

Cognitive–Behavioural Therapy and Psychodynamic Psychotherapy in the Treatment of Combat-Related Post-Traumatic Stress Disorder: A Comparative Effectiveness Study

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This study compared the effectiveness of two psychotherapy approaches for treating combat veterans with chronic post-traumatic stress disorder (PTSD): cognitive–behavioural therapy (CBT) and psychodynamic psychotherapy (PDT). These treatments are routinely used by the Unit for Treatment of Combat-Related PTSD of the Israel Defense Forces (IDF). IDF veterans with chronic PTSD were assigned to either CBT ($n = 148$) or PDT ($n = 95$) based on the nature of their complaint and symptoms. Psychiatric status was assessed at baseline, post-treatment and 8–12 months follow-up using the Clinician-Administered PTSD Scale, the PTSD Questionnaire, the Montgomery and Asberg Depression Rating Scale and the Psychotherapy Outcome Assessment and Monitoring System-Trauma Version assessment questionnaire. Both treatment types resulted in significant reduction in symptoms and with improved functioning from pre-treatment to post-treatment, which were maintained at follow-up. No differences between the two treatments were found in any the effectiveness measures. At post-treatment, 35% of the CBT patients and 45% of the PDT patients remitted, with no difference between the groups. At follow-up, remission rates were 33% and 36% for the CBT and PDT groups, respectively. The study recommends further randomized controlled trials to determine treatment efficacy. Copyright © 2015 John Wiley & Sons, Ltd.

Key Practitioner Message:

- Both cognitive-behavioural therapy and psychodynamic psychotherapy have to be treatments offered in clinics for treating PTSD.
- Therapists who treat PTSD should be familiar with cognitive-behavioural and dynamic methods.
- The type of treatment chosen should be based on thorough psychosocial assessment.

Keywords: PTSD, CBT, Psychodynamic Psychotherapy, Treatment

War can be profoundly stressful and can lead to lasting mental health problems such as post-traumatic stress disorder (PTSD) and depression (Steenkamp & Litz, 2013). PTSD is a debilitating disorder characterized by pathological re-experiencing of the trauma, physiological hyperarousal, avoidance of reminders of the trauma and emotional numbing (APA, 2013). It is widely acknowledged that PTSD is difficult to treat and that it entails a high rate of treatment dropout (Imel, Laska, Jakupcak, & Simpson, 2013).

Various treatment approaches for PTSD have been used and studied. However, despite considerable testing, the

research literature is still unable to identify one specific therapy that is clearly superior to others and for all patients. It is also unclear from the extant studies whether PTSD symptom change following therapy leads to full remission and high end-state functioning (Benish, Imel, & Wampold, 2008; Steenkamp & Litz, 2013). For instance, much research indicate that cognitive–behavioural therapy (CBT) approaches such as prolonged exposure (PE) therapy (Foa et al., 2005) and cognitive processing therapy (CPT; Resick & Schnicke, 1992) have much to offer to PTSD patients. Much less research exists on psychodynamically oriented treatment approaches despite the fact that in real-world settings, psychodynamic psychotherapy (PDT) is still a common treatment for PTSD (Nacasch et al., 2011).

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Psychodynamic psychotherapy for PTSD typically focuses on techniques that increase patients' awareness of the content and process of unconscious thoughts and feelings associated with the traumatic event (Horowitz, 1973). PDT also addresses the maladaptive defence mechanisms that are thought to fuel the symptoms of PTSD by helping patients come to terms with the idiosyncratic meaning of the traumatic event (Weiss, 2006). Specifically, psychodynamic theories of PTSD suggest that therapy can help patients understand the effect of the traumatic event on their personality, embedding it in the context of their current experiences. It also provides patients insight into their own influence on the assimilation of the traumatic event into their present life (Schottenbauer, Glass, Arnkoff, & Gray, 2008). PDT delves into the construed meanings of the traumatic event, the individual's response to it and the behaviours that developed after it, in the hope of helping patients develop insights into the factors that activate traumatic re-experiencing. The goal of PDT is thus to help patients gain mastery over their internal experiences through more effective coping (Krupnick, 2002; Kudler, Krupnick, Blank, Herman, & Horowitz, 2009).

In Israel, but surely also in many other parts of the world, PDT is a common approach to PTSD treatment. Many of the therapists working in real-world settings have been primarily trained in PDT. Thus, it is only natural for these therapists to choose to deliver the type of treatment that is more familiar to them. Given this state of affairs, it is worthwhile comparing the effectiveness of PDT and of the more empirically established CBT approach for PTSD in a real-world context.

