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Changes in coping behavior in a randomized controlled trial of concurrent treatment for PTSD and alcohol dependence

Yinyin Zang [a, *], Jessica Yu [b], Daniel Chazin [a], Anu Asnaani [a], Laurie J. Zandberg [a], Edna B. Foa [a]

[a] University of Pennsylvania, Philadelphia, PA, USA
[b] Rutgers, The State University of New Jersey, Piscataway, NJ, USA

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ABSTRACT

Objective: The current study examines changes in coping among 165 adults meeting DSM-IV criteria for co-morbid posttraumatic stress disorder (PTSD) and alcohol dependence (AD).
Method: Participants were randomized to receive naltrexone or placebo, with or without prolonged exposure (PE). All participants received supportive counseling focused on alcohol use (BRENDA). Assessments of coping, PTSD, and AD were conducted at pre-treatment, mid-treatment, post-treatment, 3-month follow-up, and 6-month follow-up.
Results: Participants exhibited significant decreases in both avoidant coping and adaptive coping from pre-treatment to 6-month follow-up across all groups. Participants who received PE showed faster decreases in avoidant coping during this period than participants who did not receive PE. PTSD symptom reduction was associated with changes in both avoidant and adaptive coping across groups. Improvement in PTSD symptoms was related to a faster rate of reduction in avoidant coping in the PE groups compared to those receiving BRENDA alone.
Conclusions: The current results suggest that concurrent treatment for co-morbid PTSD-AD decreases avoidant and adaptive coping, and participants who show greater reductions in PTSD symptoms also show greater changes in coping style. Consistent with theorized mechanisms of change in PE, the addition of PE to supportive counseling for AD was associated with a greater reduction of avoidant coping than supportive counseling alone.

Empirical studies have consistently shown that coping responses are associated with psychological well-being and functioning after adversities (e.g. Norris, Friedman, & Watson, 2002; Tull, Barrett, McMillan, & Roemer, 2007). Individual coping patterns are frequently categorized into two distinct styles – adaptive coping (also known as active or approach-based coping) and avoidant coping (e.g. Boden et al., 2014; Grosso et al., 2014). Adaptive coping is characterized by the use of strategies that orient the individual toward the stressor and help him or her directly address distress (Folkman, Lazarus, Gruen, & DeLongis, 1986). Adaptive coping has been associated with greater psychological hardiness, optimism, and resilience (Bartone, Hystad, Eid, & Brevik, 2012; Sharkansky et al., 2000). In contrast, avoidant coping is characterized by the use of strategies that orient the individual away from the stressor or help him or her ignore distress (Boden et al., 2014).

Avoidant coping is considered a central feature of posttraumatic stress disorder (PTSD). At least two theoretical models of PTSD identify avoidance as a key mechanism in the development and persistence of PTSD. In Foa and colleagues' emotional processing theory (EPT), fear is represented in memory as a cognitive structure that includes information about fear stimuli, responses, and meaning. Individuals who avoid trauma-related memories and stimuli are at greater risk of developing PTSD because avoidance interferes with opportunities to gain corrective information that could disconfirm feared consequences (Foa & Cahill, 2001). Similarly, in Ehlers and Clark's cognitive model of PTSD (2000), it is proposed that PTSD becomes persistent when individuals process traumatic experiences in a way that leads to the perception of

* Corresponding author. Department of Psychiatry, Center for the Treatment and Study of Anxiety, University of Pennsylvania, 3535 Market Street, 6th Floor, Philadelphia, PA 19104, USA.
E-mail address: yinyinz@mail.med.upenn.edu (Y. Zang).

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ongoing and serious threat. Avoidance may be a key mechanism in this development. According to this model, individuals who avoid reminders of their traumatic experiences fail to update their appraisals because they avoid the situations which would offer corrective information about the probability of catastrophic events. Avoidant coping has been consistently associated with PTSD severity in both cross-sectional (Bryant & Harvey, 1995; Ullman, Townsend, Filipas, & Starzynski, 2007) and longitudinal research (Tiet et al., 2006). In addition, avoidant coping has been found to be related to drug use (Belding, Iguchi, Lamb, Lakin, & Terry, 1996) and linked to greater drinking problems in adults (Cooper, Russell, Skinner, Frone, & Mudar, 1992; Moos, Brennan, Fondacaro, & Moos, 1990).

PTSD and substance use disorders, specifically alcohol dependence (AD), are highly co-morbid (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). According to the self-medication hypothesis, individuals may consume alcohol as an avoidant coping strategy in response to PTSD-related distress or increased PTSD symptom severity (Kaysen et al., 2014; Simpson, Stappenbeck, Luterek, Lehavot, & Kaysen, 2014). Consistent with this theory, avoidant coping strategies have been found to play an important role in the co-morbidity between PTSD and AD. Among individuals with PTSD, Hruska, Fallon, Spoonster, Sledjeski, and Delahanty (2011) found the relationship between avoidant coping and PTSD symptoms to be strongest for patients with a history of AD. Similarly, in a study evaluating substance abuse treatment for veterans, greater use of avoidant coping one year following treatment partially accounted for the association between baseline PTSD and substance use at two-year follow-up (Ouimette, Finney, & Moos, 1999). Therefore, understanding the way in which avoidant coping changes throughout the course of treatment for individuals with co-morbid PTSD and AD may help clinicians and researchers improve treatment approaches for this population. Specifically, treatment can incorporate explicit discussions about the coping strategies used by patients, outlining alternative strategies to avoidant coping techniques and providing education about how one's coping strategies are related to the treatment models presented and subsequent recovery from PTSD and AD.

