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# Intensive EMDR to Treat Patients With Complex Posttraumatic Stress Disorder: A Case Series

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There is mounting evidence suggesting that by increasing the frequency of treatment sessions, posttraumatic stress disorder (PTSD) treatment outcomes significantly improve. As part of an ongoing research project, this study examined the safety and effectiveness of intensive eye movement desensitization and reprocessing (EMDR) therapy in a group of seven (four female) patients suffering from complex PTSD and multiple comorbidities resulting from childhood sexual abuse, physical abuse, and/or work and combat-related trauma. Treatment was not preceded by a preparation phase and consisted of 2 × 4 consecutive days of EMDR therapy administered in morning and afternoon sessions of 90 minutes each, interspersed with intensive physical activity and psychoeducation. Outcome measures were the Clinician-Administered PTSD Scale (CAPS) and the PTSD Symptom Scale Self-report questionnaire (PSS-SR). During treatment, neither personal adverse events nor dropout occurred. CAPS scores decreased significantly from pre- to posttreatment, and four of the seven patients lost their PTSD diagnosis as established with the CAPS. The results were maintained at 3-month follow-up. Effect sizes (Cohen's *d*) on the CAPS and PSS-SR were large: 3.2, 1.7 (prepost) and 2.3, 2.1 (prefollow-up), respectively. The results of this case series suggest that an intensive program using EMDR therapy is a potentially safe and effective treatment alternative for complex PTSD. The application of massed, consecutive days of treatments using EMDR therapy for patients suffering from PTSD, particularly those with multiple comorbidities, merits more clinical and research attention.

**Keywords:** posttraumatic stress disorder (PTSD); intensive treatment; eye movement desensitization and reprocessing (EMDR) therapy; treatment outcome

**A**ccording to international treatment guidelines, eye movement desensitization and reprocessing (EMDR) therapy, prolonged exposure (PE), cognitive processing therapy, and stress inoculation training (SIT) are first-line trauma-focused therapies (TFTs) to treat individuals suffering from posttraumatic stress disorder (PTSD; Foa, Keane, Friedman, & Cohen, 2005; National Institute for Health and Care Excellence, 2005; World Health Organization, 2013). The results from a recent meta-analysis show that the application of TFTs for PTSD outperformed that of non-TFTs or medication (Lee et al., 2016).

## Complex Posttraumatic Stress Disorder

There is mounting support for the notion that also, individuals with severe, or “complex,” forms of PTSD respond positively to TFTs and that neither trauma history, comorbidity, nor severe dissociative symptoms negatively affect clients’ response to TFTs (de Jongh et al., 2016; Foa, Zoellner, Feeny, Hembree, & Alvarez-Conrad, 2002; Hagens, van Minnen, & Hoogduin, 2010; Jerud, Pruitt, Zoellner, & Feeny, 2016; Olatunji, Cisler, & Tolin, 2010; van den Berg et al., 2015; van Minnen, Arntz, & Keijsers, 2002; van Minnen, Harned, Zoellner, & Mills, 2012; van Minnen

et al., 2016; Wolf, Lunney, & Schnurr, 2015). Evidence suggests that TFTs not only can be used safely and effectively with patients suffering from PTSD and comorbid diagnoses but also do not seem to cause disproportionate levels of dropout in patients with severe PTSD (Foa et al., 2005; Resick et al., 2008; Resick, Nishith, Weaver, Astin, & Feuer, 2002; Resick, Suvak, & Wells, 2014). Thus, it seems that even the most vulnerable patients benefit from TFTs and that they generally do not demonstrate counter effects during treatment (de Jongh et al., 2016).