The efficacy of PDT for PTSD has been studied to a lesser extent than that of other therapies. In a randomized control trial (RCT) for PTSD, Brom, Kleber, and Defares (1989) compared the effects of PDT, behavioural therapy and hypnotherapy. All treatments appeared equally effective. This result is consistent with similar efficacy comparisons of these therapies' outcomes when delivered through routine mental health care (Stiles, Barkham, Clark, & Connell, 2008). Other studies of the effect of PDT on PTSD found that PDT increased patients' ability to resolve emotional reactions to trauma by increasing their reflective capacity (Kudler, 2011; Leichenring & Klein, 2014; Schottenbauer et al., 2008). Importantly, two recent studies have compared the effectiveness of PDT and PE therapy (Gilboa-Schechtman et al., 2010; Nacasch et al., 2011). Nacasch et al. (2011) compared PE therapy with treatment as usual, which included PDT and/or medication and counselling. Symptom severity following treatment was significantly lower in patients who received PE therapy than in patients who received PDT. Similar results were observed for measures of depression and state and trait anxiety. Specifically, this study reported a significant change in symptoms from pre-treatment to follow-up for the PE group but not for the PDT group.

Gilboa-Schechtman et al. (2010) studied 38 post-traumatic adolescents aged 12–18 years in a randomized controlled pilot contrasting PE therapy with time-limited PDT. Both PE and PDT resulted in decreased PTSD and depression symptoms and increased global functioning. However, PE led to greater reductions in PTSD and depression symptom severity, and a greater increase in global functioning than the time-limited PDT. At post-treatment, 68.4% of the adolescents treated with PE and only 36.8% of those treated with PDT no longer met the diagnostic criteria for PTSD. Treatment gains were maintained at 6 and 17 months follow-up for both groups.

Combat-related PTSD is a common phenomenon in Israel owing to the ongoing conflicts and wars in the area. The participants in the present study developed symptoms of PTSD after fighting in a full-scale war or a more limited combat operation. All had experienced the threat of death, serious injury or loss of physical integrity. Serving soldiers and veterans of all military ranks and sub-professions (e.g., combatants, support personnel, junior enlisted ranks and officers) who develop chronic combat-related PTSD can receive treatment at the Unit for Treatment of Combat-Related PTSD (UTC-PTSD) of the Israel Defense Forces' (IDF) Medical Corps. The UTC-PTSD specializes in individual psychotherapeutic treatment for chronic PTSD using two primary methods of treatment: CBT and PDT. All the patients treated in the current study suffered from chronic PTSD symptoms that impaired their functioning and inflicted social and interpersonal dysfunction, (Levi, 2013) occupational problems and general adjustment difficulties.

Although randomized controlled trials are the only method for determining treatment efficacy, it is also relevant to examine the effectiveness of normal practice in large service provision centres, as was carried out in the current study. Such examination can provide useful information on the effectiveness of different treatments in real-life settings. The goal of the present study was to evaluate the comparative effectiveness of CBT and PDT for combat-related PTSD in the specific context of the UTC-PTSD. The Unit's practices are the primary treatment of combat-related PTSD in Israel and thus reflect actual practice in the field; and in the case of the IDF, they are based on years of experience and the refinement of treatment and diagnostic procedures.

METHOD

Participants

Study participants were 243 treatment-seeking veterans (all male) who were diagnosed with chronic combat-related PTSD. The participants had contacted the UTC-PTSD between 2005 and 2010 and were assigned to either CBT ($n=95$) or PDT ($n=148$). The veterans were either combat soldiers (infantry and armoured corps) or other

