address comorbid trauma and SUD recovery. Several SAMHSA-approved, integrated, manualised treatments for comorbid trauma and SUD are implemented in SUD community treatment programs. The majority of these treatments incorporate elements of cognitive behavioural treatment (CBT), psychoeducation and skill building. Examples of treatments endorsed by SAMHSA include Additions and Trauma Recovery Integration Model, Seeking Safety, Trauma Adaptive Recovery Group Education and Therapy and Trauma Recovery and Empowerment [23–26]. Although several of these treatment models are commonly used in SUD community

treatment programs, the level of science supporting their efficacy and effectiveness varies. The efficacy of the 'promising practices' described in the SAMHSA Treatment Improvement Protocols is not always firmly established [27,28]. For example, one large community multisite study comparing 12 sessions of Seeking Safety, an integrated trauma and SUD intervention, with Women's Health Education demonstrated that Seeking Safety was equal but not superior to Women's Health Education in reducing PTSD symptoms post-treatment and during the 12-month follow up. Both Seeking Safety and Women's Health Education were administered as an adjunct to standard intensive outpatient treatment, and participants in both groups maintained significant reductions in PTSD symptoms post-treatment and at follow-up visits. Abstinence rates improved in both interventions, but returned to baseline rates at all follow-up visits [17].

The majority of community substance abuse treatment programs that utilise integrated interventions focus on non-exposure-based integrated therapies, despite the limited evidence base and the need for improved treatment models. The Institute of Medicine regards exposure-based therapies as the only interventions with sufficient empirical evidence for effectiveness in the treatment of PTSD [29]. Several treatments that integrate exposure-based therapies with SUD treatment have been developed. One intervention, Concurrent Treatment of PTSD and Substance Abuse Disorders Using Prolonged Exposure (COPE), is accumulating a sound research base and has been recently added to the suggested integrated therapies by the latest SAMSHA Treatment Improvement Protocols for Trauma-Informed Care in Behavioral Health Services [7,28]. COPE has been in development for over 10 years and has been modified with feedback from both mental health and addiction clinicians, as well as patients who have received the intervention [13]. COPE combines prolonged exposure therapy, including imaginal and in vivo exposure, with CBT for SUD. Mills *et al*. [15] compared 12 sessions of COPE to treatment as usual (TAU) in individuals with comorbid PTSD and SUD. Participants in the COPE group had significantly greater reduction in PTSD symptom severity at 9 months follow up than participants in the TAU group. Rates of PTSD diagnosis at 9 months follow up were approximately 30% lower among participants who received COPE as compared with TAU (56% vs. 79%), although this difference did not reach statistical significance. Both groups demonstrated significant reductions in SUD symptom severity and rates of abstinence, with no between-group differences observed. Rates of SUD diagnosis at 9 months follow up were lower, but not statistically significantly different, among participants in the COPE group as compared with TAU (45% vs. 56%). No differences in attrition rates were observed between groups; 74.8% completed the 9 months follow-up visit [15].

Another study implemented an integrated treatment for comorbid PTSD and alcohol use disorder using prolonged exposure (PE) and cognitive restructuring with CBT for alcohol use disorder (IT), compared with CBT for alcohol use disorder and supportive counselling only (AS) [30]. Participants in the IT group who received exposure therapy exhibited a twofold greater rate of clinically significant change in PTSD symptom severity at follow up than participants in the AS group. Outcomes regarding alcohol use were mixed and generally favoured the AS group at post-treatment; however, the AS group was three times more likely to receive additional alcohol treatment post-intervention than the IT group,

which may have influenced the alcohol-related outcomes. No differences in attrition rates were observed between groups.

