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Brief novel therapies for PTSD: Written Exposure Therapy

Johanna Thompson-Hollands, Ph.D.^{1,2,3}, Brian P. Marx, Ph.D.^{1,2,3}, and Denise M. Sloan, Ph.D.^{1,2,3}

¹National Center for PTSD, Boston, MA

²VA Boston Healthcare System, Boston, MA

³Boston University School of Medicine, Boston, MA

Abstract

Purpose of review: Written Exposure Therapy (WET) is a 5-session exposure-based intervention for the treatment of posttraumatic stress disorder (PTSD). WET was developed through a series of systematic evaluations of the expressive writing procedure. It is an efficient intervention, requiring limited patient and therapist time and no between-session assignments. The treatment results in statistically and clinically significant symptom change among individuals, including veterans, with PTSD.

Recent Findings: WET has been shown to be non-inferior to Cognitive Processing Therapy (CPT), a more intensive form of PTSD treatment. Additionally, WET resulted in substantially lower rates of treatment dropout compared to CPT (6% versus 39%). Moderator analyses of the rate of symptom change during treatment indicated that WET performed equally well for participants regardless of age, gender, comorbid depression, or estimated full scale IQ.

Summary: WET represents a viable option for the efficacious, brief treatment of PTSD and may have significant strengths compared to other manualized psychotherapeutic approaches.

Keywords

PTSD; treatment; brief therapies; trauma; cognitive-behavioral therapy

Introduction

Written exposure therapy (WET [1*]) is a five session, exposure-based treatment for posttraumatic stress disorder (PTSD). The WET treatment protocol was developed based

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Corresponding Author: Denise M. Sloan, Ph.D., National Center for PTSD, VA Boston Healthcare System, 150 S. Huntington Ave (116B-4), Boston, MA 02130 denise.sloan@va.gov.

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This article does not contain any studies with human or animal subjects performed by any of the authors.

upon findings from a systematic series of studies examining the critical components of an expressive writing procedure pioneered by Dr. James Pennebaker [2]. These findings demonstrated that writing about a traumatic experience for a specified amount of time during several consecutive writing sessions resulted in significant reductions in posttraumatic stress symptoms [3] and that the expression of emotion and the process of making meaning of one's experience over the course of the writing exercises were necessary to achieve statistically and clinically significant symptom improvements [4]. In addition, we observed that significant improvements only occurred when the same traumatic experience was the focus of the written narratives, rather than writing about different traumatic experiences during each session [5]. Moreover, we determined that writing for 30 minutes during each of the 5 sessions was necessary for individuals diagnosed with PTSD to experience significant symptom improvements [6–7].

The WET protocol that emerged from this line of work is an efficient PTSD treatment that does not require between-session assignments. In the first treatment session, which lasts one hour, the therapist provides the patient with psychoeducation about PTSD as well as a rationale for why writing about one's trauma leads to symptom reduction. Following this, the therapist provides instructions for writing about a specific trauma experience. Patients write for 30 minutes and are encouraged to include clear and specific details about their emotional and sensory experiences at the time of the event. After the writing, there is a brief (i.e., 10 minutes) check-in with the clinician. The check-in is not an opportunity for the patient to recount their traumatic experience to the clinician. Instead, it is focused on the patient describing his or her reaction to writing about their experience. Sessions two through five are approximately 40 minutes each, with 30 minutes of the session devoted to writing about the same event that was identified in session one. As previously stated, there are no between-session assignments, and sessions are scheduled weekly. In our earlier work, we conducted sessions on a daily basis [3–5] but we changed the scheduling of sessions to weekly to more closely align with typical clinical practice.

WET Efficacy Findings

A randomized controlled trial of WET compared with a waitlist comparison condition indicated large between condition effect sizes, with PTSD treatment gains assessed via the Clinician-Administered PTSD Scale (CAPS; [8]), for the individuals assigned to WET maintained at a 6-month follow-up [9]. Moreover, only 5% of individuals assigned to WET met diagnostic criteria for PTSD compared with 75% assigned to the waitlist condition. Treatment dropout was 8%, which compares favorably to other trauma-focused treatments [10]. The two individuals that dropped out of treatment dropped after session 2 and 3.

We also conducted an open trial to investigate the acceptability and efficacy of WET among a sample of veterans diagnosed with chronic PTSD. We thought this would be an important step in treatment development since prior research has found that veterans and service members do not respond to Prolonged Exposure (PE [11]) and Cognitive Processing Therapy (CPT [12]) as well as other types of trauma survivors [13]. In our study, veterans tolerated WET well with only 14% prematurely terminating treatment and most reporting high degree of treatment satisfaction. Moreover, 71% of the veterans displayed clinically

meaningful reductions in PTSD symptom severity assessed using the CAPS and no longer met criteria for PTSD following treatment [14].

