



Dissemination and implementation of prolonged exposure therapy for posttraumatic stress disorder



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ABSTRACT

Posttraumatic stress disorder (PTSD) is a highly prevalent, often chronic and disabling psychiatric disorder that is associated with significant adverse health and life consequences. Although several evidence-based treatments (EBTs), including Prolonged Exposure therapy (PE), have been found effective and efficacious in reducing PTSD symptomology, the majority of individuals with this disorder receive treatments of unknown efficacy. Thus, it is imperative that EBTs such as PE be made available to PTSD sufferers through widespread dissemination and implementation. We will review some of the efforts to increase the availability of PE and the common barriers to successful dissemination and implementation. We also discuss novel dissemination strategies that are harnessing technology to overcome barriers to dissemination.

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1. Introduction

Posttraumatic Stress Disorder (PTSD) is a highly prevalent psychiatric disorder that affects 3.4% of men and 8.5% of women during their lifetime (McLean, Asnaani, Litz, & Hofmann, 2011). In the absence of effective treatment, PTSD frequently becomes a chronic and disabling disorder that is often comorbid with major depression, other anxiety disorders, substance abuse disorders (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Breslau, Davis, & Schultz, 2003), medical problems (Schnurr, Spiro, & Paris, 2000) and is associated with low quality of life (Zatzick et al., 1997; Zayfert, Dums, Ferguson, & Hegel, 2002). Given the substantial personal distress, public health and societal costs associated with chronic PTSD, it is heartening that there are effective interventions for PTSD available. Evidence-based treatments (EBTs) for PTSD include prolonged exposure therapy (PE; e.g., Bryant et al., 2008; Foa et al., 1999, 2005; Resick, Nishith, Weaver, Astin, & Feuer, 2002; Schnurr et al., 2007; for a review and meta-analysis see Powers, Halpern, Ferenschak, Gillihan & Foa, 2010), cognitive processing therapy (CPT; Chard, 2005; Monson et al., 2006; Resick et al., 2008, 2002), cognitive therapy (e.g., Ehlers et al., 2003; Tarrrier & Sommerfield, 2004), stress-inoculation therapy (e.g., Foa et al., 1991; 1999) and eye movement desensitization and reprocessing (EMDR; e.g., Power et al., 2002; Rothbaum, Astin, & Marsteller, 2005; Taylor et al., 2003).

EBT for PTSD is greatly underutilized (e.g., Foa, Gillihan, & Bryant, *in press*; Kessler, 2000; Rosen et al., 2004), resulting in unnecessary suffering, increased healthcare costs, and workplace absenteeism (Greenberg et al., 1999; Hoge, Terhakopian, Castro, Messer, & Engel, 2007), despite a wealth of evidence that EBTs for PTSD can be effectively disseminated. While much of this research has focused on PE, dissemination studies have also examined other EBTs. For example, Gillespie, Duffy, Hackmann, and Clark (2002) found community therapists who received training in cognitive therapy for PTSD and ongoing supervision effectively administered treatment in an open trial. Similarly, a study by Neuner et al., 2008 showed that a manualized exposure treatment called narrative exposure therapy was effectively delivered to refugees in southern Uganda by lay counselors chosen from within the refugee community. While acknowledging these promising results, we focus on the dissemination of PE, which has the greatest supportive evidence and has been the subject of wider dissemination efforts than other treatments for PTSD. This review provides an overview of efforts to disseminate PE, and a description of the successes, barriers, and challenges involved in promoting the adoption of PE in mental health systems.

1.1. Prolonged exposure therapy for PTSD

Prolonged exposure (PE) is a specific exposure therapy program designed to help PTSD sufferers to emotionally process their traumatic experiences through repeated revisiting and recounting their trauma memories (imaginal exposure), and repeated, gradual approach to trauma-related, safe, situations that the person avoids because there are trauma reminders (in vivo exposure). PE consists of two principal components: (a) in vivo exposure to trauma

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reminders, usually in the form of between-session assignments; (b) imaginal exposure to the memory of the traumatic event in session followed by processing of the exposure experience. Two additional less central components are: (c) psychoeducation about the nature of trauma and (d) training in controlled breathing.