Foa and colleagues [31] reported on the results of a four-group design study comparing: (i) PE with naltrexone; (ii) PE with placebo; (iii) supportive counselling with naltrexone; and (iv) supportive counselling with placebo. All four groups evidenced significant reductions in PTSD symptom severity and percent of days drinking, with the naltrexone group having significantly fewer percent of days drinking than the placebo groups. Although percent of days drinking increased for all groups at 6 months follow up, the PE groups had the smallest increase ($P \leq 0.01$). Also at 6 months, a higher percentage of participants in the PE plus naltrexone group had low levels of PTSD defined as a ≥ 10-point reduction on the Posttraumatic Symptom Severity Interview scale compared with the other three groups ($P \leq 0.02$). The completion rate was 68% and did not differ between groups [31].

These recent studies show that the use of trauma-informed and integrated treatments using PE is safe and generally results in significant improvement in PTSD symptoms. Variability in SUD outcomes may be attributed to different SUD interventions used in the integrated therapies. In addition, attrition rates from these integrated studies for patients with PTSD and SUD are similar to rates typically seen in PTSD-only or SUD-only treatment outcome studies [32–36]. Thus, the accumulating research demonstrates that the use of exposure-based interventions is safe and effective in patients with comorbid PTSD and SUD.

Selecting an integrated intervention

With regard to selecting an integrated treatment approach, the National Trauma Consortium offers guidelines for community substance abuse treatment programs. Programs should consider their philosophical orientation, the length and format of the treatment (e.g. individual vs. group), permitted adaptations for special populations (e.g. women, adolescents, veterans), background and level of staff training, and the resources required and ability to provide training and ongoing supervision [37]. The decision to implement a particular treatment model is often more influenced by these types of factors than the scientific evidence base. Organisation-level, provider-level and patient-level factors related to selection of PTSD/SUD integrated therapies in community treatment programs are reviewed below.

Organisational factors

The use of integrated treatment for comorbid PTSD and SUD requires a level of commitment from the organisation. At the organisation level, substance abuse treatment programs typically consider the feasibility of implementing an evidence-based practice with increasingly limited resources that are often necessary to provide the training and ongoing supervision for ongoing fidelity. All evidence-based integrated treatments for comorbid PTSD/SUD are manual driven. Therapy manuals or training workshops without sufficient follow-up coaching or supervision are likely to have negligible impact on practice [38,39]. Without the accompanying supervision associated with specialised integrated interventions, clinician ‘drift’ and unauthorised modifications of the treatment are likely. This is compounded by the fact that organisations experience high staff turnover. A recent study

reported a 47% cumulative turnover rate for counsellors over a 3-year span in public and private substance abuse treatment programs [40]. Thus, if organisations invest in training, certification and ongoing supervision, they want to be able to see improved patient outcomes that result in reduced attrition and readmissions as well as less staff turnover.

In some parts of the USA, there are significant differences in substance abuse and mental health treatment with little crossover of services [41]. The 2013 US Health and Human Services Report to Congress on substance abuse and mental health workforce issues noted that addiction counsellors are often perceived as lower level clinicians and addiction treatment in general is not a valued service [42]. In areas of the USA where mental health and substance abuse treatment services are separate, addiction clinicians refer patients with co-occurring psychiatric disorders to mental health clinicians, and mental health clinicians refer patients with SUD to addiction clinicians. In many cases, screening and assessment for comorbidity in addiction and mental health clinics are inadequate. Thorough trauma and PTSD assessment is necessary to identify and target patients with co-occurring PTSD and SUD.

Programs that offer mental health and SUD integrated care are more likely to choose an integrated intervention that is compatible with other treatment components in their program. For example, treatment in community-based clinics is often delivered in a group format that accommodates open enrolment. A group integrated treatment with sessions that must be delivered in an ordered sequence may not be practical for some community treatment programs as new patients are constantly entering and exiting programs. Therapies that can be delivered in 8–12 weeks are also consistent with the amount of time patients are enrolled in intensive outpatient programs. Whether programs have an abstinence or harm reduction model of treatment can also impact the selection and use of integrated therapies. For example, COPE is an exposure-based therapy that strongly encourages but not requires that patients be abstinent prior to engaging in trauma work.