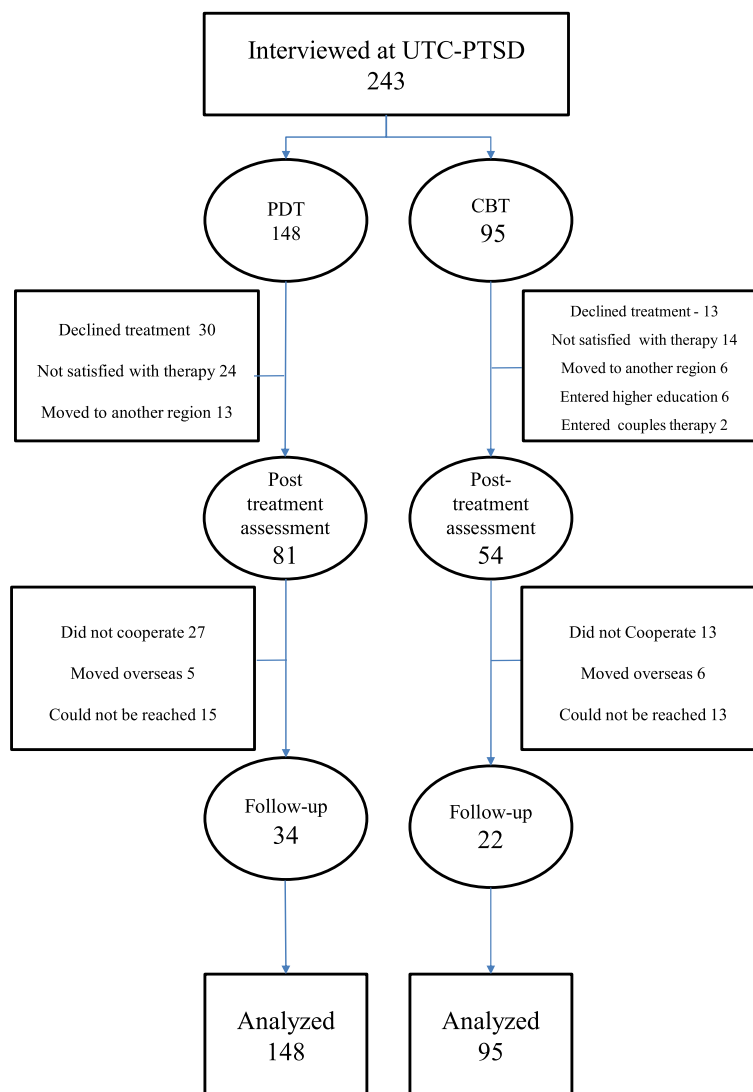


Figure 1. Flow of patients throughout the study. UTC-PTSD = Unit for Treatment of Combat-Related PTSD. PDT = psychodynamic psychotherapy. CBT = cognitive-behavioural therapy

specialist military personnel (mechanics and logistics). Consolidated Standards of Reporting Trials Figure 1 describes the flow of patients through the treatment procedures. Table 1 summarizes the background information data for the participants by treatment type. The study was approved by the Ethics Committee of the IDF Medical Corps.

Psychological Evaluation Instruments

Clinician-Administered PTSD Scale (Blake et al., 1995)

The Clinician-Administered PTSD Scale (CAPS) was the primary outcome measure for the current study. It is a widely used semi-structured clinical interview that

measures the frequency and intensity of PTSD symptoms as described in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV; APA, 2000). The CAPS is a 30-item scale that investigates the frequency and intensity of PTSD symptoms and traumatic life experiences. Scores range from 0 to 136, with classification as follows: *subclinical* 0–19, *mild* 20–39, *moderate* 40–59, *severe* 60–79 and *extreme* 80 and above. A total CAPS severity score ≥ 45 (total frequency + intensity across all 17 PTSD symptoms) served as the PTSD clinical cut-off (Weathers, Ruscio, & Kean, 1999). The CAPS has demonstrated good-to-excellent inter-rater reliability and convergent and diagnostic criterion validity when used for samples of veterans (Weathers, Keane, & Davidson, 2001)

Table 1. Socio-demographic data for CBT and PDT groups

		CBT	PDT	χ^2/t
Marital status	Single	57 (60.0%)	76 (51.4%)	$\chi^2(1) = 1.75, p = 0.19$
	Married	38 (40.0%)	72 (48.6%)	
Age when treatment sought	Mean (SD)	30.8 (11.44)	33.4 (11.45)	$t(241) = 1.72, p = 0.09$
	Range	20–66	17–71	
Number of children	Mean (SD)	0.82 (1.56)	0.76 (1.50)	$t(241) = -0.320, p = 0.75$
	Range	0–9	0–9	
Years of education	Mean (SD)	12.15 (1.02)	12.64 (2.56)	$t(209) = 2.03, p = 0.04$
	Range	11–21	10–29	
Employment	Employed	62 (65.3%)	106 (71.6%)	$\chi^2(1) = 1.10, p = 0.29$
	Unemployed	33 (34.7%)	42 (28.4%)	
Military occupation	Combatant	77 (81.0%)	128 (86.5%)	$\chi^2(1) = 1.47, p = 0.226$
	Other	18 (19.4%)	20 (13.5%)	
Age at traumatic event	Mean (SD)	24.72 (6.04)	23.80 (5.90)	$t(240) = -1.16, p = 0.25$
	Range	17–51	17–39	

CBT = cognitive-behavioural therapy. PDT = psychodynamic psychotherapy. SD = standard deviation.

and other populations (Pupo et al., 2011). Internal consistency in the current study measured by Cronbach's α was 0.94 (pre-treatment), 0.96 (post-treatment) and 0.92 (at follow-up).