Numerous randomized controlled trials indicate that PE is effective in reducing PTSD symptoms (see Cahill, Rothbaum, Resick & Follette, 2009), and is associated with rapid change and maintenance of treatment gains over time (e.g., Foa et al., 2005; Powers, Halpern, Ferenschak, Gillihan, & Foa, 2010; Taylor et al., 2003). In addition to greatly reducing PTSD symptoms, PE is shown to lessen symptoms of depression, general anxiety, guilt, anger, and anxiety sensitivity, and improves social functioning and health (Keane, Marshall, & Taft, 2006; Rauch et al., 2010). Moreover, PE is effective in treating PTSD related to a wide range of traumas as well as PTSD in comorbid populations, including traumatic brain injury (National Center for PTSD, 2010), alcohol dependence (Foa et al., submitted for publication), borderline personality disorder (Harned, Rizvi, & Linehan, 2011), and major depression (Hagenaars, van Minnen, & Hoogduin, 2010). Importantly, the efficacy of PE has been established by many independent research groups around the world.

Given the large number of studies supporting the efficacy of PE, it has been identified in the joint VA-Department of Defense Clinical Practice Guideline for PTSD (VA-DoD Clinical Practice Guideline Working Group, 2003) as “strongly recommended” for use with veterans with PTSD. The 2007 report issued by the Institute of Medicine (IOM) concluded that exposure therapy was the sole treatment for PTSD with sufficient evidence for its efficacy.

1.2. What makes prolonged exposure a good candidate for dissemination?

As noted above, there are a number of treatment programs that have empirical evidence for their efficacy. However, not all efficacious treatment programs are equally suited to widespread dissemination. Treatments that should be considered good candidates for dissemination must have evidence of efficacy among PTSD sufferers from a wide range of traumas and demographic backgrounds, complex clinical presentations, and comorbid diagnoses. In addition, they must be relatively simple and streamlined, have a treatment manual that contains a step-by-step guide for the clinician, and be acceptable to PTSD patients.

As noted above, PE has an extensive evidence base in support of its efficacy from studies conducted by independent research groups from different countries. The studies encompass a number of different trauma types, including child and adult sexual and nonsexual assault, combat, terrorism, motor vehicle accidents, and natural disasters. In addition, PE's efficacy is comparable across various demographic backgrounds, and has been shown to work with patients who have comorbid diagnoses like depression, personality disorders, and alcohol dependence. PE is also a relatively simple, streamlined program that is presented in a structured manual (Foa, Hembree, & Rothbaum, 2007). Compared to other EBTs for PTSD, the techniques used in PE are simple and easy to learn and straightforward to deliver. Finally, several studies have shown that patients prefer exposure therapy over other types of treatment. For example, PE is preferred over medication (among women exposed to trauma: Angelo, Miller, Zoellner, & Feeny, 2008; among women with PTSD: Feeny, Zoellner, Mavissakalian, & Roy-Byrne, 2009), and over other EBTs for PTSD (Becker, Darius, & Schaumberg, 2007).

1.3. The challenge of disseminating evidence-based treatment

As noted above, many people suffering from PTSD do not receive EBT, in part because a majority of mental health professionals provide medications or psychotherapies for PTSD that have not

been empirically supported (e.g., Becker, Zayfert, & Anderson, 2004; Minnen, Hendriks, & Olf, 2010). Studies show that the availability of a highly effective EBT does not ensure that therapists will use this treatment. In fact, the majority of therapists in community mental health clinics do not use EBTs (Freiheit, Vye, Swan, & Cady, 2004). One reason for the large discrepancy between the high efficacy of PE and its low utilization is the lack of adequate training in EBTs. In a survey of licensed psychologists, Becker et al. (2004) found that the vast majority of therapists reported no or modest training in treating PTSD, and very few reported utilizing PE. Lack of training was the most frequently cited reason for not using imaginal exposure. Consistent with these data is research showing that evidence supporting the efficacy of a given treatment has little impact in psychologists' decisions about which treatments to utilize (Cook, Schnurr, Biyanova, & Coyne, 2009). These findings highlight the need to develop effective dissemination strategies, a topic to which we discuss below.

