

Intensive Cognitive Therapy for PTSD: A Feasibility Study

Anke Ehlers and David M. Clark

*NIHR Biomedical Research Centre for Mental Health, South London and Maudsley
NHS Trust and King's College London, UK*

Ann Hackmann

University of Oxford, UK

Nick Grey, Sheena Liness, Jennifer Wild, John Manley, and Louise Waddington

*NIHR Biomedical Research Centre for Mental Health, South London and
Maudsley NHS Trust and King's College London, UK*

Freda McManus

University of Oxford, UK

Background: Cognitive Behaviour Therapy (CBT) of anxiety disorders is usually delivered in weekly or biweekly sessions. There is evidence that intensive CBT can be effective in phobias and obsessive compulsive disorder. Studies of intensive CBT for posttraumatic stress disorder (PTSD) are lacking. **Method:** A feasibility study tested the acceptability and efficacy of an intensive version of Cognitive Therapy for PTSD (CT-PTSD) in 14 patients drawn from consecutive referrals. Patients received up to 18 hours of therapy over a period of 5 to 7 working days, followed by 1 session a week later and up to 3 follow-up sessions. **Results:** Intensive CT-PTSD was well tolerated and 85.7 % of patients no longer had PTSD at the end of treatment. Patients treated with intensive CT-PTSD achieved similar overall outcomes as a comparable group of patients treated with weekly CT-PTSD in an earlier study, but the intensive treatment improved PTSD symptoms over a shorter period of time and led to greater reductions in depression. **Conclusions:** The results suggest that intensive CT-PTSD is a feasible and promising alternative to weekly treatment that warrants further evaluation in randomized trials.

Keywords: Posttraumatic stress disorder, cognitive behaviour therapy, intensive treatment, treatment outcome, treatment acceptability.

Reprint requests to Anke Ehlers, Department of Psychology PO77, Institute of Psychiatry, King's College London, De Crespigny Park, London SE5 8AF, UK. E-mail: anke.ehlers@kcl.ac.uk

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Introduction

Cognitive Behavioural Therapy (CBT) treatments are effective in a range of anxiety disorders (Hofmann and Smits, 2008; Öst, 2008) and are usually delivered in weekly or biweekly sessions over the course of several months. This format of treatment delivery may not always be ideal, for example, when patients live far away from the therapy setting or if they are under pressure to get better quickly because of problems at work or in relationships with significant others. Some patients find it difficult to engage in lengthy psychological treatment (Bisson et al., 2007). This raises the questions of (a) whether faster improvement can be achieved if CBT is delivered in an intensive format, and (b) how well such intensive treatments are tolerated.

Intensive CBT approaches have been evaluated for a range of phobias and obsessive-compulsive disorder (OCD). Öst (1989) showed that a single long session of CBT is highly effective in specific phobias. Abramowitz, Foa and Franklin (2003) reported that 30 hours of CBT for OCD was equally effective whether delivered over 3 or 8 weeks. Oldfield, Salkovskis and Taylor (in press) further found that 12–18 hours of CBT for OCD was equally effective if it was delivered over 5 days or over 12 to 18 weeks. Similarly, in a paediatric study comparing intensive (daily sessions for 3 weeks) and once-weekly family-based CBT for OCD, Storch et al. (2007) reported that the intensive treatment was as effective as weekly treatment. Clark (1996) described a successful example of treating a patient with panic disorder with an intensive 2-day version of cognitive therapy for panic disorder. Deacon and Abramowitz (2006) delivered 9 hours of CBT for panic disorder over 2 consecutive days, reporting that 6 of their 10 patients were panic free after treatment and at follow-up. In an effectiveness study of intensive exposure treatment for agoraphobia, Hahlweg, Fiegenbaum, Frank, Schröder and Witzleben (2001) found effect sizes in symptom improvement similar to those reported in efficacy trials. Thus, intensive versions of CBT may be as effective as the traditional weekly or biweekly sessions.

There are as yet no studies of intensive CBT in the treatment of posttraumatic stress disorder (PTSD). Trauma-focused CBT programmes have been shown to be effective in PTSD (Bisson et al., 2007; Bradley, Greene, Russ, Dutra and Westen, 2005) and are currently recommended as first line treatments for this condition (American Psychiatric Association, 2004; Australian Centre for Posttraumatic Mental Health, 2007; Foa, Keane, Friedman and Cohen, 2005; National Institute of Clinical Excellence, 2005; Stein et al., 2009; Veterans Health Administration and Department of Defense, 2004). Examples of trauma-focused CBT programmes include Foa's *Prolonged Exposure* (Foa and Rothbaum, 1998; Foa et al., 2005) and Resick's *Cognitive Processing Therapy* (Resick and Schnicke, 1992, 1993) and Ehlers and Clark's *Cognitive Therapy for PTSD* (Ehlers and Clark, 2000; Ehlers et al., 2003, Ehlers, Clark, Hackmann, McManus and Fennell, 2005).

All trauma-focused CBT protocols require the patient to confront their trauma memories and trauma reminders, but methods of confrontation and its duration vary. It is unclear how well patients with PTSD would tolerate these procedures in an intensive treatment format. Some authors have raised the general concern that treatments that include systematic exposure to trauma memories may not be well tolerated, as confronting trauma memories can be very distressing (e.g. Kilpatrick and Best, 1984). In line with the concerns, some studies have observed high drop-out rates of between 20 and 35% with trauma-focused PTSD treatments that contain a significant degree of exposure to trauma memories (e.g. Resick, Nishith, Weaver, Astin and Feuer, 2002; Foa et al., 2005; Schnurr et al., 2007), although the average

drop-out rate may not be higher than for other PTSD treatments (Hembree et al., 2003). Note, however, that patients may have dropped out of treatment for reasons other than poor tolerance of the procedures (e.g. rapid improvement). There have also been concerns about a risk of symptom exacerbation with exposure to trauma memories (e.g. Tarrier et al., 1999). However, symptom exacerbations have been found to occur only in a small minority of patients and were short-lived (Foa, Zoellner, Feeny, Hembree and Alvarez-Conrad, 2002; Hackmann, Ehlers, Speckens and Clark, 2004).

