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A pilot randomized controlled trial of Dialectical Behavior Therapy with and without the Dialectical Behavior Therapy Prolonged Exposure protocol for suicidal and self-injuring women with borderline personality disorder and PTSD

Melanie S. Harned*, Kathryn E. Korslund, Marsha M. Linehan

Behavioral Research and Therapy Clinics, Box 355915, University of Washington, Seattle, WA 98195-5915, USA

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ABSTRACT

Objective: This study evaluates the efficacy of integrating PTSD treatment into Dialectical Behavior Therapy (DBT) for women with borderline personality disorder, PTSD, and intentional self-injury.
Methods: Participants were randomized to DBT ($n = 9$) or DBT with the DBT Prolonged Exposure (DBT PE) protocol ($n = 17$) and assessed at 4-month intervals during the treatment year and 3-months post-treatment.
Results: Treatment expectancies, satisfaction, and completion did not differ by condition. In DBT + DBT PE, the DBT PE protocol was feasible to implement for a majority of treatment completers. Compared to DBT, DBT + DBT PE led to larger and more stable improvements in PTSD and doubled the remission rate among treatment completers (80% vs. 40%). Patients who completed the DBT PE protocol were 2.4 times less likely to attempt suicide and 1.5 times less likely to self-injure than those in DBT. Among treatment completers, moderate to large effect sizes favored DBT + DBT PE for dissociation, trauma-related guilt cognitions, shame, anxiety, depression, and global functioning.
Conclusions: DBT with the DBT PE protocol is feasible, acceptable, and safe to administer, and may lead to larger improvements in PTSD, intentional self-injury, and other outcomes than DBT alone. The findings require replication in a larger sample.

Borderline personality disorder (BPD), posttraumatic stress disorder (PTSD), and suicidal and non-suicidal self-injury (NSSI) are commonly co-occurring problems. Among individuals with BPD, the rate of co-occurring PTSD is approximately 30% in community samples (Grant et al., 2008; Pagura et al., 2010) and 50% in clinical samples (Harned, Rizvi, & Linehan, 2010; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2004). More than 70% of BPD patients report a history of multiple episodes and methods of NSSI and 60% report multiple suicide attempts (Zanarini et al., 2008). Individuals with both BPD and PTSD are a particularly high-risk group, with rates of suicide attempts two and five times higher than individuals with BPD or PTSD alone (Pagura et al., 2010). In addition, the presence of PTSD more than doubles the frequency of NSSI among suicidal and self-injuring BPD patients (Harned et al., 2010).

Both causal and maintaining relationships exist between BPD, PTSD, and intentional self-injury (i.e., suicide attempts and NSSI) that likely account for the high degree of overlap between these complex problems. Early childhood trauma has been implicated in the development of BPD (e.g., Battle et al., 2004; Widom, Czaja, & Paris, 2009) and increases the risk of adult trauma among individuals with BPD (Zanarini et al., 1999). PTSD has been found to maintain or exacerbate intentional self-injury in BPD, as these behaviors are often precipitated by PTSD symptoms (e.g., flashbacks, nightmares) and exposure to trauma-related cues (Harned et al., 2010). More generally, intentional self-injury most often functions to alleviate negative affect among individuals with BPD (Brown, Comtois, & Linehan, 2002; Kleindienst et al., 2008), and PTSD has been found to increase negative affect and emotion dysregulation in BPD patients (Harned et al., 2010; Marshall-Berenz, Morrison, Schumacher, & Coffey, 2011). Taken together, this constellation of co-occurring problems appears to be particularly intractable, with PTSD predicting a lower likelihood of remitting from BPD and a higher likelihood of attempting suicide among individuals with

* Corresponding author. Fax: +1 206 616 1513.
E-mail address: mharned@u.washington.edu (M.S. Harned).

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BPD across 10–16 years of naturalistic follow-up (Wedig et al., 2012; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2006).

The emerging consensus in the field is that comorbid conditions are best treated using an integrated approach that allows for targeting of multiple problems in the same treatment with a focus on the relationships between them (Najavits et al., 2009; National Institute of Drug Abuse, 2010; Rizvi & Harned, 2013). However, existing treatments have generally targeted either PTSD alone or BPD with intentional self-injury, but not all three problems in combination. PTSD treatment guidelines uniformly state that such treatment is not appropriate for acutely suicidal patients (e.g., Foa, Keane, Friedman, & Cohen, 2009; National Institute for Clinical Excellence, 2005) and PTSD treatment studies routinely exclude patients with serious suicidality and/or recent NSSI (Bradley, Greene, Russ, Dutra, & Westen, 2005). When acutely suicidal and self-injuring patients are excluded, individuals with and without BPD characteristics show comparable rates of improvement in PTSD during cognitive behavioral treatment (Clarke, Rizvi, & Resick, 2008; Feeny, Zoellner, & Foa, 2002), but are less likely to achieve overall good end-state functioning (Feeny et al., 2002). However, the efficacy of existing PTSD treatments for suicidal and self-injuring patients, as well as individuals meeting full diagnostic criteria for BPD, is unknown. Of note, several characteristics common in this patient population have been found to predict worse response to cognitive behavioral PTSD treatment, such as a history of suicide planning or attempts (Tarrier, Sommerfield, Pilgrim, & Faragher, 2000) and childhood trauma (Hembree, Street, Riggs, & Foa, 2004), suggesting that existing treatments may be particularly challenging if not ineffective among severe BPD patients.