Based on these early findings, we decided that the next step in investigating the efficacy of WET would be to directly compare the treatment with CPT, a first line PTSD treatment that is more time intensive [15]. We expected that individuals receiving WET would demonstrate non-inferior PTSD symptom severity outcomes relative to individuals receiving CPT, despite WET having substantially fewer treatment sessions. A sample of 126 adults with a diagnosis of PTSD were randomly assigned to receive either WET or CPT [16]. We used the CPT protocol that includes both cognitive processing and written accounts, now referred to as CPT+A, as this protocol version has the most empirical evidence to support its use.

Participants reported a variety of trauma exposures including combat, childhood sexual abuse, adult physical assault, adult sexual assault, and motor vehicle accidents. Individuals were excluded if they had conditions that would be difficult to manage in an outpatient setting (e.g., high suicidality, current substance dependence, psychosis), or if they were currently enrolled in other PTSD-focused psychotherapy. Participants were assigned to complete either 5 sessions of WET or 12 sessions of CPT, both delivered on an individual basis by doctoral-level therapists. Follow-up assessments were conducted by independent assessors at 6-, 12-, 24-, 36-, and 60-weeks following treatment initiation. PTSD symptom severity was assessed using the CAPS-5 [17].

Results from the study showed that WET was non-inferior to CPT in terms of PTSD symptom outcome both in the immediate post-treatment period [18*] as well as over the full 60-week follow-up [19*]. Both treatments had large effects on PTSD symptom severity from baseline to 60 weeks (WET $d = 1.23$, CPT $d = 1.38$), and the majority of the sample in each condition no longer met PTSD diagnostic status at 60 weeks. Treatment dropout was 6% among participants in the WET condition (dropping out either after session 2 or 3) and 39% among participants in the CPT condition, with the majority (76%) of those dropping out of CPT doing so within the first five sessions. Additionally, both treatments had a medium-sized effect on the secondary outcome of self-reported depression symptoms [19*].

The findings of the non-inferiority study are important as they suggest that successful PTSD treatment can be achieved with a treatment that involves less than half the number of sessions included in other evidence-based trauma-focused treatments.

We have also conducted a post hoc analysis of participants who identified as veterans in this study ($n = 33$) [1*]. Veterans displayed a significant reduction in PTSD symptom severity, with no significant difference between the treatment conditions. However, the magnitude of reduction was notably less than what was observed for the entire sample. A treatment condition difference in dropout was also observed, with only 5% of veterans assigned to WET dropping out prematurely compared with 50% of veterans assigned to CPT. Given the large difference in dropout rate we also examined the treatment completer sample but found no significant difference between the treatment conditions in terms of reduction of PTSD symptom severity. Although these findings are promising, they require replication using a larger sample size to adequately test between treatment condition differences.

Moderators of treatment outcome

The results of the non-inferiority trial clearly indicate that WET can be used to successfully treat individuals with PTSD and that WET treatment outcomes are on par with CPT. As impressive as this might be, it is crucial to keep in mind that some study participants in both conditions continued to report clinically significant PTSD symptoms. Such findings underscore a critical need to examine factors that might influence PTSD treatment outcomes. Accordingly, we examined moderators of PTSD symptom outcomes in our WET non-inferiority study. Because the literature on moderators of treatment outcome in PTSD has mixed findings, we had no a priori hypotheses as to which factors would moderate outcomes for both WET and CPT.

We found no moderating effect of age, gender, number of comorbid diagnoses, or depressive symptom severity on the rate of symptom change in either treatment condition. However, for participants in the CPT condition, estimated full scale IQ (FSIQ) significantly moderated treatment outcomes through the 36-week assessment point, such that those with higher FSIQs experienced a more rapid rate of symptom improvement. There was no such effect of moderation by FSIQ in the WET condition [20]. The fact that WET was equally efficacious across the range of estimated intelligence, as well as across other demographic and baseline characteristics, provides important information regarding the utility and potential reach of this treatment.

