



Published in final edited form as:

Am J Psychiatry. 2010 January ; 167(1): 11–13. doi:10.1176/appi.ajp.2009.09111602.

Toward an Improved Model of Treating Co-Occurring PTSD and Substance Use Disorders

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In this issue of the *Journal*, Hien and colleagues (1) utilized data from the National Institute on Drug Abuse (NIDA) Clinical Trials Network to examine the temporal association of improvements in co-occurring posttraumatic stress disorder (PTSD) and substance use disorders. Subjects were 353 women who received 12 weeks of either a trauma-focused intervention or health education. This study has important clinical relevance because of the high comorbidity of PTSD and substance use disorders (e.g., up to 43% of civilians with PTSD meet criteria for lifetime substance use disorders) (2). Over the last 20 years, evidence of the frequent co-occurrence of substance use disorders and other psychiatric disorders and the negative impact of comorbidity on treatment outcomes has increased (3). In spite of this acknowledgment, there are few controlled treatment trials to guide treatment. There are likely to be several reasons for this, including the fact that it is difficult for a single site to recruit a sufficient number of subjects to complete an adequately powered trial in individuals with co-occurring disorders within a reasonable time frame. The Hien et al. study utilized the NIDA-funded Clinical Trials Network, which allowed the investigators to recruit an adequate sample size to conduct an interesting and valuable set of analyses.

In this study, subjects were categorized into one of four groups: 1) nonresponse (i.e., no improvement in PTSD or substance use disorder symptoms), 2) substance use response, 3) PTSD response, and 4) global response (i.e., improvements in both substance use and PTSD symptoms). The main finding was that subjects who demonstrated improvements in PTSD symptoms were significantly more likely to show subsequent improvements in substance use disorder symptoms, but the reciprocal relationship was not observed. That is, there was very minimal evidence to indicate that improvement in substance use disorder symptoms would result in improvement in PTSD. Rather, for every unit of PTSD improvement made (as evidenced by the Clinician-Administered PTSD Scale), the odds of being a heavy substance user at follow-up decreased by 4.6%. These findings show that if a patient with PTSD and a substance use disorder can achieve PTSD symptom reduction, he or she will likely also experience a reduction in substance use disorder symptoms. However, if only substance use symptom reduction is attained, PTSD symptoms will likely remain. This supports the “self-medication” hypothesis that posits that patients with PTSD and a substance use disorder consume alcohol or drugs, in part, to help dampen PTSD symptoms.

The findings of Hien et al. are similar to those reported in an earlier study examining temporal changes in improvement among 94 outpatients with PTSD and alcohol dependence participating in a medication trial (4). Data from two studies with very different characteristics (e.g., community treatment programs versus an academic medical setting, medication trial versus a psychotherapy trial, all women versus mixed-gender samples) now support the idea that targeting PTSD symptoms may be critical to improving treatment outcome for patients with PTSD and a substance use disorder. Moreover, these findings

parallel what patients tell us. One study of cocaine-dependent individuals with PTSD (5) found that improvement in PTSD was typically associated with a reduction in drug use (63.6%; $p=0.01$), and that a worsening of PTSD symptoms was typically associated with increased drug use (86.4%; $p=0.001$). In contrast, improvement/deterioration in cocaine use was not significantly related to subsequent improvement/deterioration in PTSD symptoms.

The accumulating findings bring into question the common practice of requiring patients with PTSD and substance use disorders to be abstinent from alcohol or drugs before commencing trauma work. This commonly practiced treatment approach, known as the sequential model, means that patients with PTSD and a substance use disorder who present for trauma/PTSD treatment are generally referred out to first receive specialized addiction treatment. Any trauma/PTSD work is deferred, often based on the concern that addressing trauma will lead to an exacerbation in substance use or risk for relapse. Thus, patients are required to demonstrate some length of abstinence (e.g., 6 months) from drugs and alcohol before their trauma/PTSD is addressed. It is unclear how many patients “fall through the cracks” and either do not follow up on the addiction treatment referral or do not return to receive PTSD treatment following addiction treatment. Because patients are usually referred to a different therapist working in a different clinic with little provider cross-communication, it is likely that many are lost in this process. There has to be a better way.