2. Disseminating prolonged exposure in Philadelphia

The CTSA began disseminating PE to mental health clinics in the Philadelphia community with the goal of assessing the feasibility of training community mental health professionals to deliver PE and to compare their treatment outcomes to those of PE experts. The community sites were Women Organized Against Rape (WOAR) and the Sexual Assault Counseling and Education (SACE) program in Temple University's Counseling Center. Previous to CTSA involvement, WOAR and SACE trauma survivors were typically provided supportive counseling by master's level counselors or social workers with no previous training in CBT, clinical research, or delivery of manualized treatments. These providers first participated in a 5-day PE training workshop conducted by CTSA staff. Workshop participants learned about the theory behind PE, the efficacy of PE, and were provided instruction on the administration of PE interventions (e.g., the rationale for treatment, in vivo and imaginal exposure, managing under- or over-engagement). After the workshop, therapists participated in a 3-hour weekly group supervision where they reviewed and discussed ongoing therapy cases. Therapists received 2-day “booster” workshops that were offered once or twice per year for the first two years.

Despite engagement with the workshops and supervision, implementation of PE among the community clinic therapists was slow. Initially, the therapists were reluctant to use the treatment with their patients because the treatment and its rationale were so different from the counseling approach that they were accustomed to using. Through the efforts of the CTSA supervisors and the clinic director, the therapists gradually began to implement PE. Once they experienced success with their first few PE patients, they adopted the treatment with enthusiasm. The comparison of treatment outcomes showed that the community clinic therapists had equivalent outcomes to those of PE experts from the CTSA (Foa et al., 2005).

2.1. Lessons learned

The major lesson learned from this local dissemination project was that support from clinic management is important to help overcome a culture that is not supportive of EBTs. Support from the director of WOAR was critical to the eventual adoption of PE by the clinic therapists. The proximity of the clinic to the expert-supervisors was an advantage, allowing the use of the traditional face-to-face supervision. This supervision format was not possible in a subsequent study by Schnurr et al. (2007), in which the PE therapists were located in VA centers across the country. In this study, the supervision format was modified such that therapists mailed session recordings to their supervisor, who would review the tape

and provide feedback by email and supervision over the phone prior to the next session. The feasibility of providing supervision remotely has increased in recent years with advances in technology that allow session recordings to be sent via the Internet.

The dissemination model comprised of an intensive training workshop followed by ongoing expert supervision has been found effective (Foa et al., 2005; Schnurr et al., 2007). However, these data do not speak to the continued utilization of PE. Therapists at WOAR have embraced and continued to use PE since the study terminated, but only some of the PE therapists in the Schnurr et al. (2007) study have continued to implement PE. This suggests that ongoing contact with PE experts for regular supervision is a key component of effective dissemination. The drawback of this dissemination model is that it is resource-intensive and limited by the availability of PE experts who can provide supervision.

2.2. Disseminating prolonged exposure in Israel and Japan

An alternative approach to having PE experts provide ongoing supervision is to train local therapists to become supervisors. This model was first used by the CTSA in a dissemination project in Israel. In both countries, the aims were to increase the availability of PE and the number of PE centers with local expertise that can assist in the training and supervision of new PE therapists. In this “train-the-trainers” model, PE experts conduct a training workshop at the dissemination site. Following the workshop, a subgroup of the newly trained therapists are identified to become future trainers and supervisors and to receive weekly supervision by a PE expert for a series of training cases. The future trainers then participate in a second PE training before beginning to provide supervision to other therapists. This model comprises three levels of certification in PE: therapist (intensive workshop and two to three closely supervised cases), supervisor (PE therapist certification, consistent use of PE with PTSD patients, and completion of a supervisor workshop), and trainer (PE supervisor certification plus conducting several PE workshops with a certified PE trainer). The advantage of this model is that it allows a large number of PE therapists to be trained without burdening the original developers of PE with conducting workshops and supervision.