## **Intensive Treatment for Posttraumatic Stress Disorder**

Evidence suggests that more frequent scheduling of treatments sessions maximizes PTSD treatment outcomes (Gutner, Suvak, Sloan, & Resick, 2016). Therefore, to allow for a more rapid recovery of symptoms and negative effects of PTSD, several intensive (“massed”) treatments for PTSD have been developed and tested in terms of applicability and effectiveness. For example, Ehlers and her group developed a consecutive days treatment consisting of 18 hours (90 minutes per day) of trauma-focused cognitive therapy over 5–7 working days (Ehlers et al., 2010). The efficacy of this intensive treatment program was determined among 121 patients suffering from chronic PTSD because of one or two discrete traumatic events in adulthood (Ehlers et al., 2014). Patients were randomly assigned to 7 days of intensive cognitive therapy, 3 months of standard weekly cognitive therapy, 3 months of weekly emotion-focused supportive therapy, or a 14-week waiting list group. The intensive and the standard form of cognitive therapy proved equally effective (73% vs. 77% loss of PTSD diagnoses, respectively) and were significantly more beneficial than the emotion-focused supportive therapy group and the waiting list control condition (43% and 7% loss of PTSD diagnosis, respectively). Hence, the intensive variant of cognitive therapy appears to be well-tolerated and has not been found to be associated with a higher dropout or symptom exacerbation than the standard variant. In other words, intensive treatments seem to yield faster symptom reduction with similar results compared to the standard weekly form of cognitive therapy, and the results appear to sustain following therapy.

## **Intensive Treatments for Complex Posttraumatic Stress Disorder**

Intensive forms of TFTs have been found feasible, safe, and effective not only in patients having been

exposed to single and discrete traumatic events in adulthood (Ehlers et al., 2010; Ehlers, Clark, Hackmann, McManus, & Fennell, 2005; Ehlers et al., 2014) but also in individuals with (complex) PTSD as a result of childhood sexual abuse and in those suffering from severe comorbidities (Gantt & Tinnin, 2007; Hendriks, de Kleine, van Rees, Bult, & van Minnen, 2010). Several studies reported on intensive cognitive-behavioral treatment programs for chronic PTSD showing positive effects on PTSD symptoms (Ehlers et al., 2010, 2005, 2014; Gantt & Tinnin, 2007; Hendriks et al., 2010), albeit length and dose of these treatment programs differed considerably, varying from 5 working days with 30 treatment hours in total (Hendriks et al., 2010), 5–7 consecutive days consisting of 18–20 treatment hours (Ehlers et al., 2010, 2014), 5–10 days with 7 or 8 hours treatment per day (Blount, Cigrang, Foa, Ford, & Peterson, 2014; Gantt & Tinnin, 2007) to a program of 3 weeks containing more than 5 treatment hours per day (Lande, Banks Williams, Francis, Gragnani, & Morin, 2011). The results were also positive regarding dropout, varying from 0% (Blount et al., 2014; Ehlers et al., 2010; Hendriks et al., 2010; Lande et al., 2011) to 3% (Ehlers et al., 2014; Gantt & Tinnin, 2007). Although no adversities were reported (Ehlers et al., 2014; Gantt & Tinnin, 2007; Hendriks et al., 2010), it should be noted that these treatment programs did not contain a preparation phase prior to therapy aimed at improving emotion regulation and interpersonal skills (Ehlers et al., 2010; 2005; 2014; Gantt & Tinnin, 2007; Hendriks et al., 2010).

## **Intensive EMDR Therapy**

Despite the fact that EMDR therapy is a first-line TFT for PTSD, the number of studies that specifically evaluated the efficacy of an intensive program is limited. The studies on intensive EMDR therapy that have been conducted so far lacked a patient group with an officially established PTSD diagnosis (Grey, 2011; E. Shapiro & Laub, 2015; Wesson & Gould, 2009), the treatment consisted of a very limited number of sessions (Grey, 2011; Proudlock & Hutchins, 2016; E. Shapiro & Laub, 2015), and/or treatment was combined with other psychotherapeutic treatment ingredients (Jarero et al., 2015; Lobenstine & Courtney, 2013).

## **Purpose and Aims of the Present Study**

Based on the knowledge and experience from other intensive treatment programs for PTSD using other forms of therapy, a similar treatment program was developed lasting 8 days and containing 3 hours of

EMDR therapy per day. The purpose of this study was to determine the safety and effectiveness of this program with a group of seven patients suffering from severe PTSD resulting from exposure to multiple traumatic events, mostly during early childhood. It was hypothesized that this massed form of EMDR therapy would be safe (in terms of a negligible occurrence of personal adverse events and a low dropout rate) that patients' PTSD symptoms would decrease significantly and that these results could be maintained at 3 months follow-up.