Over half (58%) of community substance abuse treatment programs report using integrated therapies for comorbid psychiatric disorders and SUD [43]. Programs that have fewer staff, receive more public funding, employ counsellors exclusively certified in addiction and are not affiliated with inpatient psychiatric services are less likely to implement integrated therapies [43]. However, the extent to which programs utilise integrated treatments for PTSD/SUD is largely unknown and there is no consensus on the best integrated approach to use in community substance abuse treatment programs.

Provider factors

Providers of evidence-based treatment for comorbid PTSD and SUD continue to have concerns about treating PTSD in SUD populations. Specifically, some clinicians express concerns about the timing of initiating trauma work (particularly in patients who continue to use substances), ongoing domestic violence and which patients may not be appropriate candidates for certain therapies [44–46]. In a survey administered to 423 clinicians who treat patients with comorbid PTSD and SUD, clinicians described certain challenges that made treating this comorbid patient population especially difficult. Patient’s self-destructive behaviour, case management needs and high levels of substance dependence were cited as

the biggest challenges [44]. Najavits *et al*. [46] conducted a nationwide survey of 205 Veterans Affairs clinicians to explore views on manualised evidence-based therapies for comorbid PTSD and SUD. Overall, clinicians had a positive view of manualised therapies. Clinicians gave the highest rating to Seeking Safety on 'helpfulness for PTSD/SUD patients' and rated both Seeking Safety and exposure therapy for PTSD the highest for 'desire for training'. Clinicians who were familiar with and used certain therapies rated those therapies higher on helpfulness. Alternately, clinicians not exposed to certain therapies were more likely to rate those therapies less helpful [45,46].

Dissemination of interventions that target individual clinician practice may be more likely to be adopted than interventions that involve program-wide 'top-down' implementation [47]. That is, a clinician is more likely to adopt an intervention that they rate high on acceptability and perceived effectiveness than an intervention that is required to be implemented by the organisation. At the clinician level, certain characteristics such as knowledge, experience and attitudes have been associated with acceptability and implementation of evidence-based practices [47]. In one study that explored perceived effectiveness of evidence-based therapies among community providers, increased training and use by colleagues were associated with perceived effectiveness and use [47]. Dissemination efforts may be more successful if the clinicians are exposed to the intervention through training, professional meetings and working with other clinicians who implement the intervention. The identification of advocates in organisations to support and facilitate implementation of innovative therapies has been associated with increasing practice adoption [48].

One of the main barriers to the adoption of evidence-based integrated PTSD/SUD treatments is the limited training in the field, particularly opportunities for training in the intensive therapies that require ongoing coaching and supervision. In a survey completed by social workers employed in the mental health and substance abuse field, over 80% reported that they worked with patients with moderate to severe trauma. However, only approximately half of the clinicians who reported working with these patients addressed the trauma issues [49]. Another survey explored trauma training and practices in 225 substance abuse clinicians. Although clinicians tended to seek continuing education experiences in trauma training, few received trauma training in their formal academic programs. Only approximately half the clinicians reported addressing the trauma either in the patients' treatment plan, through individual counselling or through the provision of educational material. Only a third of the clinicians reported regularly addressing trauma issues in group therapy [50]. This study also showed that a substantial number of substance abuse counsellors experienced some symptoms of secondary traumatic stress, which can also adversely affect the implementation of trauma treatment. Secondary traumatic stress has been negatively associated with job satisfaction and occupational commitment [51]. Interestingly, supervision has been shown to reduce counsellor exhaustion and turnover intention in substance abuse counsellors, an effect partially mediated by perceived job autonomy and occupational well-being [52].