Few studies have investigated changes in coping style during treatment of PTSD, AD or comorbid PTSD-AD. The existing findings are mixed. Boden, Bonn-Miller, Vujanovic, and Drescher (2012) found that, among male veterans with co-morbid PTSD and substance use disorder who completed Seeking Safety treatment, adaptive coping significantly increased during the six months following treatment. In two separate randomized controlled trials of narrative exposure therapy for earthquake survivors with PTSD (Zang, Hunt, & Cox, 2013, Zang, Hunt, & Cox, 2014), one study found no significant changes in coping at the end of treatment, while the second study showed increases in adaptive coping, but no changes in maladaptive coping. To our knowledge, no study to date has examined coping changes for comorbid PTSD-AD patients in trauma-focused treatment.

The current study examined changes in coping style among adults seeking outpatient treatment for PTSD-AD using data from a previously published randomized clinical trial (Foa et al., 2013) comparing the efficacy of concurrent naltrexone (NAL) and prolonged exposure therapy (PE) for patients with these two disorders. The following hypotheses were made: 1) All participants would demonstrate significant decreases in avoidant coping; 2) Participants receiving PE, compared to those who did not receive PE, would demonstrate greater reductions in avoidant coping between pre- and post-treatment, given the focus of PE on reduction of avoidance; 3) All participants would demonstrate significant increases in adaptive coping; 4) PTSD and AD symptom improvement would be associated with greater increases in adaptive coping and greater decreases in avoidant coping, regardless of treatment condition.

1. Methods

1.1. Participants

Participants were 165 adults meeting DSM-IV criteria for co-morbid PTSD and AD. Additional inclusion criteria were: a) significant PTSD symptoms, defined as a score of 15 or higher on the PTSD Symptom Scale-Interview Version (PSS-I) (Foa, Riggs, Dancu, & Rothbaum, 1993); and b) heavy drinking in the past 30 days, defined as 12 alcoholic drinks per week with at least 1 day of 4 drinks on the Alcohol Timeline Follow-Back Interview (TLFB; Sobell, Brown, Leo, & Sobell, 1996). Participant age ranged from 19 to 64 years ($M = 42.73$; $SD = 9.71$). Sixty-five percent of the participants were male, 63% were Black, and 30% were Non-Hispanic White. The average PSS-I score at baseline was 28.1 (SD = 7.9), indicating moderately severe PTSD, and the mean percentage days drinking was 74.8%.

1.2. Procedure

Following informed consent, participants completed a psychiatric and physical evaluation. Eligible participants completed a baseline evaluation and were then randomly assigned to 1 of 4 treatment groups: 1) PE + naltrexone (NAL); 2) PE + pill placebo; 3) NAL only; or 4) pill placebo only. All four groups received supportive counseling focused on alcohol use. Treatment lasted 24 weeks. Participants completed assessments at mid-treatment (week 12), post-treatment (week 24), 3-month follow-up (week 38), and 6-month follow-up (week 52). The current study is a secondary analysis of the original treatment study. Additional details on the original study can be found in Foa et al. (2013).

1.3. Treatments

1.3.1. Prolonged exposure therapy (PE; Foa, Hembree, & Rothbaum, 2007)

PE consisted of 12 weekly 90-min sessions followed by six twice-monthly sessions. PE includes in vivo exposure (i.e., approaching trauma-related situations and stimuli), imaginal exposure (i.e., recounting trauma memories), and processing (i.e., discussing thoughts and feelings related to imaginal exposure). The average number of PE sessions completed was 6.18 ± 3.86 in the NAL + PE group, and 6.48 ± 3.49 in the PLA + PE group, without differences between groups ($p = 0.73$).

1.3.2. Supportive counseling

Supportive counseling utilized the BRENDA model (Starosta, Leeman, & Volpicelli, 2006) and consisted of 12 weekly 30–45-min sessions followed by six twice-monthly sessions with the study nurse. Each session included medication dispensing, compliance monitoring, provision of education around alcoholism, and support and advice around drinking. The specific components of the model are: Biopsychosocial evaluation, Report to the patient on assessment, Empathic understanding of the patient's situation, Needs collaboratively identified by the patient and treatment provider, Direct advice to the patient on how to meet those needs, and Assess reaction of the patient to advice and adjust as necessary for best care (Starosta et al., 2006). The mean number of BRENDA sessions completed was 12.09 ($SD = 4.84$).

1.3.3. Naltrexone (NAL)

Naltrexone is a pure opioid antagonist and hypothesized to