## Method

### Participants

The study participants were the first group of patients (three men and four women) of all the same groups who took part in the consecutive-days treatment program in the fall of 2015. They were referred to the Psychotrauma Expertise Centre (PSYTREC), a mental health center in Bilthoven, The Netherlands ([www.psytrek.nl](http://www.psytrek.nl)), by their general practitioner, psychologist, or psychiatrist for treatment of their PTSD. Their mean age was 42.4 years ( $SD = 9.1$ ). All fulfilled the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*) diagnostic criteria of PTSD (American Psychiatric Association, 2013). In addition, they met the criteria of the proposed *International Statistical Classification of Diseases and Related Health Problems*, 11th revision (*ICD-11*), diagnosis of complex PTSD (Maercker et al., 2013) that requires the presence of PTSD as well as the presence of at least one symptom in each of the following three clusters: (a) affect dysregulation (i.e., heightened emotional reactivity, violent outbursts, reckless or self-destructive behavior, an inclination toward experiencing prolonged dissociative states when under pressure, emotional numbing, or a lack of ability to experience positive emotions), (b) negative self-concept (i.e., persistent beliefs about oneself as diminished, defeated, or worthless), and (c) relationship problems (i.e., persistent difficulties in sustaining relationships or difficulties in feeling close to others). Moreover, most of them also suffered from multiple and comorbid psychiatric conditions (i.e., panic disorder,  $n = 4$ ; affective disorders,  $n = 7$ ; substance abuse,  $n = 1$ ; personality disorders,  $n = 2$ ).

Inclusion criteria were a diagnosis of PTSD, being at least 18 years old, and having sufficient knowledge of the Dutch language to undergo treatment. Participants using psychoactive drugs had to be on the same dose for at least 1 month. Suicide risk was established by using the Mini-International

Neuropsychiatric Interview (MINI; Overbeek, Schruers, & Griez, 1999; Sheehan et al., 1998) using a subdivision in low, moderate, and high current suicide risk. Exclusion criteria for treatment at the clinic were both the presence of high current suicide risk and a history of a suicide attempt less than 3 months prior to treatment.

### Procedure

The study was performed in accordance with the precepts and regulations for research as stated in the Declaration of Helsinki and the Dutch Medical Research Involving Human Subjects Act (WMO) concerning scientific research; that is, all data were collected using the standard assessment instruments of the PSYTREC mental health center, the study lacked random allocation, and no additional physical infringement of the physical and/or psychological integrity of the individual was to be expected. Written informed consent was obtained from each participant of the study. During a first intake session with a psychologist at the center, patients were assessed using the MINI and patients completed the PTSD Symptom Scale Self-report questionnaire (PSS-SR; Foa, Riggs, Dancu, & Rothbaum, 1993). In between the first and the second intake session, patients were asked to fill out the modified interview for traumatic events in childhood forms (ITEC; Lobbestael, Arntz, Harkema-Schouten, & Bernstein, 2009) along with an additional checklist concerning traumatic events one might have experienced during their work.

During the second intake session at the center, patients were assessed with the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995). Next, the therapist asked the patient to rate the disturbance level of the traumatic memories in terms of severity of the intrusions on a scale from 0 (*not intrusive*) to 10 (*highly intrusive*). Based on this information and the modified ITEC, a personal treatment plan and a case conceptualization were made; that is, memories of the traumas were ordered using a sequence whereby the most disturbing memories were to be processed first.

Once the intake sessions had taken place, the  $2 \times 4$  consecutive days intensive treatment was scheduled and was implemented. Ten days following treatment, patients returned to the center for posttreatment assessment of their PTSD symptoms, consisting of CAPS and PSS-SR. After this posttreatment assessment, the PSS-SR was administered by e-mail after 1 month and 2 months posttreatment. After 3 months, the patients were reassessed for PTSD using the CAPS and the PSS-SR at the center (Table 1).

**TABLE 1. General Overview of the Treatment Program, Assessment Instruments, and Their Duration**

Event	Assessment Instrument	Duration
Intake by phone	Intake questionnaire	20 minutes
Intake 1	MINI PSS-SR	2.5 hours
Intake 2	CAPS ITEC <sup>a</sup>	2.5 hours
First 4 days of treatment	Day 1: PSS-SR	4 days clinic
Home		3 days
Second 4 days of treatment	Day 1: PSS-SR	4 days clinic
Posttreatment	CAPS	1 day
10 days after treatment	PSS-SR	
Follow-up: 1 and 2 months after posttreatment	PSS-SR	Sent by e-mail
Follow-up: 3 months after posttreatment	CAPS PSS-SR	2 hours

*Note.* MINI = Mini-International Neuropsychiatric Interview; PSS-SR = PTSD Symptom Scale Self-report questionnaire; CAPS = Clinician-Administered PTSD Scale; ITEC = interview for traumatic events in childhood.