PTSD Questionnaire (Solomon, et al., 1993)

This self-report questionnaire included 17 items describing typical expressions of the three PTSD symptom clusters in DSM-IV (APA, 1994): five items reflect intrusive symptoms, seven items reflect avoidant symptoms and five items reflect hyperarousal symptoms. Symptoms frequency was measured on a scale from 1 (*never*) to 4 (*very often*). A total score was calculated by aggregating all items. A score of 34 and higher indicates moderate to severe PTSD symptoms. Internal consistency in the current study measured by Cronbach's α was 0.91 (pre-treatment), 0.93 (post-treatment) and 0.88 (at follow-up). For reliability and construct validity of the PTSD Questionnaire, see Svetlicky, Solomon, Benbenishty, Levi and Lubin (2010).

The Montgomery and Asberg Depression Rating Scale (Montgomery & Asberg, 1979)

The Montgomery and Asberg Depression Rating Scale (MADRS) is a semi-structured clinician-rated interview used to assess the magnitude of nine core depressive symptoms: reported sadness, inner tension, reduced sleep, reduced appetite, concentration difficulties, lassitude, inability to feel, pessimistic thoughts and suicidal thoughts. In the study, the interviewing clinician rated the severity of each symptom on a scale from 0 to 6 while using additional probing questions and anchor points. The interviewing clinician also rated apparent sadness as a 10th item, with scores ranging from 0 to 60: 7–19 indicated mild depression, 20–34 moderate depression and >35 severe depression. In the present study, internal consistency

measured by Cronbach's α was 0.86 (pre-treatment), 0.90 (post-treatment) and 0.91 (at follow-up). For reliability and construct validity of the PTSD Questionnaire, see Santen, Danhof, and Pasqua (2009).

Psychotherapy Outcome Assessment and Monitoring System-Trauma Version Assessment Questionnaire (Green, Lowry & Kopta, 2003)

This self-report questionnaire was used to assess participants' level of functioning. The questionnaire includes 10 items measuring functioning in different areas of life. A five-point scale was used from 5 (*extreme distress or dissatisfaction*) to 4 (*optimal functioning or satisfaction*). A score of 3 or more pointed to healthy functioning. A global functioning score was derived by averaging across items. One item, which probed relationships with the patient's children, was only relevant to a small subsample and was therefore excluded from the analysis. Internal consistency measured by Cronbach's α was 0.84 (pre-treatment), 0.86 (post-treatment) and 0.70 (at follow-up). For reliability and construct validity of the PTSD Questionnaire, see Svetlicky et al. (2010).

Treatment Assignment and Treatment Procedures

Assignment to treatment type was not performed at random. Patients were assigned to either CBT or PDT following a semi-structured psychiatric interview (CAPS) and completion of the self-reported questionnaires (PTSD Questionnaire, MADRS and Psychotherapy Outcome Assessment and Monitoring System [POAMS]). Diagnostic interviews were conducted by 12 therapists (psychiatrists, clinical psychologists and social workers) with extensive experience in PTSD diagnosis and treatment. The therapists had all completed mandatory IDF service and thus were highly familiar with military culture, its language,

code of manners, behaviour norms, belief system, dress code and rituals. The therapists specialized in either CBT ($n = 6$) or PDT ($n = 6$). CBT was provided by the CBT team, and PDT was provided by the PDT team. All the therapists attended weekly supervision sessions to discuss their cases according to the type of treatment they provided where patient's treatment progression monitoring occurred.

As previously mentioned, therapy assignment was not performed at random. Patients who presented focused symptoms from the avoidant and intrusive clusters, which produced specific dysfunctions (e.g., aversion entering closed places and aversion to public transportation/driving), and seemed to have strong negative beliefs and biased cognitions leading to marked dysfunction (e.g., 'It is not safe anywhere', 'The next disaster will strike soon', 'I am dead inside' or 'I'm going mad') were assigned to 24 once-weekly CBT sessions. Patients with extensive and widespread interpersonal dysfunction (occupational, family and friends) and whose clinical interview pointed to possible premorbid developmental and personality issues were prescribed a 1-year course of PDT (50 once-weekly sessions). The senior UTC-PTSD therapists jointly discussed and decided which therapy a patient should receive: CBT or PDT, as described in Levi and Lubin (2010). Briefly, each patient's record was presented by the in-taker, and decisions relating to diagnosis and treatment venue were made. The vast majority of cases lead to a consensual decision in diagnosis and preferable treatment course. When consensus was lacking (less than 10% of cases), the in-taker's own impression determined both the diagnosis and the preferred course of treatment. During intake, all the participants were informed about study aims (i.e., to monitor the efficacy of treatments provided by the UTC-PTSD) and were asked whether they are willing to participate. At this initial stage, all those who agreed to participate in the study provided written informed consent. However, if after the intake process a participant declined the offered treatment (33 participants, 13.5% of the sample), he or she was excluded from the study and offered an alternative treatment (either pharmacotherapy or group therapy).