Patient factors

Another important area that has not been well studied is patient preferences for treatment. Research in patient, as well as provider preference, has favoured the integrated approach over the traditional sequential practice, which defers PTSD treatment until patients are in recovery from their SUD [53–55]. That is, patients indicate a preference for integrated PTSD and SUD in which they have one therapist who addresses both issues in a single treatment episode. Patient preferences have not been largely explored in the addiction field. When provided with treatment descriptions, treatment duration and efficacy information on several different PTSD treatment models, a higher percentage of individuals with trauma histories chose exposure therapy as the top preferred model followed by CBT [55]. A recent study of cost-effectiveness of PTSD treatments also found that giving patients a choice of type of treatment yields a lower cost [35]. It is unclear whether or not patients with comorbid PTSD/SUD would prefer an exposure- versus non-exposure-based therapy if given adequate information related to these therapies. Integrated treatment options are limited in community treatment programs and largely left to the discretion of the clinician and his or her preferred treatment model. Addiction clinicians with less experience in PTSD and other mental health problems may be more comfortable with an integrated model that focuses on current coping skills rather than exploring past trauma memories [56]. In the substance abuse field, the majority of clinicians endorse a cognitive behavioural therapy orientation [57]. This could influence clinician acceptance and adoption of therapies such as Seeking Safety, a cognitive behavioural manualised non-exposure-based integrated therapy.

The Veterans Health Administration dissemination model of evidence-based treatments for PTSD, in particular prolonged exposure and cognitive processing therapy, emphasises the role of the patient in the dissemination process. The selection of a specific treatment is a decision that is made by the veteran. The therapist facilitates this decision by providing information about the treatments and using motivational interviewing techniques to increase engagement [58]. However, despite these efforts, there are still a large number of veterans with PTSD that do not seek treatment or refuse treatment when offered [59,60]. Also, it is not known what treatments patients actually receive, the quality of these treatments and how effective these treatments are in reducing PTSD symptoms [60].

Conclusion

Despite increasing awareness of the need to address comorbid PTSD and SUD, organisation-, provider- and patient-level factors present challenges to the implementation of integrated therapies in frontline community substance abuse treatment programs. Although dissemination of exposure-based treatments has been successfully implemented with community providers and in mental health-care systems, dissemination of integrated exposure therapy for comorbid PTSD and SUD has not been undertaken in community SUD treatment programs. With the emerging evidence base for exposure-based therapies, more treatment options are available. However, clinician’s lack of knowledge and training in these techniques may adversely affect perceived credibility or effectiveness of the intervention. Dissemination of integrated therapies will have to overcome such challenges. Health-care reform in the USA will require changes in the workforce and the delivery of substance abuse

treatment to include clinicians and services that address addiction and comorbid mental health using standardised scientifically sound treatments [12]. One of the priorities in a trauma-informed system of care is the hiring of clinicians with knowledge and training in trauma treatment within the limits of their professional licensure and scope of practice [28] Cross-training for addiction and mental health clinicians is important to assess and address trauma in whichever setting patients are seeking treatment (e.g. PTSD clinic, addiction clinic). The cost associated with training and supervision may be worth the decrease in staff turnover rates, patient outcomes and readmission rates. Research that shows patients are more likely to see SUD improvements when their PTSD symptoms improve can help support the cost-effectiveness of using integrated treatments that target PTSD [20,21].

Adaptations to manualised interventions may need to be made to increase the potential for adoption in frontline community SUD treatment programs. Clinicians often complain that manualised therapies are too rigid and do not address the individualised needs of the patient [61,62]. Offering more flexibility and allowing manual modifications to improve feasibility without losing fidelity to the therapy are an important consideration and may improve clinician acceptance. For example, clinicians may prefer flexibility with moving the order of certain sessions in order to address issues that are more urgent, particularly if these issues may affect the trauma component of treatment. With a national policy shift to focus on trauma-informed services and recognition of the individual needs of trauma survivors, more programs are now offering individual integrated therapy. Thus, the environment in SUD community treatment programs is becoming more favourable to introduce evidence-based integrated therapies for comorbid PTSD and SUD in group and individual treatment modalities.

The Trauma-Informed Care in Behavioral Health Treatment Improvement Protocols series 57 [29] provides guidance for substance abuse community treatment programs to adopt a trauma-informed care model, which includes transitioning to new treatment approaches, hiring clinicians with trauma training, providing training and ongoing supervision for clinicians and developing clinician competencies specific to trauma-informed care. Organisational support for implementing specific evidence-based integrated therapies that improve patient outcomes will also increase the likelihood of sustained adoption of best practices [29].