<sup>a</sup>The ITEC form will be provided to the patient to fill out at home and hand in at the second intake.

## Treatment

Treatment consisted of 2 × 4 consecutive days consisting of EMDR therapy administered twice a day, one 90-minute session in the morning and one 90-minute session in the afternoon. Both morning program and afternoon program consisted of three activities; that is, one individual EMDR treatment session and two group sports activities (3 hours). Thus, the patients received 3 hours of EMDR therapy and 6 hours of sports per day. In the evening, group psychoeducation (2 hours) took place (Figure 1).

The treatment program was set up as an outpatient treatment program. However, for practical reasons, for example, reducing travelling time, patients stayed at the facility during the 2 × 4 days. Between the

2 × 4 days, they went home for 3 days. Thus, the total treatment program was delivered in 11 days.

Patients were treated by a clinical psychologist individually, with each EMDR session carried out by a different psychologist. These psychologists had received at least an EMDR basic training and an internal training for the specific intensive treatment as offered by the center.

At the second intake, the therapist and the patient developed a case conceptualization establishing a hierarchy of memories of traumatic events that had been identified by means of both the CAPS and the ITEC that were subsequently processed using the manualized standard EMDR, eight-phase protocol (de Jongh & ten Broeke, 2013; F. Shapiro, 2001,

Morning program	07:30–08:00 AM Breakfast 08:15–09:45 AM Sports 09:45–11:15 AM EMDR session 11:15–12:45 AM Sports
Afternoon program	01:00–01:45 PM Lunch break 01:45–03:15 PM Sports 03:15–04:45 PM EMDR-session 04:45–06:15 PM Sports
Evening program	06:15–07:30 PM Dinner 07:30–09:30 PM Psycho-education

**FIGURE 1.** Example of a treatment day of the treatment program.



for a description, see <http://www.emdria.org/?120>) starting with the most intrusive memory first. It should be noted that in this case conceptualization, only memories of traumatic experiences that fulfilled the *DSM-IV* Criterion A of PTSD were included. In all instances, the therapy included all eight phases of the EMDR standard (three-pronged) protocol with the only exception that the patients did not receive any relaxation or emotion regulation skills training prior to the processing of their memories (for the rationale, see de Jongh et al., 2016). To address patients' anticipatory fear and avoidance behavior (e.g., re-driving a car, being home alone, or the processing of traumatic memories in itself), the flash-forward protocol (Logie & de Jongh, 2014) was applied to target patients' most scary fantasies (e.g., having a terrible accident, getting raped, or a psychotic decompensation). During processing, standard cognitive interweaves to open blocked processing (e.g., "Do you mean to say that if it was your little niece who had been raped it would also be her fault?") were applied as described by the originator (F. Shapiro, 2001, 2007).

EMDR therapy was carried out with the use of rapid deployment of sets of eye movements. To maximize taxation of patients' working memory (de Jongh, Ernst, Marques, & Hornsveld, 2013), if needed, the therapist was allowed to switch to the use of a light bar in combination with earphones with a clicking sound, alternating to either the left or the right ear, and two hand-holdable pulsers providing alternation bilateral, tactile stimulation.

In between treatment sessions, patients were engaged in a sports program consisting of high-intensive and low-intensive, in- and outdoor sports (i.e., mountain biking, running, climbing, walking, table tennis, archery, and high hurdles). The instructors, responsible for the sports program, were specifically trained for this program and specialized in working with patients suffering from PTSD. Patients were instructed to follow the entire sports program at their own pace even if they were not used to doing sports at this intensive level in daily life.

After dinner, patients received psychoeducation pertaining to relevant trauma-related topics. During the psychoeducation sessions, explanation, meaning, and rationale of the various elements of the program were presented, explained, and discussed. In addition, patients were educated about PTSD symptoms.