Nevertheless, the concerns about the acceptability of trauma-focused CBT and the potential risk of symptom exacerbation may be amplified when using an intensive treatment format and need to be investigated. On the other hand, an intensive treatment format may offer the advantage of completing the work on trauma memories, once started, over a short period of time, rather than in small doses over several weeks. This may help with making the treatment acceptable to patients.

The present study was designed to explore the feasibility and acceptability of an intensive version of Cognitive Therapy for PTSD (CT-PTSD), a highly effective version of trauma-focused CBT (Ehlers et al., 2003, 2005; Smith et al., 2007). The standard once-weekly version of CT-PTSD has been shown to be very acceptable to patients. No drop-outs were observed in three randomized controlled trials (Ehlers et al., 2003, 2005; Smith et al., 2007). Furthermore, CT-PTSD has been successfully disseminated to routine clinical settings (Duffy, Gillespie and Clark, 2007; Gillespie, Duffy, Hackmann and Clark, 2002).

This feasibility study investigated acceptability and outcomes of intensive CT-PTSD in a case series of patients with chronic PTSD. Outcomes for patients treated with intensive CT-PTSD were compared with outcomes of comparable patients treated with weekly CT-PTSD in a previous study (Ehlers et al., 2005). We expected that an intensive version of CT-PTSD would be effective and that it would lead to recovery over a shorter period of time than weekly CT-PTSD.

Method

Participants

Fourteen patients were recruited from consecutive referrals from General Practitioners and Community Mental Health Teams to the Centre for Anxiety Disorders and Trauma, Maudsley Hospital, UK ($n = 11$), or the Anxiety Disorders Research Group at the Department of Psychiatry, University of Oxford ($n = 3$). Patients had to meet the following inclusion criteria for the feasibility study: 18–65 years old; meeting diagnostic criteria for chronic PTSD as determined by the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon and Williams, 1995) with a minimum duration of 3 months (range 3–126 months, see Table 1); the current episode of PTSD was linked to one or two discrete traumatic events in adulthood; and PTSD was the main problem. Exclusion criteria were: no memory for the trauma; history of psychosis; current alcohol or drug dependence; borderline personality disorder; acute suicide risk; assessment and treatment could not be conducted without the aid of an interpreter. Of 16 eligible patients who were offered participation in the study, 2 declined. Of the 14 participants, 2 had comorbid panic disorder with agoraphobia, and 3 had comorbid major depression. Table 1 shows trauma and demographic characteristics of the sample. Table 1 also shows that the sample was similar to the group who received weekly CT-PTSD in Ehlers et al.'s (2005) randomized controlled trial.

Table 1. Sample description: *N* (%) or means (standard deviations)

Variable		Intensive case series (<i>N</i> = 14)	Weekly CT comparison group (from Ehlers et al., 2005) (<i>N</i> = 14) and statistics	
Sex	Female	8 (57%)	8 (57%)	
	Male	6 (43%)	6 (43%)	$\chi (1) = 0.00, p = 1.0$
Ethnic group	Caucasian	10 (71%)	13 (93%)	
	Black or Other	4 (29%)	1 (7%)	$\chi (1) = 2.19, p = .14$
Age (in years)	Mean (<i>SD</i>)	39.6 (12.7)	35.4 (10.9)	$t(26) = 0.94, p = .36$
Type of	Accident	10 (71%)	7 (50%)	
Traumatic event	Interpersonal violence	4 (29%)	5 (36%)	
	Witness death	0 (0%)	2 (14%)	$\chi (2) = 2.64, p = .27$
Time since traumatic event (in months)	Range	3–126	7–120	
	Median	14.0	11.5	$U = 89.5, p = .70$
Marital status	Single	1 (14%)	5 (36%)	
	Married	5 (36%)	6 (43%)	
	Cohabiting	2 (14%)	3 (21%)	
	Divorced	5 (36%)	0 (0%)	$\chi (3) = 6.58, p = .09$
Education: exams passed	University	4 (29%)	3 (21%)	
	A levels (17+ years)	2 (14%)	3 (21%)	
	GSCE (15+ years)	6 (43%)	5 (36%)	
	None	2 (14%)	3 (21%)	$\chi (3) = 0.63, p = .89$
Current employment	Unemployed	1 (7%)	3 (21%)	
	On disability	2 (14%)	1 (7%)	
	Part-time ^a	0 (0%)	2 (14%)	
	Full-time ^a	10 (71%)	7 (50%)	
	Homemaker	1 (7%)	1 (7%)	$\chi (4) = 3.86, p = .43$
Profession	Professional	3 (21%)	5 (38%)	
	White collar	5 (36%)	4 (29%)	
	Blue collar	6 (43%)	4 (29%)	
	Homemaker	0 (0%)	1 (7%)	$\chi (3) = 2.01, p = .57$

^aThis includes patients on sick leave because of their PTSD symptoms.

Outcome measures

Clinician-rated PTSD symptoms. Independent assessors (trained psychologists) gave the Clinician-Administered PTSD scale (CAPS-SX, Blake et al., 1995). The CAPS assesses the frequency and severity of each of the symptoms specified in DSM-IV. To determine interrater-reliability, a random sample of 37 CAPS interviews (conducted by 14 different interviewers) was rated by a second clinician (14 different raters). The interviews came from the present and a related study (Ehlers et al., in preparation). Results indicated very good reliability for the PTSD diagnosis, kappa = .95, and total severity score, $r = .98$. Patients were considered to meet DSM-IV criteria for PTSD on the CAPS-SX if they reported the minimum number of symptoms in each symptom cluster, with a score of at least 1 (on both the frequency and intensity scales) and the global severity rating was 2 or greater (“definite distress or functional impairment”).