Cognitive-behavioural therapy consisted of a combination of CPT and PE and included five stages: (a) understanding the impact of the trauma (psycho-education), emphatic clarification of the distress, and determining treatment goals; (b) reconstructing the traumatic event; and (c) identifying 'stuck thinking' and the connection between such thoughts and feelings of distress. The focus at this stage was on assimilated stuck points (e.g., 'It was my fault my friend died'), where the individual alters the details of an event to maintain his or her current beliefs (e.g., 'I was in command of the mission so it must be my fault my friend died'), making an attempt to alter the patient's beliefs and making them more realistic (e.g., 'I can control some things, but not everything'). At this

stage, the therapist and the patient try to identify and challenge overgeneralizations of trauma-based reactions to non-traumatic situations (e.g., 'If I make any mistakes someone will die'); (d) *in vivo* exposure (e.g., going to the site where the battle took place). The therapist and patient explore the meaning of the traumatic event and the veracity of their interpretation of the event with reference to this stage and the other stages of the treatment; and finally, (e) termination and summary. During this stage, the patient can continue to examine his or her thoughts about the trauma as he or she summarizes the treatment. At this concluding stage, therapist and patient decide whether they have achieved the treatment goals and review the tools the patient had acquired during the process. It is believed that by reviewing the treatment's achievements with the therapist's, the patient can revisit possible inaccurate conclusions he or she has reached about the traumatic event, himself or herself, others and the world in general.

Concerning PDT, over the years, the UTC-PTSD has identified three broad stages in its approach: (a) establishing therapeutic alliance and interpersonal relationship with the patient; and (b) exploring the patient's unconscious conflicts arising from the effect of the traumatic event. This involves addressing the therapist-patient relationship while paying close attention to unresolved conflicted feelings linked to significant figures of the patient's past. It also involves analysing how these feelings protect the patient's awareness from threatening thoughts, feelings and impulses; and (c) termination and summary. This last stage of PDT involves the sense of loss that is inherent in any trauma case, but particularly the loss of the therapy and therapist from the patient's routine life. These losses are linked to losses connected to the trauma and to previous endings in the patient's life. Patients are therefore encouraged to express anger, sadness and any other feelings. This stage also includes a review of the achievements accomplished in therapy and a look at what remains to be explored before treatment ends.

The goal of PDT as delivered at the UTC-PTSD is to help the patient master his or her inner experiences and regain integrity to his or her life. Thus, at the UTC-PTSD, PDT therapists are focused on helping their patients understand how the traumatic event had affected their personality. They achieve this by examining their subjective experiences since the traumatic event, while also touching upon relationships with significant figures from their past and how those relationships affected the assimilation of the traumatic event in the present (Schottenbauer et al., 2008). PDT also focuses on interpersonal problems that had developed since the traumatic event. The construed meanings of the traumatic event, the individual's response to those meanings and the behaviours that developed as a consequence of the events are examined directly, and also through the lens of the patient-therapist relationship (transference).

Both CBT and PDT expose patients to the source of their traumatic experience while construing a narrative that reflects the traumatic event. However, the timing and manner in which this is performed differ markedly. In CBT, there is a planned timetable for what happens and when during therapy. Narrative construal of the trauma occurs in the third or fourth session. In PDT, this process occurs throughout the therapy sessions, whenever the patient chooses to describe the event. Apart from differences in timing, the narrative construal process is similar in both treatments: first, the patient describes the facts surrounding the traumatic event (e.g., 'The first shots were fired at 0600'), and then the thoughts and feelings accompanying the facts are examined. In both CBT and PDT, the clinicians speak in IDF military parlance when talking to patients and demonstrate their shared knowledge of military behavioural norms, customs and atmosphere.

Procedure

Following initial contact with the UTC-PTSD, potential participants were interviewed using the CAPS and completed the self-reported questionnaires. Those diagnosed with PTSD based on the CAPS were regarded as candidates for the study and were assigned to either CBT or PDT following the procedures outlined above. Following treatment, all measures were re-administered. The same measures were administered again at 8–12 months post-treatment follow-up.

Data Analysis

Baseline differences in socio-demographic variables between the two treatment groups were assessed using *t*-tests and χ^2 analyses. Analyses of treatment outcome as a function of treatment type were conducted on two sets of data: (a) conservative intention-to-treat analysis imputed missing data values with the last-observation-carried-forward taking into account all the patients assigned to treatment and (b) completers' analyses using data from patients who completed the full procedure and provided full data sets.

Separate repeated-measures analyses of variance (ANOVAs) were conducted for each outcome measure (CAPS, PTSD, MADRS and POAMS functioning score), with Therapy Type (CBT and PDT) as a between-subjects factor and Time (pre-treatment, post-treatment and follow-up) as the repeated-measure within-subject factor. Follow-up contrasts were used to clarify differences in outcome measures over time, and follow-up between-group contrasts were used to compare outcome measures at the different time points. Finally, chi-square analyses were used to determine how many patients in each

therapy type remitted according to the CAPS clinical cut-off score.