## Assessment Instruments

The MINI (Overbeek et al., 1999; Sheehan et al., 1998) is a structured, diagnostic interview used to

determine *DSM-IV* and *ICD-10* diagnoses in a systematic way (van Vliet & de Beurs, 2007). The Kappa coefficient, sensitivity, and specificity of the MINI proves good (>0.70) or very good (>0.80) for most diagnoses. The inter-rater and test-retest reliability appears to be good (>0.70; Lecrubier et al., 1997).

The CAPS (Dutch version: Hovens, Luinge, & van Minnen, 2004) was used to assess the PTSD diagnosis. The CAPS is considered the gold standard to diagnose frequency and severity of the PTSD symptoms, providing ratings of the 17 *DSM-IV-TR* based PTSD symptoms on a frequency (0–4) and an intensity scale (0–4). For each symptom, a maximum score of 8 can be attained, resulting in a total CAPS score range from 0 to 136. To determine a PTSD diagnosis status, it is recommended that the "1, 2" rule is being used; that is, a frequency score of 1 or more and an intensity score of 2 or more is required for a particular symptom to meet this criterion (Weathers, Keane, & Davidson, 2001; Weathers, Ruscio, & Keane, 1999). PTSD symptoms change on the CAPS associated with treatment was operationalized in four mutually exclusive categories as defined by Schnurr and Lunney (2016) using the following categories: "no response," "response," "loss of diagnosis," and "remission" based on symptom change at posttreatment. Response was defined as a reduction on the CAPS of 10 or more points. Loss of diagnosis was defined as response plus no longer having a PTSD diagnosis as established with the CAPS and a CAPS severity score of <45. Remission was defined as loss of diagnosis plus a CAPS severity score of <20. The CAPS has excellent reliability (>0.90), yielding consistent scores across items, raters and testing situations, excellent convergent and discriminant validity (>0.90), diagnostic utility, and sensitivity to clinical change (Weathers et al., 2001).

A modified version of the ITEC (Lobbestael et al., 2009) was used as an inventory of the trauma characteristics, including information about the offender, frequency of the traumatic events, and the age of traumatization. For the purpose of this study, we added a series of work-related traumas. Internal consistency ranges from  $\alpha = 0.76$  to  $\alpha = 0.87$  except for "physical neglect" ( $\alpha = 0.60$ ) that scores acceptable. For all the subscales, the reliability of the original ITEC appears to be good (Lobbestael et al., 2009).

The PSS-SR (Foa et al., 1993; Dutch translation: Arntz, 1993) is a 17-item self report questionnaire to assess the severity of the PTSD symptoms using a Likert scale (0–3, total range: 0–51). The PSS-SR covers three domains, that is, reexperiencing, avoidance, and arousal. It has a satisfactory internal consistency ( $\alpha = 0.91$ ) and a high test-retest reliability ( $r = 0.71$ ;

Foa et al., 1993). The PSS-SR was administered at the beginning of treatment (at first intake, at the first day of the first, and of the second 4 days), at post-treatment (10 days after treatment), and at 1, 2, and 3 months follow-up.

## Statistical Analysis

The analyses were conducted with SPSS 20 (IBM SPSS). A descriptive analysis of the seven patients was performed during, and following, the course of the treatment program, at pretreatment, posttreatment, and 3 months follow-up. Paired samples *t* tests were conducted to compare the pretreatment with both the posttreatment means and the 3-month follow-up means of CAPS and PSS-SR. For effect sizes of within-group changes, Cohen's *d* was calculated as the difference between the pretest mean and the posttest mean (and between the posttest mean and the 3-month follow-up mean) divided by a standard deviation for the data. Of the missing data, the last observed data were not carried forward.

## Results

### Patients

The following case descriptions, for which patients' names, cities, and circumstances have been changed or omitted to preserve anonymity, provide a summary of patients' diagnostic details and the results of treatment.