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References

[1]. Back S, Dansky BS, Coffey SF, Saladin ME, Sonne S, Brady KT. Cocaine dependence with and without posttraumatic stress disorder: A comparison of substance use, trauma history and psychiatric comorbidity. Am J Addict. 2000; 9:51–62. [PubMed: 10914293]

[2]. Gielen N, Havermans RC, Tekelenburg M, Jansen A. Prevalence of post-traumatic stress disorder among patients with substance use disorder: it is higher than clinicians think it is. Eur J Pychotraumatol. 2012; 3:1–9. Available at http://dx.doi.org/10.3402/ejpt.v3i0.17734.

[3]. Kessler RC, Sonnega A, Bromet E, Hughes M, Nelson CB. Posttraumatic stress disorder in the National Comorbidity Survey. Arch Gen Psychiatry. 1995; 52:1048–60. [PubMed: 7492257]

[4]. Ouimette P, Read J, Brown PJ. Consistency of retrospective reports of DSM-IV Criterion A traumatic stressors among substance use disorder patients. J Trauma Stress. 2005; 18:43–51. [PubMed: 16281195]

[5]. Reynolds M, Mezey G, Chapman M, Wheeler M, Drummond C, Baldacchino A. Co-morbid post-traumatic stress disorder in a substance misusing clinical population. Drug Alcohol Depend. 2005; 77:251–8. [PubMed: 15734225]

[6]. Torchalla I, Nosen L, Rostam H, Allen P. Integrated treatment programs for individuals with concurrent substance use disorders and trauma experiences: a systematic review and meta-analysis. J Subst Abuse Treat. 2012; 42:65–77. [PubMed: 22035700]

[7]. van Dam D, Vedel E, Ehring T, Emmelkamp PM. Psychological treatments for concurrent posttraumatic stress disorder and substance use disorder: a systematic review. Clin Psychol Rev. 2012; 32:202–214. [PubMed: 22406920]

[8]. Blanco C, Xu Y, Brady K, Pérez-Fuentes G, Okuda M, Wang S. Comorbidity of posttraumatic stress disorder with alcohol dependence among US adults: results from National Epidemiological Survey on Alcohol and Related Conditions. Drug Alcohol Depend. 2013; 132:630–8. [PubMed: 23702490]

[9]. Najavits LM, Harned MS, Gallop RJ, et al. Six-month treatment outcomes of cocaine-dependent patients with and without PTSD in a multisite national trial. J Stud Alcohol Drugs. 2007; 68:353–61. [PubMed: 17446974]

[10]. Ouimette PC, Brown PJ, Najavits LM. Course and treatment of patients with both substance use and posttraumatic stress disorders. Addict Behav. 1998; 23:785–95. [PubMed: 9801716]

[11]. Schumacher JA, Coffey SF, Stasiewicz PR. Symptom severity, alcohol craving, and age of trauma onset in childhood and adolescent trauma survivors with comorbid alcohol dependence and posttraumatic stress disorder. Am J Addict. 2006; 15:422–5. [PubMed: 17182443]

[12]. McLellan T, Woodworth AM. Constructive disruption for the treatment of substance use disorders: the parity and the affordable care acts. Philadelphia Soc Interv J. Apr.2014 :1–11. Available at: http://www.philasocialinnovations.org/site/index.php?option=com_content&view=article&id=638:constructive-disruption-for-the-treatment-of-substance-use-disorders-the-parity-and-the-affordable-care-acts&catid=21:featured-social-innovations&Itemid=35.

[13]. Back, SE.; Foa, EB.; Killeen, TK.; Mills, K.; Teesson, M.; Carroll, K.; Dansky, B.; Brady, KT. Concurrent treatment of PTSD and substance use disorders using prolonged exposure (COPE): Therapist Manual. Oxford; New York: 2014.