RESULTS

Preliminary Analyses

The participants in the CBT and PDT groups did not differ on any of the symptom measures (CAPS, PTSD, MADRS and POAMS functioning score) or the demographic characteristics at baseline; all *ps* > 0.10. In addition, no differences were observed on any of the study symptom measures and demographics collected at baseline between participants who completed post-treatment assessments and those who dropped out of treatment. And, no differences were found between the participants who completed the follow-up assessments and those who dropped out; all *ps* > 0.50.

Intention-to-Treat Analyses

Table 2 presents means and standard deviations of PTSD, depression and global functioning at pre-treatment, post-treatment and follow-up as a function of treatment type for the intention-to-treat analyses. The three ANOVAs relating to the CAPS, PTSD Questionnaire and MADRS depression scores revealed main effects of Time, *F*(2, 416) = 57.91, 49.61 and 42.97, respectively, *ps* < 0.001, pointing to significant reductions in clinician-rated and patient-reported PTSD symptoms and depression symptoms following treatment, and a retention of treatment gains at follow-up. There were no differences in symptom levels between CBT and PDT at any of the assessment points, and none of the interaction effects were significant, indicating equal efficacy for both treatments.

The ANOVA for the functioning index also revealed a main effect of Time, *F*(2,416) = 48.64, *ps* < 0.001, reflecting a significant increase in functioning following treatment and retention of treatment gains at follow-up. Here too, there were no differences in functioning between patients who received CBT or PDT at any of the assessment points, and the interaction term was non-significant.

Completers Analyses

Figure 2 reflects changes in PTSD, depression and global functioning from pre-treatment to post-treatment and at follow-up as a function of treatment type for the completers' data. Analysis using the completers' data revealed the same pattern of results as those of the intention-to-treat analyses. Main effects of Time, *F*(2, 108) = 30.46, 26.27 and 14.46 were found for the CAPS, PTSD Questionnaire and MADRS depression scores, respectively, *ps* < 0.0001,

Table 2. Means and SDs of PTSD symptoms (CAPS, PTSD Questionnaire), depression (MADRS) and functioning (POAMS) at pre-treatment, post-treatment and follow-up for the CBT ($n=95$) and PDT ($n=148$) groups, intention-to-treat data with last observation being carried over

	CBT		PDT	
	Mean	SD	Mean	SD
CAPS				
Pre-treatment	68.90	23.16	73.72	24.16
Post-treatment	58.70	26.29	63.05	28.40
Follow-up	59.20	24.90	62.83	28.40
PTSD Questionnaire				
Pre-treatment	43.42	11.08	45.48	12.36
Post-treatment	39.73	11.81	41.90	12.78
Follow-up	39.23	11.86	41.59	12.78
MADRS (Depression)				
Pre-treatment	23.62	9.45	25.70	9.12
Post-treatment	19.84	9.11	23.49	10.47
Follow-up	19.91	9.34	19.82	10.38
POAMS (Function)				
Pre-treatment	2.73	0.66	2.76	0.64
Post-treatment	3.05	0.64	3.03	0.77
Follow-up	3.07	0.62	2.98	0.73

SD = standard deviation. PTSD = post-traumatic stress disorder. CAPS = Clinician-Administered PTSD Scale. MADRS = Montgomery and Asberg Depression Rating Scale. POAMS = Psychotherapy Outcome Assessment and Monitoring System. CBT = cognitive-behavioural therapy. PDT = psychodynamic psychotherapy.

reflecting significant reductions in clinician-rated and patient-reported PTSD and depression symptoms following treatment, which were maintained at follow-up. Increase in global functioning index across the two treatment groups was also found, $F(2,108) = 47.00$, $p < 0.0001$. There were no differences between patients who received CBT or PDT on any of the outcome measures at any of the assessment points, and none of the interaction terms were significant.

Analysis of Clinical Status

Following treatment, 35% of the patients in the CBT group and 45% of patients in the PDT group were in remission, $\chi^2 = 1.24$, NS. At 8–12-month follow-up, 33% of patients in the CBT group and 36% of patients in the PDT group remained in remission, $\chi^2 = 0.27$, NS. These results indicate non-significant between-group differences in remission rates.