Severity of PTSD symptoms. Patients completed the Posttraumatic Diagnostic Scale (PDS, Foa, Cashman, Jaycox and Perry, 1997). The PDS asks patients to rate how often they were bothered by each of the PTSD symptoms specified in DSM-IV ranging from 0 “never” to 3 “3 to 5 times per week/almost always”. The PDS yields a sum score measuring the overall severity of PTSD symptoms. Foa et al. (1997) demonstrated that the self-report questionnaire has good reliability and concurrent validity with other PTSD measures.

Disability. Patients completed the Sheehan Disability Scale (American Psychiatric Association, 2000). Patients rated the interference caused by the PTSD symptoms in their (a) work, (b) social life/leisure activities, and (c) family life/home responsibilities on 3 Likert scales from 0 “not at all” to 10 “very severe”. The disability score was the mean of these ratings.

Depression and anxiety. Symptoms of anxiety and depression were assessed with the Beck Anxiety Inventory (BAI, Beck and Steer, 1993a) and the Beck Depression Inventory (BDI, Beck and Steer, 1993b), standard 21-item self-report measures of high reliability and validity.

Treatment programme

CT-PTSD is based on Ehlers and Clark’s (2000) model of PTSD. This model suggests that people with PTSD perceive a serious current threat that has two sources: excessively negative appraisals of the trauma and/or its sequelae, and characteristics of trauma memories that lead to reexperiencing symptoms. The problem is maintained by cognitive strategies and behaviours (such as thought suppression, rumination, safety-seeking behaviours) that are intended to reduce the sense of current threat, but maintain the problem by preventing change in the appraisals or trauma memory, and/or by increasing symptoms. CT-PTSD targets the three factors specified in the model. For each patient, an individualized version of model is developed. The maintaining factors are addressed with the procedures described below. The relative weight given to different treatment procedures differs from patient to patient, depending on the case formulation. Table 2 shows an outline of how the intensive treatment might progress. Two case examples are described by Grey, McManus, Hackmann, Clark and Ehlers (2009).

Goal 1: Modify excessively negative appraisals of the trauma and its sequelae. As in other CT programs, excessively negative appraisals of trauma sequelae, such as the initial PTSD symptoms (e.g. Ehlers, Mayou and Bryant, 1998) and other people’s responses after the event (e.g. Dunmore, Clark and Ehlers, 2001), are modified by the provision of information, Socratic questioning, and behavioural experiments. As many patients with PTSD describe a sense of permanent change since the trauma (e.g. Ehlers, Maercker and Boos, 2000), “reclaiming your life” assignments are discussed in each session and usually done as homework. Patients are encouraged to “reclaim” their former lives by reinstating significant activities or social contacts they have given up since the trauma.

Changing negative appraisals of the trauma poses a special challenge as much of the patient’s evidence for the problematic appraisals stems from what they remember about the trauma. Thus, work on appraisals of the trauma needs to be closely integrated with work on the trauma memory. Disjointed recall of the trauma in PTSD (a) makes it difficult to assess

Table 2. Example of course of treatment in intensive cognitive therapy for PTSD

Morning or afternoon session	Content of session
1/Day 1	Treatment goals Normalization of PTSD symptoms Identification of main intrusive memories Initial identification of maintaining factors (appraisals, cognitive strategies such as thought suppression, rumination, hypervigilance, safety behaviours) and initial shared case formulation (to be revised throughout treatment) Thought suppression experiment and instruction “letting memories come and go” Rationale for trauma memory work
2/Day 1	Imaginal reliving or narrative writing to identify hot spots Discussion of meaning of hot spots Reclaiming your life: identification of areas to be reclaimed and initial steps
3/Day 2	If necessary, further imaginal reliving/narrative writing to identify hot spots Identification of information that updates meaning of hot spots through – identification of relevant information from other parts of the trauma or afterwards – cognitive restructuring (consideration of a wider range of evidence) Updating trauma memory with this information – bring hot spot to mind and hold in mind – use verbal reminders, imagery, incompatible sensations or actions to bring updating information simultaneously to mind
4/Day 2	Further discussion of meanings of hot spots, identification of updating information, and memory updating Discrimination of triggers
5/Day 3	Further discussion of meanings of hot spots, identification of updating information, and memory updating Updated narrative Discrimination of triggers
6 /Day 3	Work on maintaining behaviours, e.g. – Behavioural experiments: dropping safety behaviours and hypervigilance – Reduce rumination – Review of behaviours that interfere with sleep
7/Day 4	Site visit
8/Day 5	Further work on cognitive restructuring, updating memories (e.g. probe reliving), discrimination of triggers, and changing maintaining behaviours/cognitive strategies as needed
9/Day 5	Review progress in updating memories, discrimination of triggers, appraisals, and maintaining behaviours/cognitive strategies Finalize updated narrative Agree homework Reclaiming your life assignments

Table 2. Continued.