[14]. Back SE, Killeen T, Foa EB, et al. Use of an integrated therapy with prolonged exposure to treat PTSD and comorbid alcohol dependence in an Iraq veteran. Am J Psychiat. 2012; 169:688–91. [PubMed: 22760188]

[15]. Mills KL, Teesson M, Back SE, et al. Integrated exposure-based therapy for co-occurring posttraumatic stress disorder and substance dependence: a randomized controlled trial. JAMA. 2012; 308:690–9. [PubMed: 22893166]

[16]. Donovan B, Padin-Rivera E, Kowaliw S. ‘Transcend’ initial outcomes from a posttraumatic stress disorder/substance abuse treatment program. J Trauma Stress. 2001; 14:757–72. [PubMed: 11776422]

[17]. Hien DA, Wells EA, Jiang H, et al. Multisite randomized trial of behavioral interventions for women with co-occurring PTSD and substance use disorders. J Consult Clin Psychol. 2009; 77:607–19. [PubMed: 19634955]

[18]. Najavits LM, Weiss RD, Shaw SR, Muenz L. ‘Seeking Safety.’ outcome of a new cognitive-behavioral psychotherapy for women with posttraumatic stress disorder and substance dependence. J Trauma Stress. 1998; 11:437–56. [PubMed: 9690186]

[19]. Triffleman E, Carroll K, Kellogg S. Substance dependence posttraumatic stress disorder therapy: an integrated cognitive-behavioral approach. J Subst Abuse Treat. 1999; 17:3–14. [PubMed: 10435248]

[20]. Back SE, Brady KT, Sonne SC, Verduin ML. Symptom improvement in co-occurring PTSD and alcohol dependence. J Nerv Met Dis. 2006; 194:690–69.

[21]. Hien DA, Jiang H, Campbell ANC, et al. Do treatment improvements in PTSD severity affect substance use outcomes? A secondary analysis from a randomized clinical trial in NIDA's clinical trials network. Am J Psychiat. 2011; 167:95–101. [PubMed: 19917596]

[22]. Substance Abuse and Mental Health Services Administration. Leading Change: A Plan for SAMHSA's Roles and Actions 2011–2014. Substance Abuse and Mental Health Services Administration; Rockville, MD: 2011. HHS Publication No. (SMA) 11-4629

[23]. Miller, D.; Guidry, L. Addictions and Trauma Recovery: Healing the body, mind and spirit. W.W. Norton; New York: 2001.

[24]. Najavits, LM. Seeking Safety: A treatment manual for PTSD and substance abuse. 2nd edn. Guilford; New York: 2001.

[25]. Ford, J.; Kasimer, N.; MacDonald, M.; Savill, G. Trauma Adaptive Recovery Group Education and Therapy (TARGET): Participant guidebook and leader manual. University of Connecticut Health Center; Farmington, CT: 2000.

[26]. Harris, M. The trauma recovery and empowerment model (TREM): A clinician's guide for working with women in groups. The Free Press; New York: 1998.

[27]. Brady, KT.; Hien, D.; Haynes, L.; Killeen, T. Post traumatic stress disorder in patients with substance use disorders. In: Nunes, E.; Selzer, J.; Levounis, P.; Davis, C., editors. Substance Dependence and Co-occurring Psychiatric Disorders. Civic Research Institute; Kingston, NJ: 2010. p. 2-27.

[28]. Substance Abuse and Mental Health Services Administration. Treatment Improvement Protocol (TIP) Series 57. Substance Abuse and Mental health Service Administration; Rockville Md: 2014. Trauma—informed care in behavioral health services. HHS publication No. (SMA) 14-4816

[29]. Institute of Medicine (US). Treatment of posttraumatic stress disorder: An assessment of the evidence. National Academies Press; Washington, DC: 2008. Committee on Treatment of Posttraumatic Stress Disorder.