DISCUSSION

This naturalistic study compared the two primary psychotherapy approaches used by the UTC-PTSD of the IDF: CBT and PDT. The analyses revealed the same pattern of symptoms change in patients who received either of the two therapies from baseline through post-treatment and

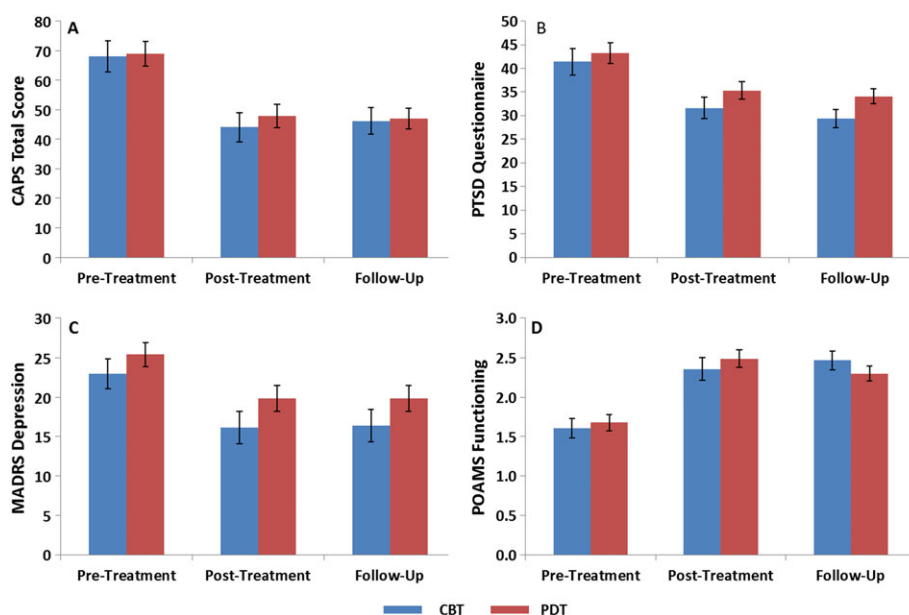


Figure 2. Means and standard error bars of the following: (A) Clinician-Administered PTSD Scale (CAPS); (B) post-traumatic stress disorder (PTSD) Questionnaire; (C) depression (Montgomery and Asberg Depression Rating Scale [MADRS]); and (D) function (Psychotherapy Outcome Assessment and Monitoring System [POAMS]) at pre-treatment, post-treatment and follow-up as a function of treatment type. Based on completers data. CBT = cognitive-behavioural therapy. PDT = psychodynamic psychotherapy

follow-up. Both therapies induced significant reductions in PTSD and depression symptoms and improved functioning level, effects that were still evident at 8- to 12-month follow-up. These results are consistent with those of studies showing that different approaches to treating PTSD produce similar effects (Stiles et al., 2008). Importantly, however, despite the statistically significant reduction in symptoms, the mean group scores for the CAPS remained above the clinical cut-off. This result is not surprising considering the chronic and therapy-resistant nature of PTSD (Imel et al., 2013; Schottenbauer et al., 2008). The remission rates of 35–45% found in the current study are also in accord with other studies of similarly chronic patients (Harvey, Bryant, & Tarrier, 2003). Finally, both therapy types were found to induce a small but statistically significant increase in patients' functioning level. This improvement corresponds to an average change from 'poor' to 'fair' on the POAMS.

The use of CBT for treating PTSD has been extensively studied in RCTs (Bisson et al., 2007; Schottenbauer et al., 2008). In contrast, PDT has not been thoroughly investigated using RCTs (Brom et al., 1989; Kudler, 2011). Despite the currently accepted view in clinical research and practice that CBT should be the first-line psychological treatment for PTSD (Chard, Schumm, Owens, & Cottingham, 2010; Monson et al., 2012; Schottenbauer et al., 2008), there is no consensus about the relative efficacy of CBT relative to other treatments (Benish et al., 2008). Researchers and clinicians also argue that while it is true that there is empirical support for some psychotherapies for PTSD, the effect size of the difference between these evidence-based treatments and other less studied treatment may in fact be quite small (Benish et al., 2008; Bradley et al., 2005). Although not an RCT, the current study suggests that PDT might be as helpful as CBT for certain patients with PTSD. Because the clinical presentation of PTSD is often complex, and because patients may differ considerably in their attitudes toward treatment, it seems important to have a range of therapeutic options to provide optimal care in the context of large-scale public health solutions (Kudler, 2011; Schottenbauer et al., 2008). The present study shows that PDT may benefit patients with multiple interpersonal or personality issues, and it supports the argument that many types of psychotherapies for PTSD can be effective (Wampold et al., 2010). It also supports the claim that comparative effectiveness research that seeks to directly compare interventions for PTSD in real-world settings is particularly important (Steenkamp & Litz, 2013).

There are various potential explanations for the similarity in therapeutic gains of CBT and PDT found here. Although the present study cannot determine which explanation is better supported, for the benefit of future research, we discuss these possibilities below.