WET mechanism of action

Throughout all our efforts to develop WET and test its efficacy, we have sought to test potential mechanisms of action. One mechanism of particular interest to us has been extinction of conditioned responses to trauma reminders (for a review, see [1*]). Given the theorized indicators that extinction is occurring [21], we expected to observe indicators of activation of cognitive structures related to fear responding during the first writing session, followed by slowly decreasing levels of responding during subsequent writing sessions, until responding resembled what typically is seen when someone writes about a neutral, unemotional topic. This is precisely the pattern that we have observed when comparing participants who had at least moderate PTSD symptom severity who wrote about traumatic experiences with those who wrote about a neutral topic [3–5]. Additionally, reductions in self-reported arousal using the Self-Assessment Manikin [22] from the first to last writing session mediated the association between writing condition and PTSD symptom severity, adding to the evidence that activation of the fear network drives some of the changes observed. We continue to examine the underlying mechanism of WET in our efficacy studies with participants diagnosed with PTSD and have continued to find evidence that extinction assessed with the SAM, salivary cortisol sampling and heart rate is an underlying mechanism [9, 23].

The promise of brief treatments

Our findings for WET add to a growing body of work indicating that successful PTSD treatment can be accomplished with fewer treatment sessions or reduced session duration than previously assumed [24–27]. However, WET involves much less of a treatment dose than has been examined in these prior studies. Prolonged Exposure for primary care (PE-PC)

has a treatment dose that is comparable to WET. PE-PC is a recently developed PTSD treatment for active duty service members in which behavioral health providers are embedded within the primary care setting [28]. This treatment consists of 4, 30-minute sessions in which the core of the treatment is instructing patients to write repeatedly (i.e., at least 3 times) about their traumatic event between weekly sessions, using prompts to guide their writing. The patient is also instructed to read their written narrative. Thus, the exposure component of the treatment is conducted as homework assignments. Treatment sessions are used to coach the patient on conducting the assignments as well as to check in with the patient regarding assignment compliance and to develop strategies to overcome barriers in completing the assignments.

Two efficacy studies have been conducted with PE-PC with some promising results (see paper on PE-PC in this special issue). An open trial of PE-PC found that 5 out of 15 participants dropped out of treatment [29]. The 10 participants who completed treatment displayed a significant reduction in PTSD symptom severity. The second study used a randomized design in which active duty participants were randomized to either PE-PC or a minimal contact comparison condition [30]. This study found that service members assigned to PE-PC had significantly greater reductions in PTSD symptom severity relative to the minimal contact condition using a self-report measure of PTSD, but no between condition difference was observed with a clinician-administered measure. Given the lack of significant between condition effect for the clinician-administered measure, it will be important to further examine the efficacy of PE-PC, including conducting studies that involve an active treatment comparison condition. Although PE-PC is similar to WET in terms of treatment dose, it differs in the critical matter of where the trauma narrative writing assignments take place. For WET, the trauma narratives take place within the session and are limited to 30 minutes. In contrast, trauma narrative writing in PE-PC takes place outside of the sessions as homework assignments and the amount of time allotted to writing is determined by the patient. Our work has demonstrated that successful PTSD outcome is achieved when patients write for 30 minutes each session, with less time not leading to PTSD symptom reduction [6]. In addition, the reliance on completing exposure outside of sessions in PE-PC may be problematic given the variability in homework compliance in exposure-based treatments [31].

Future directions

WET represents one important additional treatment option for providers to consider as the brevity of the protocol may be a particular advantage for both patients and providers. Additionally, WET has amassed a robust body of research evidence over the past decade, leading to the inclusion of written narrative exposure as a recommended PTSD treatment in the recent Clinical Practice Guidelines [15]. As the same time, there is emerging data that PTSD can be treated with fewer treatment sessions than previously assumed.

Although the findings for WET are very promising, additional studies are needed. Specifically, given that trauma-focused treatments are not as robust for military and veteran populations [13], it will be important to conduct randomized clinical trials of WET solely including these samples. Such studies are currently underway. Continued examination of

moderators of and mediators of WET will also be important to advancing our understanding regarding the conditions under which treatment outcomes are maximized. Given the brevity of the treatment and that most of the sessions are scripted, one might assume that paraprofessionals could be able to successfully implement WET. However, this is an empirical question that needs to be investigated. We also need to better understand the level of training that is needed for clinicians to successfully implement WET. We are actively investigating different training formats depending on a clinician's prior experience with trauma-focused treatments.

There remain important questions regarding mechanisms of action for WET and other PTSD treatments. Although emotional exposure continues to be the most strongly supported mechanism across many different PTSD treatments, there has been a lack of sophistication in more closely examining when and how proposed mechanisms change during treatment. Further illumination of this issue will allow for more effective modifications of existing treatments, as well as improved treatment targeting; as we have seen with the results of the WET versus CPT moderation analyses, different treatments may be more effective for particular subgroups of patients. A deeper understanding of the pathways through which these treatments exert their effects will likely allow for even more beneficial matching of patient and treatment, as well as more efficient PTSD treatment approaches.

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Conflict of Interest

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Denise M. Sloan and Brian P. Marx have a treatment manual book in press at the American Psychological Association.

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