[30]. Sannibale C, Teesson M, Creamer M, et al. Randomized controlled trial of cognitive behaviour therapy for comorbid post-traumatic stress disorder and alcohol use disorders. Addiction. 2013; 108:1397–1410. [PubMed: 25328957]

[31]. Foa EB, Yusko DA, McLean CP, et al. Concurrent naltrexone and prolonged exposure therapy for patients with comorbid alcohol dependence and PTSD: a randomized clinical trial. JAMA. 2013; 310:488–95. [PubMed: 23925619]

[32]. Carroll KM, Nich C, Ball SA. Practice makes progress? Homework assignments and outcome in treatment of cocaine dependence. J Consult Clin Psychol. 2005; 73:749–55. [PubMed: 16173864]

[33]. Goodson JT, Lefkowitz CM, Helstrom AW, Gawrysiak MJ. Outcomes of Prolonged Exposure therapy for veterans with posttraumatic stress disorder. J Trauma Stress. 2013; 26:419–25. [PubMed: 23934939]

[34]. Perron BE, Bright CL. The influence of legal coercion on dropout from substance abuse treatment: Results from a national survey. Drug Alcohol Depend. 2008; 92:123–31. [PubMed: 17869030]

[35]. Le QA, Doctor JN, Zoellner LA, Feeny NC. Cost-effectiveness of prolonged exposure therapy versus pharmacotherapy and treatment choice in posttraumatic stress disorder (the Optimizing PTSD Treatment Trial): a doubly randomized preference trial. J Clin Psychiatry. 2014; 75:222–30. [PubMed: 24717377]

[36]. Sofuoglu M, Gonzalez G, Poling J, Kosten TR. Prediction of treatment outcome by baseline urine cocaine results and self-reported cocaine use for cocaine and opioid dependence. Am J Drug Alcohol Abuse. 2003; 29:713–27. [PubMed: 14713135]

[37]. Finkelstein, N.; VandeMark, N.; Fallot, R.; Brown, V.; Cadiz, S.; Heckman, J. Enhancing substance abuse recovery through integrated trauma treatment. National Trauma Consortium Center for Substance Abuse Treatment; Sarasota, FL: 2004.

[38]. Martino S, Ball SA, Nich C, Canning-Ball M, Rounsaville BJ, Carroll KM. Teaching community program clinicians motivational interviewing using expert and train-the-trainer strategies. Addiction. 2011; 106:428–41. [PubMed: 20925684]

[39]. Miller WR, Yahne CE, Moyers TB, Martinez J, Pirritano M. A randomized trial of methods to help clinicians learn motivational interviewing. J Consult Clin Psychol. 2004; 72:1050–62. [PubMed: 15612851]

[40]. Eby LT, Rothrauff-Laschober TC. The relationship between perceptions of organizational functioning and voluntary counselor turnover: A four-wave longitudinal study. J Subst Abuse Treat. 2012; 42:151–8. [PubMed: 22116013]

[41]. Burnam MA, Watkins KE. Substance Abuse With Mental Disorders: Specialized Public Systems And Integrated Care. Health Aff. 2006; 25:648–58.

[42]. US Department of Health and Human Services, SAMSHA. [accessed April 2013] Report to Congress on the Nation's Substance Abuse and Mental Health Workforce Issues. Jan. 2013 Available at: http://store.samhsa.gov/product/Report-to-Congress-on-the-Nation-s-Substance-Abuse-and-Mental-Health-Workforce-Issues/PEP13-RTC-BHWORK

[43]. Ducharme LJ, Knudsen HK, Roman PM. Availability of integrated care for co-occurring substance abuse and psychiatric conditions. Community Ment Health J. 2006; 42:363–75. [PubMed: 16544206]

[44]. Back SE, Waldrop AE, Brady KT. Treatment challenges associated with comorbid substance use and posttraumatic stress disorder: clinicians' perspectives. Am J Addict. 2009; 18:15–20. [PubMed: 19219661]

[45]. Najavits LM, Kivlahan D, Kosten T. A national survey of clinicians' views of evidence-based therapies for PTSD and substance abuse. Addict Res Theory. 2010; 19:138–147.