Consistent with PTSD treatment guidelines, patients with BPD, PTSD, and intentional self-injury are commonly referred to BPD treatments for 'stabilization' prior to or instead of providing treatment focused on PTSD. A number of evidence-based BPD treatments exist (see Stoffers et al., 2012 for a review), and these treatments typically use a here-and-now approach to address problems, rather than focusing on the past, including past trauma. Of these treatments, only Dialectical Behavior Therapy (DBT; Linehan, 1993a) has been evaluated in terms of its impact on comorbid PTSD. DBT prioritizes targeting of intentional self-injury and other forms of behavioral dyscontrol, and does not routinely target PTSD. Accordingly, among suicidal and self-injuring BPD women, the rate of remission from PTSD is relatively low during one year of DBT and one year of follow-up (35%; Harned et al., 2008). In addition, PTSD predicts less reduction in intentional self-injury and BPD symptoms during one year of DBT (Barnicot & Priebe, 2013). Taken together, these findings indicate that the impact of BPD treatments on PTSD is either limited or unknown and, when not addressed, PTSD may negatively impact treatment response.

Increasing awareness of the limitations of existing treatment approaches has led to the recent development and evaluation of several interventions for this multi-problem patient population. Pabst et al. (2012) conducted a feasibility trial of Narrative Exposure Therapy for PTSD among patients with comorbid BPD ($n = 10$). Treatment lasted an average of 14 sessions, primarily took place in an inpatient setting, and included patients engaging in NSSI, but excluded those with acute suicidality, a suicide attempt in the past 8 weeks, and other severe comorbidities (e.g., drug abuse). Results indicated a large pre–post reduction in PTSD ($g = 0.92$). Bohus and colleagues have developed a 12-week intensive residential treatment for women with PTSD related to childhood sexual abuse that includes, but is not limited to, women with comorbid BPD. This intervention, called DBT–PTSD, combines modified DBT with trauma-focused cognitive behavioral treatment strategies. A randomized controlled trial ($n = 74$, 45% BPD) comparing DBT–PTSD to a Treatment as Usual-Waitlist control (TAU-WL) included women engaging in NSSI, but excluded those who had engaged in a life-threatening behavior (including a suicide attempt) in the past 4 months or were currently substance dependent (Bohus et al., 2013). Results indicated that DBT–PTSD was superior to TAU-WL in improving PTSD, depression, and global functioning, but not BPD severity or dissociation, and results did not differ between patients with and without BPD (Bohus et al., 2013). Although both of these treatments reflect advances toward developing more inclusive interventions to treat PTSD in BPD patients engaging in NSSI, limitations include the exclusion of patients with acute suicidality or recent serious suicide attempts, the use of more restrictive treatment settings (residential and inpatient), and the focus on targeting a single disorder (PTSD).

The present study is part of a program of research focused on developing and evaluating an integrated treatment that can safely and effectively address the multiple problems of suicidal and self-injuring BPD patients with PTSD. The treatment consists of one year of standard outpatient DBT with the DBT Prolonged Exposure (DBT PE) protocol integrated into DBT to target PTSD. The DBT PE protocol is based on Prolonged Exposure therapy for PTSD (Foa, Hembree, & Rothbaum, 2007) and incorporates DBT strategies and procedures to address the specific characteristics of this patient population (Harned, 2013). To date, case studies (Harned & Linehan, 2008) and an open trial (Harned, Korslund, Foa, & Linehan, 2012) have been completed. The open trial included 13 women with BPD, PTSD, and recent and/or imminent intentional self-injury. The treatment was found to be highly acceptable and feasible to implement for a majority of patients, with 100% of treatment completers achieving sufficient stability to start the DBT PE protocol and 70% completing the full protocol. The treatment was also safe to administer, with no evidence of increased intentional self-injury urges or behaviors and an overall low rate of suicide attempts (9.1%) and NSSI (27.3%) during the study. Very large improvements in PTSD were found from pre- to post-treatment in both the intent-to-treat sample ($d = 1.4$, remission = 60.0%) and among treatment completers ($d = 1.7$, remission = 71.4%) that were maintained in the 3 months following treatment. In addition, patients showed large improvements in dissociation, trauma-related guilt cognitions, shame, depression, anxiety, and social adjustment.

The present study extends this research by conducting a pilot randomized controlled trial (RCT) comparing DBT with and without the DBT PE protocol. The specific aims of the pilot RCT are: (1) to evaluate the feasibility and acceptability of DBT + DBT PE relative to DBT, (2) to evaluate the safety of DBT + DBT PE relative to DBT, and (3) to provide a preliminary estimate of the degree of change in DBT + DBT PE relative to DBT on the primary outcomes of intentional self-injury and PTSD as well as a number of secondary outcomes.

Methods

Study design

A pilot RCT comparing one year of standard DBT with and without the DBT PE protocol was conducted. Using a 2:1 allocation ratio, participants were randomized to DBT + DBT PE ($n = 17$) or DBT ($n = 9$). Twice as many participants were assigned to the experimental condition (DBT + DBT PE) to maximize the number of clients who received this intervention while still allowing for comparisons with a control condition and random assignment. A minimization randomization procedure (White & Freedman, 1978) was used to match participants on five primary prognostic variables: (1) number of suicide attempts in the last year, (2) number of NSSI episodes in the last year, (3) PTSD severity, (4) dissociation