Morning or afternoon session	Content of session
10 (1 week later)	Reclaiming your life Review progress in updating memories, discrimination of triggers, changing appraisals, and changing maintaining behaviours/cognitive strategies Agree homework Blue print
Up to 3 monthly booster sessions	Review of reclaiming your life assignments Review progress in updating memories, discrimination of triggers, changing appraisals, and changing maintaining behaviours and agree further homework

the problematic meanings by just talking about the trauma, and (b) has the effect that insights from cognitive restructuring may not be sufficient to produce a large shift in affect. Ehlers and Clark (2000) developed a special procedure to shift problematic meanings of the trauma, termed “Updating Trauma Memories”. This involves:

- (1) Identifying the idiosyncratic appraisals of the trauma: To access the problematic idiosyncratic meanings of the trauma, the moments during the trauma that create the greatest distress and sense of “nowness” during recall (hot spots) are identified through imaginal reliving (Foa and Rothbaum, 1998) or narrative writing (Blanchard et al., 2003; Resick and Schnicke, 1992), and discussion of intrusive memories (see Ehlers et al., 2002). The personal meaning of these moments is explored in careful questioning.
- (2) Identification of updating information: The next step is to identify information that provides evidence against the idiosyncratic appraisals linked to each hot spot (“updating information”). This may be information from the course of the event that has not been linked to the meaning of the hot spot, or a new conclusion the patient has reached in cognitive restructuring. Examples of the former include information that the outcome was better than expected (e.g. patient did not die, is not paralyzed); information that explained the patient’s or other people’s behaviour (e.g. the patient complied with the perpetrator’s instructions because he had a knife); the realization that an impression or perception during the trauma was not true (e.g. the perpetrator had a toy gun rather than a real gun); or explanations from experts of what happened (e.g. explanations about medical procedures in the course of the trauma). Examples of the latter are conclusions from the cognitive restructuring of excessively negative appraisals, such as “I am a bad person”, “It was my fault”, “My actions were disgraceful” or “I attract disaster”, using cognitive therapy techniques such as Socratic questioning, systematic discussion of evidence for and against the appraisals, behavioural experiments, pie charts, or surveys.
- (3) Active incorporation of the updating information into the hot spots. Once updating information that the patient finds compelling has been identified, it is actively incorporated into the relevant hot spot. Patients are asked to bring the hot spot to their mind (either through reliving or reading the narrative) and to then remind themselves (prompted by the therapist) of the updating information either (a) verbally

(e.g. “I know now that . . .”), (b) by imagery (e.g. visualizing how one’s wounds have healed; visualizing perpetrator in prison; looking at recent photo of the family), (c) by performing movements or actions that are incompatible with the original meaning of this moment (e.g. moving about, jumping up and down for hot spots that involve prediction that the patient will die or be paralyzed) or (d) incompatible sensations (e.g. touching a healed arm). To summarize the updating process, a written narrative is created that includes and highlights the new meanings (e.g. “I know now that it was not my fault”).

Goal 2: Reduce reexperiencing by elaboration of the trauma memories and discrimination of triggers. Four main techniques are used to elaborate the trauma memory and reduce reexperiencing: imaginal reliving of the event (Foa and Rothbaum, 1998), writing out a detailed narrative of the event (Blanchard et al., 2003; Resick and Schnicke, 1992), revisiting the site, and discrimination of triggers. Each procedure has advantages, and the relevant weight given to them depends on the patient’s level of engagement with the trauma memory and the length of the event. “Imaginal reliving”, in which the patient visualizes the event while simultaneously describing what is happening and what he or she is feeling and thinking, is particularly good at facilitating engagement with the memory and retrieval of all aspects of the memory (including emotions and sensory components). Writing a narrative is particularly useful when aspects of what happened or the order of events are unclear. Reconstructing the event with diagrams and models and a visit to the site can be of further assistance in such instances. For patients with very long traumas and those who tend to dissociate when talking about the trauma, writing may also be easier to manage than imaginal reliving. Revisiting the site of the traumatic event is particularly helpful in facilitating the realization that the event is in the past. When visiting the site, therapist and patient therefore discuss the way the scene is different from the day of the trauma (Then versus Now). Revisiting the site is also used to complement discussion and obtain new information that helps explain why or how an event occurred.

Building on the observation that trauma memories are disjointed and often lack crucial context information, Ehlers and colleagues (Ehlers and Clark, 2000; Ehlers, Hackmann and Michael, 2004) outlined that memory elaboration needs to link the hot spots of the trauma with new information that updates their meanings. To establish this new link, CT-PTSD uses the *Updating Trauma Memories* procedure described above.

Discrimination of triggers of reexperiencing symptoms usually involves two stages. First, patient and therapist carefully analyze where and when intrusions occur to identify triggers. This involves some detective work as patients are usually not aware of many of the sensory triggers (e.g. particular colours, sounds, smells, tastes, touch). Systematic observation (by the patient and the therapist) is usually necessary before all triggers are identified. Once triggers have been identified, the next aim is to break the link between the triggers and the trauma memory. This involves several steps in therapy. First, the patient learns to distinguish between “Then” versus “Now” i.e. the patient learns to focus on how the present triggers and their context (Now) are different from the trauma (Then). Second, intrusions are intentionally triggered in therapy so that the patient can learn to apply the Then versus Now discrimination. This is done by bringing triggers into the therapy session. For example, traffic accident survivors may listen to sounds that remind them of the trauma, such as sounds of brakes screeching, collisions, glass breaking or sirens. People who were attacked with a knife may look at a range of metal objects. Survivors of bombings or fires may look at and smell smoke

produced by a smoke machine. People who saw a lot of blood during the trauma may look at red fluids. The Then versus Now discrimination can be facilitated by carrying out actions that were not possible during the trauma (e.g. movements that were not possible in the trauma, touching objects or looking at photos that remind them of their present life). Third, patients apply these strategies in their natural environment. When reexperiencing occurs, they remind themselves that they are responding to a memory, not current reality. They focus their attention on how the present situation is different from the trauma, and may carry out actions that were not possible during the trauma.

If reexperiencing symptoms persist after successful updating of the hot spots and discrimination of triggers, imagery transformation techniques can be useful. The patient transforms the image into a new image that signifies that the trauma is over. The transformed images can provide convincing evidence that the intrusions are a product of the patient's mind rather than representing current reality. Image transformation is also particularly helpful with intrusions that represent images of things that did not really happen during the trauma (usually anticipated bad consequences of the trauma).