[46]. Najavits LM, Norman SB, Kivlahan D, Kosten TR. Improving PTSD/substance abuse treatment in the VA: A survey of providers. Am J Addict. 2010; 19:257–63. [PubMed: 20525033]

[47]. Bride BE, Kintzle S, Abraham AJ, Roman PM. Counselor attitudes toward and use of evidence-based practices in private substance use disorder treatment centers: A comparison of social workers and non–social workers. Health Soc Work. 2012; 37:135–45. [PubMed: 23193729]

[48]. Rogers EM. The nature of technology transfer. Science Communication. 2002; 23:323–41.

[49]. Bride BE. Prevalence of secondary traumatic stress among social workers. Social Work. 2007; 52:63–70. [PubMed: 17388084]

[50]. Bride BE, Hatche SS, Humble MN. Trauma training, trauma practices, and secondary traumatic stress among substance abuse counselors. Traumatol. 2009; 15:96–105.

[51]. Bride BE, Kintzle S. Secondary traumatic stress, job satisfaction, and occupational commitment in substance abuse counselors. Traumatol. 2011; 17:22–28.

[52]. Knudsen HK, Ducharme LJ, Roman PM. Clinical supervision, emotional exhaustion, and turnover intention: A study of substance abuse treatment counselors in the Clinical Trials Network of the National Institute on Drug Abuse. J Subst Abuse Treat. 2008; 35:387–95. [PubMed: 18424048]

[53]. Back SE, Killeen TK, Teer AP, et al. Substance use disorders and PTSD: An exploratory study of treatment preferences among military Veterans. Addict Behav. 2014; 39:369–73. [PubMed: 24199930]

[54]. Adams, ZW.; Danielson, CK.; McCauley, JL., et al. Presented at the annual Association for Behavioral and Cognitive Therapies Convention. Nashville, TN: Nov. 2013 Provider attitudes on treatment of comorbid PTSD and substance use in adolescents. 2013

[55]. Becker CB, Darius E, Schaumberg K. An analog study of patient preferences for exposure versus alternative treatments for posttraumatic stress disorder. Behav Res Ther. 2007; (45):2861–73. [PubMed: 17612502]

[56]. Najavits LM. Present- versus past-focused therapy for posttraumatic stress disorder/substance abuse: a study of clinician preferences. BriefTreat Crisis Interv. 2006; 6:248–54.

[57]. Olmstead TA, Abraham AJ, Martino S, Roman PM. Counselor training in several evidence-based psychosocial addiction treatments in private US substance abuse treatment centers. Drug Alcohol Depend. 2012; 120:149–54. [PubMed: 21831536]

[58]. Karlin BE, Cross G. From the laboratory to the therapy room: National dissemination and implementation of evidence-based psychotherapies in the US Department of Veterans Affairs Health Care System. Am Psychol. 2014; 69:19–33. [PubMed: 24001035]

[59]. Shiner B, D'Avolio LW, Nguyen TM, et al. Measuring use of evidence based psychotherapy for posttraumatic stress disorder. Adm Policy Ment Health. 2013; 40:311–8. [PubMed: 22535469]

[60]. Steenkamp MM, Litz BT. Psychotherapy for military-related posttraumatic stress disorder: review of the evidence. Clin Psychol Rev. 2013; 33:45–53. [PubMed: 23123570]

[61]. Institute of Medicine. Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Final Assessment. The National Academies Press; Washington, DC: 2014.

[62]. Najavits LM, Ghinassi F, Van Horn A, et al. Therapist satisfaction with four manual-based treatments on a national multisite trial: An exploratory study. Psychotherapy: theory, research, practice, Training. 2004; 41:26–37.

[63]. Kendall PC, Flannery-Schroeder E, Panichelli-Mindel SM, Southam-Gerow M, Henin A, Warman M. Therapy for youths with anxiety disorders: A second randomized clinical trial. J Consult Clin Psychol. 1997; 65:366–80. [PubMed: 9170760]