2.2.1. Lessons learned

These dissemination initiatives demonstrate that PE is effective across cultures in the hands of trained mental health professionals and can be successfully disseminated to single clinics within mental health systems. Developing a method to conduct supervision with therapists in different cities and countries was critical to the success of these initiatives. The PE dissemination projects in Israel and Japan have led to the establishment of a number of PE treatment centers that provide training, supervision, and treatment. However, the success of these dissemination projects was limited by three factors. First, because workshop attendees were not required to receive supervision, the majority of PE workshop completers did not participate in post-workshop supervision to become certified PE therapists. Although many non-PE certified therapists have nonetheless continued to use PE, the lack of supervision may reduce therapist competence and quality of treatment. Second, there was no mechanism in place to promote the use of PE (or discourage the use of non-EBTs) by the trained therapists. Guidelines that require the use of EBTs, including PE, combined with method to incentivize the use of EBTs and discourage the use of non-EBTs may help ensure that providers implement EBTs after receiving training. Third, successful dissemination depended on the presence of dedicated, energetic leaders in both countries. A significant and lasting impact on mental health services may be achieved only when delivery systems systematically promote and invest in the use of EBTs.

2.3. Dissemination of prolonged exposure in the veterans health administration

The US Veterans Health Administration initiative to disseminate EBTs for PTSD addresses some of the above mentioned limitations by requiring post-workshop PE supervision. In response to the tremendous increase in the number of veterans with PTSD in the past decade, the Veterans Health Administration (VHA) initiated a system-wide dissemination of EBTs for PTSD, including both PE and Cognitive Processing Therapy (CPT) (Karlin et al., 2010). The VHA rollout was designed to increase the implementation of EBTs for PTSD by training a large number of therapists within the system. The scale of this initiative necessitated a train-the-trainers model in which PE and CPT therapists could be trained to become PE supervisors, and then workshop trainers. The aim was to provide the VHA with a permanent capacity to train and supervise their mental health practitioners in the delivery of evidence-based treatments for PTSD in a self-sufficient manner, without the need for ongoing involvement of individuals outside the system.

2.3.1. Lessons learned

The VHA dissemination effort has enjoyed considerable success. Two key aspects of the VHA dissemination contributed to its success. First, close consultation on the first two cases of each trainee has helped ensure competent implementation of the treatment. A survey by Ruzek and Rosen (2009), comparing therapist attitudes toward PE before and after supervision found that supervision increased therapist self-efficacy to deliver PE and their expectation that PE will benefit their patients. Ninety-five percent of those who completed supervision reported they were “very likely” to use PE with their PTSD patients. Second, the success of the VHA dissemination supports our assumption that top-down directives are most effective in eliciting change.

Ensuring high treatment fidelity remains an ongoing challenge to widespread dissemination. For example, time constraints make it difficult for PE therapists to prepare for sessions and participate in supervision (Chard, Ricksecker, Healy, Karlin, & Resick, 2012). A second challenge is maintaining high levels of implementation of PE. Although the VHA required therapists to receive training in PE and CPT, there was no mandate for the ongoing use of these treatments. Currently, many therapists are under pressure to treat as many veterans as possible, which makes providing weekly PE improbable. Treating fewer veterans at a time would allow therapists to implement EBTs. Further, because EBTs are effective in brief periods of time, therapists would soon have time to treat new veterans. Evidence supports the view that PE leads to a significant decrease in mental health care visits among veterans (Tuerk et al., 2012).