Goal 3: Drop dysfunctional behaviours and cognitive strategies. The first step in addressing behaviours and cognitive strategies that maintain PTSD is usually to discuss the problematic consequences of the strategy. Sometimes these can be demonstrated directly by a behavioural experiment. For example, asking the patient to try hard not to think about a certain image (e.g. black-and-white cat sitting on therapist's shoulder) demonstrates that thought suppression is likely to increase intrusions. In other instances, a discussion of advantages and disadvantages is helpful, for example when addressing rumination. The next step involves dropping or reversing the problematic strategy, usually in a behavioural experiment.

Procedure

Before treatment, patients completed the self-report scales and the CAPS. In the intensive treatment phase, patients were offered up to 18 hours of therapy, over a period of 5 to 7 working days. Treatment days usually comprised a morning and an afternoon session lasting 90 min to 2 hours, with a break for lunch. For training and piloting purposes, some of the treatments ($n = 7$) were conducted by two therapists. Therapists received daily supervision during this phase. Patients attended a further therapy session one week after the last intensive day and completed the self-report questionnaires and were interviewed with the CAPS. They received up to 3 booster sessions during the following 3 months and completed the self-report measures and the CAPS at 3 months and 9 months.

Data analysis

Treatment effect sizes for changes in symptom scores between the pre-treatment assessment and the 3-month assessment (end of treatment) were calculated using Cohen's d statistic (Cohen, 1988), following the formula used in van Etten and Taylor's (1998) meta-analysis of PTSD treatments: $d = M_{\text{initial}} - M_{\text{post}} / SD_{\text{pooled}}$, where $SD_{\text{pooled}} = \sqrt{(SD_{\text{initial}}^2 + SD_{\text{post}}^2) / 2}$.

Analyses of covariance were used to compare the outcome of the intensive CT-PTSD group with the weekly CT-PTSD comparison group at 3 weeks, 3 months and 9 months, using pre-treatment scores as the covariate.

Symptom exacerbation was defined using the cut-offs for reliable exacerbation determined by Foa et al. (2002), i.e. increases in symptoms greater than 6.15 on the PDS, 8.37 on the BAI, and 4.53 on the BDI.

Results

Acceptability of intensive CT-PTSD

All 14 patients completed the intensive treatment. None of the patients showed symptom exacerbation on any measure, neither at 3 weeks nor at 3 months.

Duration of treatment

Patients received a mean of 9.4 ($SD = 2.0$) morning or afternoon sessions of about 90 minutes during the intensive phase up to the 3-week assessment, and a further mean of 2.6 ($SD = 1.4$) sessions up to the 3-month assessment. A mean of 107 minutes was spent in the treatment sessions on imaginal reliving the trauma or narrative writing (including updating memories).

Treatment outcome

Ten patients (71.4%) no longer met criteria for PTSD at 3 weeks, 12 (85.7%) at 3 months and 13 (92.9%) at 9 months. Table 3 shows the results for assessor-rated PTSD severity, self-reported PTSD symptoms, disability, depression and anxiety. On all measures, patients treated with intensive CT-PTSD showed very large improvements.

As expected, participants showed greater improvement in PTSD symptoms than the weekly CT-PTSD comparison group at 3 weeks, and comparable outcome at 3 months and 9 months. The results are illustrated in Figure 1. Similar results were obtained for anxiety (BAI) and disability. For depressive symptoms, the intensive group showed greater improvements than the weekly treatment group at all assessment points.

Whether treatment was conducted by 1 or 2 therapists did not affect outcome on any measure (all $ps > .64$ for 3 months, $p > .45$ for 9 months) (see Bevan, Oldfield and Salkovskis, 2010).

Discussion

This feasibility study showed that intensive CT-PTSD was acceptable to patients and effective. No patient dropped out and treatment outcome was very similar to that observed for weekly CT-PTSD by Ehlers et al. (2005) in a comparable sample of patients with chronic PTSD. The number of sessions needed and time spent on imaginal reliving or narrative writing was also very similar to the weekly treatment. Possible advantages of the intensive treatment were that it led to improvement over a shorter period of time than weekly CT, and that it led to greater reductions in depressive symptoms that persisted through the follow-up phase. No disadvantages were identified in this sample. The results are promising and suggest that intensive CT-PTSD is a viable and acceptable treatment that warrants further evaluations in randomized controlled trials.

Table 3. Treatment outcome measures for intensive Cognitive Therapy for PTSD (CT-PTSD) and comparison group receiving weekly CT-PTSD from Ehlers et al. (2005), means (standard deviations)