An improved treatment model that offers integrated treatment to address trauma/PTSD early on in therapy while simultaneously targeting substance use disorder symptoms is encouraged, based on empirical evidence from studies of integrated PTSD-substance use disorder therapies, patient preferences, and two studies that now highlight the centrality of PTSD symptom improvement in treatment of patients with PTSD and a substance use disorder. Contrary to early, largely anecdotal concerns, all of the investigations that have examined the use of integrated, cognitive behavior therapies to address PTSD and substance use disorders to date demonstrate significant reductions in both PTSD and substance use disorder outcomes. Concerns that patients who undergo trauma-focused treatment will evidence an increase in substance use, relapse, or attrition has not been borne out by the data.

Questions remain regarding the most ideal form of trauma-focused treatment for patients with PTSD and a substance use disorder. Variant forms of trauma-focused treatment may yield more favorable outcomes based on, for example, the type of trauma or length of time since trauma, and research in this area is needed to help guide treatment decisions. The Hien et al. study delivered Seeking Safety, a cognitive behavior therapy that addresses trauma in the present tense and teaches coping skills to help prevent substance use and manage PTSD symptoms as well as develop effective communication skills. A prior Stage IA trial utilized Prolonged Exposure to address trauma among patients with PTSD and cocaine dependence (6). The findings also demonstrated that integrated treatment leads to significant improvements in PTSD and substance use disorder symptoms as well as depression and psychiatric symptoms. Despite the fact that Prolonged Exposure is the gold standard treatment for PTSD and was the only psychosocial treatment deemed effective by the Institute of Medicine for PTSD (7), it is likely to receive the most resistance from therapists and researchers. Prolonged Exposure is a technique that involves two main treatment components: 1) in vivo exposure, in which patients repeatedly confront anxiogenic situations that are safe but that have been avoided because the situations remind them of the trauma, and 2) imaginal exposure, in which patients repeatedly recount the traumatic event during therapy in order to extinguish conditioned responses of fear. By approaching these avoided people, places, things, and memories, the limitations on patients' lives are substantially lessened (e.g., a patient who experienced a traumatic car accident can now drive again) and patients are not as “undone” by memories of the trauma (e.g., the patient

can talk about what happened without becoming overwhelming upset). In addition to the Brady et al. study (6), two small studies have used either in vivo or imaginal exposure techniques to address PTSD among substance use disorder patients, and the results of both studies were positive (8,9). Also, several randomized clinical trials of an integrated, exposure-based PTSD-substance use disorder psychotherapy called COPE (*C*oncurrent treatment with *P*rolonged *E*xposure), which is based on the early work by Brady et al. and uses both in vivo and imaginal exposure, are underway and preliminary results appear promising (10).

In conclusion, Hien and colleagues are to be commended for their work that adds to the accumulating evidence that co-occurring PTSD symptoms may have a strong impact on substance use disorder symptoms, and that addressing trauma/PTSD early on in therapy may be important in optimizing treatments. The findings are limited by several factors, in particular that only women were included and that civilian trauma was the focus. Future studies examining gender differences in response to integrated therapies, as well as use of novel methods and technologies to more readily deliver integrated therapies, are of interest. Finally, fundamental questions regarding mechanisms underlying the association between improvement in PTSD and subsequent improvement in substance use disorders remain. Research in this area may aid in our understanding of the etiology of co-occurring PTSD and substance use disorders and help advance the design and provision of PTSD-substance use disorder psychotherapeutic and pharmacologic interventions.

Acknowledgments

The author reports no financial relationships with commercial interests. The author would like to acknowledge support from NIH/NIDA grant DA021228.

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