3. Future directions in PTSD treatment dissemination

Developing effective treatments and training a large number of therapists to deliver them is not sufficient to ensure that PTSD sufferers will receive EBT. Patients that could benefit from EBTs may have limited access to EBTs due to geography, limited finances, or an inability to take time from work or childcare demands. In this section we review novel strategies to overcome these barriers using “telehealth,” approaches that allow interventions to be delivered remotely with the assistance of technology.

3.1. Prolonged exposure via videoconference

Over the past decade, growing interest has focused on using advances in technology to improve the accessibility of mental health services. An important advantage of delivering treatment via videoconferencing is that it can be delivered to patients at

home, thereby significantly reducing barriers to treatment access related to travel time and stigma. Compared to other telehealth approaches, videoconference allows the therapist and patient to respond to facial and vocal cues in real time.

To-date there are a handful of published studies that examined the efficacy of telehealth interventions for PTSD. One pilot study of videoconference-delivered PE showed that the rate of treatment completion and reductions in PTSD and depression symptoms were comparable to in-person PE (Tuerk, Yoder, Ruggiero, Gros, & Acierno, 2010). In a larger trial, Gros, Yoder, Tuerk, Lozano, and Acierno (2011) found that PE delivered either via telehealth was effective in reducing the symptoms of PTSD, anxiety, depression, stress, and general impairment with large effect sizes. These data provide preliminary support for the efficacy of EBT delivered via videoconference. Currently, there are several large scale studies on the efficacy of PE delivered via telehealth underway. The results of these studies will help to evaluate the usefulness of this treatment delivery modality.

3.2. Prolonged exposure via the internet

Providing treatment via the Internet is another promising approach to overcoming the major barriers to avail effective treatment to PTSD sufferers and thus it is a promising strategy to increase the availability of effective treatment. The use of web-treatments for PTSD has grown significantly in the past decade; to date there are four research groups that have developed and tested web-CBTs for PTSD: Lange and colleagues (e.g., Knaevelsrud & Maercker, 2007), Hirai and Clum (2005), Litz, Engel, Bryant, and Papa (2007), and Klein et al. (2009). These studies, along with the results of meta-analyses (Reger & Gahm, 2009; Spek et al., 2007) provide encouraging initial support for the efficacy of web-treatment of PTSD. Only one of the seven published trials to date (Litz et al., 2007) included a supportive counseling comparison group, and no studies have compared the efficacy of a web-treatment program to the efficacy of the same treatment program delivered face to face by a therapist. Such controlled comparisons are necessary for cost-effectiveness calculations about treatment modalities. Furthermore, although existing web-treatments often incorporate individual EBT techniques, they do not correspond to existing EBT protocols, and therefore do not capitalize on effective EBTs.

4. Summary

Several EBTs for PTSD have been developed in the past two decades, but they are greatly underutilized by therapists and hence unavailable to patients who would benefit from them. To increase the accessibility of EBTs, dissemination strategies must overcome multiple barriers that interfere with their widespread adoption and ongoing implementation. There have been systematic and extensive efforts to transport PE from academic centers to community clinics in Philadelphia (Foa et al., 2005) and abroad (e.g., Israel, Japan, China, Sweden). The most ambitious project involved disseminating PE throughout the VHA system in the US as part of the VHA Central Office initiative to disseminate EBTs for several mental health disorders. The lessons learned from these dissemination initiatives include the importance of top-down directives for training and ongoing supervision, and the need to create infrastructures that support the ongoing implementation of EBTs. Novel dissemination strategies that exploit advances in technology show promise in improving access to EBTs without compromising their efficacy.

Despite the many challenging to successful dissemination of EBT, the personal distress and the public health burden caused by PTSD renders the dissemination of PE and other EBTs critical. While

we work to enhance the efficacy and efficiency of PTSD interventions, it is imperative to focus on disseminating these treatments to the millions of PTSD sufferers who would benefit from treatment. Future research needs to address the relative merits of different dissemination models including those which take advantage of advances in communication technology.

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