Outcome measure and assessment	Case series Intensive CT-PTSD	Comparison weekly CT-PTSD	Difference (<i>t</i> -test at pre-treatment, ANCOVA at other time points, controlling for pre-treatment scores)
PTSD symptoms:			
CAPS pre	70.4 (22.6)	78.5 (17.3)	n.s.
3 weeks	29.8 (24.6)	N/A	N/A
3 months	19.7 (25.3)	29.7 (28.6)	n.s., $\eta^2 = .05$
9 months	20.4 (25.1)	31.5 (28.9)	n.s., $\eta^2 = .02$
ES (pre - 3 months)	$d = 2.11$	$d = 2.07$	
PDS pre	33.7 (9.3)	32.4 (6.5)	n.s.
3 weeks	13.9 (13.5)	26.9 (8.9)	$F(1,25) = 11.24, p = .003, \eta^2 = .32$
3 months	8.6 (10.1)	10.3 (8.9)	n.s., $\eta^2 = .02$
9 months	9.7 (10.0)	12.4 (9.9)	n.s., $\eta^2 = .04$
ES (pre - 3 months)	$d = 2.59$	$d = 2.82$	
Disability:			
Sheehan pre	6.5 (2.6)	7.6 (1.9)	n.s.
3 weeks	2.8 (3.1)	5.9 (2.4)	$F(1,24) = 6.02, p = .022, \eta^2 = .20$
3 months	2.0 (2.8)	3.0 (2.6)	n.s., $\eta^2 = .01$
9 months	2.3 (3.2)	3.0 (2.6)	n.s., $\eta^2 = .01$
ES (pre - 3 months)	$d = 1.67$	$d = 2.02$	
Depression:			
BDI pre	25.8 (7.5)	23.7 (9.0)	n.s.
3 weeks	9.0 (8.6)	22.4 (11.9)	$F(1,25) = 32.49, p < .001, \eta^2 = .57$
3 months	5.6 (6.3)	10.6 (8.6)	$F(1,25) = 3.60, p = .069, \eta^2 = .13$
9 months	5.2 (5.7)	11.2 (9.6)	$F(1,25) = 5.34, p = .029, \eta^2 = .17$
ES (pre - 3 months)	$d = 2.91$	$d = 1.49$	
Anxiety:			
BAI pre	25.0 (10.8)	24.1 (11.1)	n.s.
3 weeks	8.9 (8.4)	20.1 (11.7)	$F(1,25) = 16.45, p < .001, \eta^2 = .40$
3 months	6.9 (9.5)	8.2 (10.8)	n.s., $\eta^2 = .01$
9 months	5.8 (7.2)	7.5 (9.7)	n.s., $\eta^2 = .02$
ES (pre - 3 months)	$d = 1.77$	$d = 1.45$	

CAPS = Clinician Administered PTSD Scale; PDS = Posttraumatic Stress Diagnostic Scale; Sheehan = Sheehan Scale of Disability; BDI = Beck Depression Inventory; BAI = Beck Anxiety Inventory; n.s. = nonsignificant; N/A = not assessed; ES = Effect size.

There may be several advantages of intensive treatment over weekly treatment in PTSD. Difficult social and economic circumstances often contribute to the patient's distress, and further distressing life events are not uncommon. Condensing the main course of treatment into a few days reduces the chances of daily difficulties and life events interfering with treatment and taking up valuable therapy time. Furthermore, problems with concentration and memory are common in PTSD and the intensive format may help to keep the therapeutic material fresh in patients' (and therapists') mind until the next session so that no time is lost "catching up". Meeting the therapist each day may also be particularly helpful in overcoming

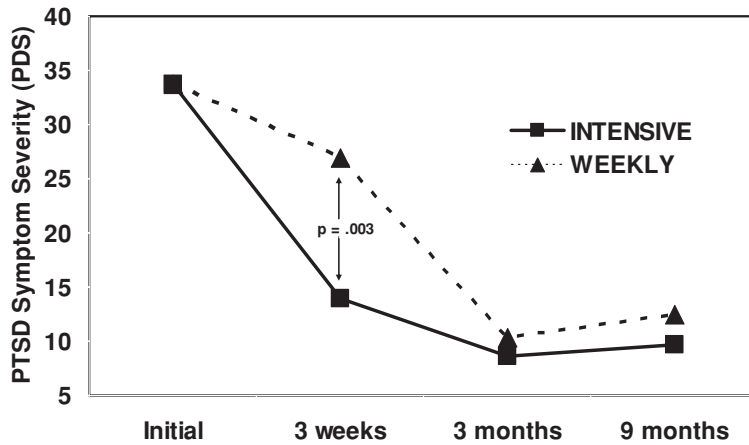


Figure 1. Comparison of outcome for case series of intensive Cognitive Therapy for PTSD (CT-PTSD) (INTENSIVE) with a comparison group receiving weekly CT-PTSD from Ehlers et al.'s (2005) randomized controlled trial (WEEKLY). PTSD symptom severity was measured with the Posttraumatic Stress Diagnostic Scale (PDS).

avoidance and depression by building therapeutic momentum. Last, but not least, intensive CT-PTSD appears to help patients get better over a shorter period of time. This may be especially beneficial if the PTSD has led to secondary problems such as being unable to work, problems in important relationships, or avoidance of important situations such as receiving medical treatment. It may also be relevant for certain therapeutic settings such as residential units.

Although no disadvantages of the intensive treatment were identified in the present study, weekly treatment may also have its advantages. Some patients with PTSD have lost all positive elements of their previous lives, such as friends or a job. For these patients, weekly treatment may allow them more opportunity to “reclaim their lives” with ongoing support from the therapist. Furthermore, if the patient has very generalized phobic avoidance, weekly sessions may also have advantages as it allows more time for homework between sessions so that a wider range of situations can be tackled while receiving the therapist’s support and encouragement. Inconsistent attendance may cause greater problems in intensive treatment than in weekly treatment as a greater proportion of therapy time is lost; for example, patients with significant alcohol or substance use problems may miss whole days of treatment. If patients drop out of intensive treatment, there is very limited time to re-engage them in therapy. Finally, patients and therapists need to clear much of a working week from other commitments and this may not always be feasible.

This study had several limitations. Most importantly, there was no random allocation and the comparisons with the previously treated patient cohort have to be interpreted with caution. Randomized controlled trials are needed to establish the efficacy of Intensive CT-PTSD. Second, the patients included in this study had developed PTSD in response to relatively short discrete traumatic events in adulthood. It is unclear whether the results would generalize to survivors of childhood trauma, or survivors of multiple and very prolonged traumas.

Some research suggests that survivors of multiple early traumatic events such as childhood sexual abuse may benefit from training in emotion regulation before starting exposure-based treatment of PTSD (Cloitre et al., 2002).