First, the similar therapeutic effects of CBT and PDT may stem from a mechanism that is not unique to either of the

two therapies. For instance, the intimate encounter between two people in therapy, in which the veteran has an opportunity to discuss his or her difficulties and receive attention and empathy, can be a powerful factor in symptom alleviation. Similarly, factors such as a positive attitude combined with warmth, authenticity, understanding, support, encouragement, insight, sensitivity and empathy may all influence treatment outcome in both therapy types (Lambert & Bergin, 1994). If that is the case, and if indeed treatment efficacy of both therapies has a similar effect size, then CBT may be preferable to PDT because it is shorter and more cost effective.

Second, it is possible that the treatment assignment protocol to either CBT or PDT refined by the UTC-PTSD over many years maximized the therapeutic gains for each patient. It is conceivable that some patients would gain more from a structured effort to correct problematic trauma-related thoughts and behaviours (CBT), whereas others may benefit more from work on intrapersonal and interpersonal conflicts arising from the traumatic event (PDT; Krupnick, 2002; Kudler, 2011). Unfortunately, the data from the current study cannot determine if this is indeed the case. Specifically, this could be resolved in future studies applying random assignment methods.

Future studies with greater experimental control could investigate some of the alternatives outlined above and determine whether the current findings are generalizable to other types of trauma contexts that cause PTSD. This may very well be feasible since the two therapies discussed are based on treatments designed for treating PTSD in civilians (Steenkamp & Litz, 2013).

The current study has several limitations, most of which are regularly found in studies of comparative effectiveness of routine treatments in real-life settings (Shadish, Navarro, Matt, & Phillips, 2000). One limitation is the lack of a control group of untreated patients. This design problem limits our ability to attribute treatment gains to the treatment protocols in question. The UTC-PTSD is instructed to provide immediate access to care for veterans, thus precluding direct control over basic factors such as simple passage of time. Another limitation and a serious obstacle to inference is lack of random assignment to treatment types. As a result, one cannot rule out biased assignment as an explanation for the observed equivalence in therapeutic gains. In principle, assigning patients with a more complex psychopathology to one group or another might mask differences that could emerge in an RCT. One can imagine a scenario in which selective treatment assignment differentially penalized one therapeutic approach that might otherwise have proved superior results. Still, these concerns are somewhat mitigated in the current study by the fact that patients assigned to the two therapies had the same initial severity of PTSD and depression symptoms, which means that at least they had similar overall levels of disturbance to begin with.

Another weakness of the current study is that although the therapists did receive ongoing weekly supervision,

treatment manuals were not employed, and therapy sessions were not directly monitored. It was thus not possible to assess adherence to treatment protocol. For a discussion of this issue, see Foa and Meadows (1997).

An additional limitation of the study is that the patients treated with PDT received twice the number of sessions compared with patients who received CBT. The unequal number of sessions created an imbalance in treatment retention. It may be argued that if a shorter, evidence-based therapy such as CBT helped as much as the longer PDT treatment, it would be logical to use the shorter treatment. However, if the PDT patients had received the same (shorter) duration treatment as, for example, offered by Krupnick (2002), the outcomes may have been similar. These issues cannot be resolved easily as it may be rightfully claimed from a clinical perspective that treatment length or visitation frequency should not be considered a primary factor of comparison. Instead, it may be claimed that in the same vein by which different treatments propose to target different underlying mechanisms of psychopathology, they may need different treatment intensities and frequencies. Finally, although incomplete data are common in routine practice settings (Greasley & Small, 2005), they nevertheless pose limitations to inference. Patients who complete their treatment and are administered post-treatment measures are more likely to have agreed with their therapist regarding when treatment should end (Barkham et al., 2006) than patients who fail to complete treatment and also more likely to have improved during treatment (Stiles et al., 2008). The intention-to-treat approach to data analysis used in the current study should alleviate these concerns to some extent. As in many treatment studies of chronic PTSD, a large number of the participants in the current sample failed to complete post-treatment and follow-up assessments. While this is a serious limitation to research and analyses, it reflects an even more serious problem of treatment retirement for veterans with chronic PTSD in the real world.

In conclusion, the fact that both CBT and PDT successfully reduced PTSD symptoms means that both these approaches can help patients (Kudler, 2011). However, since both treatments seem equally effective, it is important to consider other important variables, such as cost effectiveness, when deciding which of the two treatments to use. If both treatments are equally effective, one should perhaps choose the one that is quicker and more economical. Treatment selection on this basis can ensure optimal care for patients both by relieving symptoms more rapidly and by more efficient use of available resources. This being said, since PTSD can be treatment resistant and persistent, having a range of effective treatment options may be a very relevant factor in providing PTSD care (Leichsenring & Klein, 2014; Schottenbauer et al., 2008).

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