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References

- Abramowitz, J. S., Foa, E. B. and Franklin, M. E.** (2003). Exposure and ritual prevention for obsessive-compulsive disorder: effectiveness of intensive versus twice-weekly treatment sessions. *Journal of Consulting and Clinical Psychology*, 71, 394–398.
- American Psychiatric Association** (2000). *Handbook of Psychiatric Measures*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association** (2004). *Treatment of Patients with Acute Stress Disorder and Posttraumatic Stress Disorder*. http://www.psychiatryonline.com/pracGuide/pracGuideTopic_11.aspx
- Australian Centre for Posttraumatic Mental Health** (2007). *Australian Guidelines for the Treatment of Adults with Acute Stress Disorder and Posttraumatic Stress Disorder*. <http://www.acpmh.unimelb.edu.au>.
- Beck, A. T. and Steer, R. A.** (1993a). *Beck Anxiety Inventory Manual*. San Antonio, TX: The Psychological Corporation.
- Beck, A. T. and Steer, R. A.** (1993b). *Beck Depression Inventory Manual*. San Antonio, TX: The Psychological Corporation.
- Bevan, A., Oldfield, V. B. and Salkovskis, P. M.** (2010). A qualitative study of the acceptability of an intensive format for the delivery of cognitive-behavioural therapy for obsessive-compulsive disorder. *British Journal of Clinical Psychology*, DOI: 10.1348/014466509x447055
- Bisson, J. I., Ehlers, A., Matthews, R., Pilling, S., Richards, D. and Turner, S.** (2007). Psychological treatments for chronic post-traumatic stress disorder. *British Journal of Psychiatry*, 190, 97–104.
- Blake, D. D., Weathers, F. W., Nagy, L. M., Kaloupek, D. G., Gusman, F. D., Charney, D. S. and Keane, T. M.** (1995). The development of a clinician-administered PTSD scale. *Journal of Traumatic Stress*, 8, 75–90.
- Blanchard, E. B., Hickling, E. J., Devineni, T., Veazey, C. H., Galovski, T. E., Mundy, E. and Buckley, T. C.** (2003). A controlled evaluation of cognitive behavioral therapy for posttraumatic stress in motor vehicle accident survivors. *Behaviour Research and Therapy*, 42, 79–96.
- Bradley, R., Greene, J., Russ, E., Dutra, L. and Westen, D.** (2005). A multidimensional meta-analysis of psychotherapy for PTSD. *American Journal of Psychiatry*, 162, 214–217.
- Clark, D. M.** (1996) Panic disorder: from theory to therapy. In P. M. Salkovskis (Ed.), *Frontiers of Cognitive Therapy* (pp. 318–344). New York: Guilford Press.
- Cloitre, M., Koenen, K., Cohen, L. R. and Han, H.** (2002). Skills training in affective and interpersonal regulation followed by exposure: a phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology*, 70, 1067–1074.
- Cohen, J.** (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

- Deacon, B. and Abramowitz, J.** (2006). A pilot study of two-day cognitive behaviour therapy for panic disorder. *Behaviour Research and Therapy*, *44*, 807–817.
- Duffy, M., Gillespie, K. and Clark, D. M.** (2007). Post-traumatic stress disorder in the context of terrorism and other civil conflict in Northern Ireland: randomised controlled trial. *British Medical Journal*, doi:10.1136/bmj.39021.846852.BE (published 11 May).
- Dunmore, E., Clark, D. M. and Ehlers, A.** (2001). A prospective study of the role of cognitive factors in persistent posttraumatic stress disorder after physical or sexual assault. *Behaviour Research and Therapy*, *39*, 1063–1084.
- Ehlers, A. and Clark, D. M.** (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy*, *38*, 319–345.
- Ehlers, A., Clark, D. M., Hackmann, A., McManus, F. and Fennell, M.** (2005). Cognitive therapy for PTSD: development and evaluation. *Behaviour Research and Therapy*, *43*, 413–431.
- Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., Fennell, M. and Grey, N.** (in preparation). *Cognitive Therapy for PTSD: a therapist's guide*. Oxford University Press.
- Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., Fennell, M., Herbert, C. and Mayou, R.** (2003). A randomized controlled trial of cognitive therapy, self-help booklet, and repeated early assessment as early interventions for PTSD. *Archives of General Psychiatry*, *60*, 1024–1032.
- Ehlers, A., Hackmann, A. and Michael, T.** (2004). Intrusive reexperiencing in posttraumatic stress disorder: phenomenology, theory, and therapy. *Memory*, *12*, 403–415.
- Ehlers, A., Hackmann, A., Steil, R., Clohessy, S., Wenninger, K. and Winter, H.** (2002). The nature of intrusive memories after trauma: the warning signal hypothesis. *Behaviour Research and Therapy*, *40*, 1021–1028.
- Ehlers, A., Maercker, A. and Boos, A.** (2000). PTSD following political imprisonment: the role of mental defeat, alienation, and permanent change. *Journal of Abnormal Psychology*, *109*, 45–55.
- Ehlers, A., Mayou, R. A. and Bryant, B.** (1998). Psychological predictors of chronic PTSD after motor vehicle accidents. *Journal of Abnormal Psychology*, *107*, 508–519.
- First, M. B., Spitzer, R. L., Gibbon, M. and Williams, J. B. W.** (1995). *Structured Clinical Interview for DSM-IV Axis I Disorders – Patient Edition (SCID-I/P, Version 2.0)*. New York: Biometrics Research Department of the New York State Psychiatric Institute.
- Foa, E. B., Cashman, L., Jaycox, L. and Perry, K.** (1997). The validation of a self-report measure of posttraumatic stress disorder: the Posttraumatic Diagnostic Scale. *Psychological Assessment*, *9*, 445–451.
- Foa, E. B., Hembree, E. A., Cahill, S. P., Rauch, S. A. M., Riggs, D. S., Feeny, N. C. and Yadin, E.** (2005). Randomized trial of prolonged exposure for post-traumatic stress disorder with and without cognitive restructuring: outcome at academic and community clinics. *Journal of Consulting and Clinical Psychology*, *73*, 953–964.
- Foa, E. B., Keane, T. M., Friedman, M. J. and Cohen, J. A.** (2005). *Effective Treatments for PTSD: practice guidelines from the International Society for Traumatic Stress Studies* (2nd ed.). New York: Guilford Press.
- Foa, E. B. and Rothbaum, B. O.** (1998). *Treating the Trauma of Rape. Cognitive-behavioral therapy for PTSD*. New York: Guilford.
- Foa, E. B., Zoellner, L. A., Feeny, N. C., Hembree, E. A. and Alvarez-Conrad, J.** (2002). Does imaginal exposure exacerbate PTSD symptoms? *Journal of Consulting and Clinical Psychology*, *70*, 1022–1028.
- Gillespie, K., Duffy, M., Hackmann, A. and Clark, D. M.** (2002). Community based cognitive therapy in the treatment of post-traumatic stress disorder following the Omagh bomb. *Behaviour Research and Therapy*, *40*, 345–357.
- Grey, N., McManus, F., Hackmann, A., Clark, D. M. and Ehlers, A.** (2009). Intensive cognitive therapy for PTSD: case studies. In N. Grey (Ed.), *A Casebook of Cognitive Therapy for Traumatic Stress Reactions* (pp. 111–130). Hove, UK: Brunner-Routledge.

- Hackmann, A., Ehlers, A., Speckens, A. and Clark, D. M.** (2004). Characteristics and content of intrusive memories in PTSD and their changes with treatment. *Journal of Traumatic Stress, 17*, 231–240.
- Hahlweg, K., Fiegenbaum, W., Frank, M., Schröder, B. and Witzleben, I.** (2001). Short- and long-term effectiveness of an empirically supported treatment for agoraphobia. *Journal of Consulting and Clinical Psychology, 69*, 375–382.
- Hembree, E. A., Foa, E. B., Dorfan, N. M., Street, G. P., Kowalski, J. and Tu, X.** (2003). Do patients drop out prematurely from exposure therapy for PTSD? *Journal of Traumatic Stress, 16*, 555–562.
- Hofmann, S. G. and Smits, J. A. J.** (2008). Cognitive-behavioral therapy for adult anxiety disorders: a meta-analysis of randomized placebo-controlled trials. *Journal of Clinical Psychiatry, 69*, 621–632.
- Kilpatrick, D. G. and Best, C. L.** (1984). Some cautionary remarks on treating sexual assault victims with implosion. *Behavior Therapy, 15*, 421–423.
- National Institute of Clinical Excellence** (2005). *Clinical Guideline 26: posttraumatic stress disorder: the management of PTSD in adults and children in primary and secondary care*. London: National Collaborating Centre for Mental Health. <http://guidance.nice.org/CG26>.
- Oldfield, V., Salkovskis, P. and Taylor, T.** (in press). Time-intensive cognitive-behaviour therapy for obsessive-compulsive disorder: a case series and matched comparison group. *British Journal of Clinical Psychology*.
- Öst, L. G.** (1989). One-session treatment for specific phobias. *Behaviour Research and Therapy, 27*, 1–7.
- Öst, L. G.** (2008). Cognitive behavior therapy for anxiety disorders: 40 years of progress. *Nordic Journal of Psychiatry, 62*, 5–10.
- Resick, P. A. and Schnicke, M. K.** (1992). Cognitive processing therapy for sexual assault victims. *Journal of Consulting and Clinical Psychology, 60*, 748–756.
- Resick, P. and Schnicke, M.** (1993). *Cognitive Processing Therapy for Rape Victims: a treatment manual*. Newbury Park, CA: Sage.
- Resick, P. A., Nishith, P., Weaver, T. L., Astin, M. C. and Feuer, C. A.** (2002). A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 70*, 867–879.
- Schnurr, P. P., Friedman, M. J., Engel, C. C., Foa, E. B., Shea, M. T., Chow, B. K. R. P. A., Resick, P. A., Thurston, V., Orsillo, S. M., Haug, R., Turner, C. and Bernardy, N.** (2007). Cognitive behavioral therapy for posttraumatic stress disorder in women: a randomized controlled trial. *Journal of the American Medical Association, 28*, 820–830.
- Smith, P., Yule, W., Perrin, S., Tranah, T., Dalgleish, T. and Clark, D. M.** (2007). Cognitive-behavioral therapy for PTSD in children and adolescents: a preliminary randomized controlled trial. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 1051–1061.
- Stein, D. J., Cloitre, M., Nemeroff, C. B., Nutt, D. J., Seedat, S., Shalev, A. Y., Wittchen, H. U. and Zohar, J.** (2009). Cape Town consensus on posttraumatic stress disorder. *CNS Spectrums, 14* (Suppl 1), 52–58.
- Storch, E. A., Geffken, G. R., Merlo, L. J., Mann, G., Duke, D., Munson, M., Adkins, J., Grabill, K. M., Murphy, T. K. and Gooman, W. K.** (2007). Family-based cognitive-behavioural therapy for pediatric obsessive compulsive disorder: comparison of intensive and weekly approaches. *Journal of the American Academy of Child and Adolescent Psychiatry, 46*, 469–478.
- Tarrier, N., Pilgrim, H., Sommerfield, C., Fragher, B., Reynolds, M., Graham, E. and Barrowclough, C.** (1999). A randomized trial of cognitive therapy and imaginal exposure in the treatment of chronic posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 69*, 13–18.

- van Etten, M. L. and Taylor, S.** (1998). Comparative efficacy of treatments for post-traumatic stress disorder: a meta-analysis. *Clinical Psychology and Psychotherapy*, 5, 126–144.
- Veterans Health Administration and Department of Defense** (2004). *VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress. Version 1.0*. Washington, DC: Veterans Health Administration, Department of Defense. http://www.guideline.gov/summary/summary.aspx?ss=15anddoc_id=5187