**Harry.** Harry, a 47-year-old-man, had been sexually abused by a boy living next door when he was 11 years old. In addition, during the 15 years that he served as a policeman, he was confronted with several serious incidents after which he developed a severe PTSD (CAPS score = 99, PSS-SR score = 23). He also fulfilled the diagnostic criteria of a panic disorder with agoraphobia and a recurrent depressive disorder without melancholic features. Harry indicated to be afraid of his own aggression and felt socially isolated. There was neither substance abuse nor did he indicate to use any psychotropic medication. The risk for suicide was estimated as low. Harry had received some eclectic therapy focusing on one of the traumas in the past when Harry was a policeman that pertained to the discovering of a deceased girl of 20 months old that had been maltreated by her father. Two years prior to this treatment, Harry had recommenced treatment for his PTSD, but because treatment remained unsuccessful, his psychologist referred him to PSYTREC. During the first 4 days, EMDR sessions focused on Harry's most disturbing memories concerning (a) the discovery

of a body in an advanced state of decomposition at the time Harry was a policeman, (b) the sexual abuse when he was 11 years old, and (c) the deceased, maltreated girl. During the second series of the 4 treatment days, the EMDR therapy targeted the memories of the work-related traumas such as (d) having been exposed to a victim of a car accident, (e) the confrontation with a person who had committed suicide, (f) an incident with someone who took a drug overdose, and (g) a street fight in which Harry was threatened with a butcher's knife. At posttreatment, Harry's CAPS score was 45 and the PSS-SR score was 11. He no longer met the diagnostic criteria of PTSD.

**Jenny.** Jenny, a 30-year-old woman, had been sexually abused by her boss during a 6-month period when she was 17 years old. This abuse happened several times a week. In addition, her boyfriend displayed disrespectful sexual behavior. When he suddenly ended the relationship, Jenny attempted to commit suicide. She was also familiar with auto-mutilation and was diagnosed with a borderline personality disorder when she was 18 years old as well as fulfilling the criteria of panic disorder with agoraphobia and a major depressive disorder. One year earlier, Jenny had been diagnosed with a burnout, which probably was a misdiagnosis given her PTSD status (CAPS score = 86, PSS-SR score = 30). She had not received any psychotherapeutic treatment for her PTSD, but she used medication (venlafaxine 37.5 mg and propranolol 10 mg). There was no substance abuse, and according to the MINI, the current risk for suicide was estimated as low. During treatment, EMDR was focused on memories of (a) the sexual abuse at the house of Jenny's boss, at work, and in his car, (b) Jenny trying to commit suicide, and (c) the break-up with her boyfriend. During the last day, the EMDR procedure focused on a flash-forward of a possible future suicide that she feared. As the SUD score went from 3 to 0, the PC ("I can handle it") could be installed. At posttreatment, Jenny's CAPS score was 47 and the PSS-SR score was 14. Jenny no longer met the diagnostic criteria of PTSD.

**Bob.** Bob, a 52-year-old man, was raised in an unsafe environment with physical and psychological abuse by his father and mother. When Bob was 20 years old, he started working as a truck driver. Between 1981 and 2000, Bob worked in Libya, Bosnia, Algeria, and the Balkans. During his many trips, Bob was a victim of several violent attacks and threats with guns, he witnessed a suicide attack, and was confronted with a wide variety of violent situations and moral injustice in the refugee camps. Six years prior to his treatment at PSYTREC, he was diagnosed with

PTSD. At the time Bob started treatment, his CAPS score was 77, and the PSS-SR score was 40. He fulfilled the diagnostic criteria of a dysthymic disorder, a social phobia, suffered from symptoms of OCD, and severe sleeping problems. There were no signs of alcohol abuse. Bob was on medication and used pipamperon  $2 \times 40$  mg, sertraline OMH  $2 \times 100$  mg, calciumcarbonate with vitamin D  $2 \times 500$ mg/800IE, hydroxocobalamine 1 mg = 2 ml, and temazepam 20 mg, on demand. Suicide risk was estimated as low. The EMDR sessions in the first series of 4 treatment days focused on the memories of (a) Bob being imprisoned in a refugee camp, (b) being threatened with a machine gun, (c) the body parts after a suicide attack, (d) a colleague of Bob getting shot in the head in Croatia, (e) the sight of dead children in the Balkan war and in Algeria, (f) a hazardous trip going from Tunis to Algeria, and (g) inhumane situations in the refugee camps where refugees were killed. In the second series of 4 treatment days (h) some distressing events he endured with his parents when he was a boy and the violent and unsafe environment at home in general were successfully targeted. During the last day of the treatment, sessions were focused on Bob's fear of a suicide attack on a market at home using the flash-forward protocol. After the SUD scores dropped to 0, memories of traumatic events could be resolved. At posttreatment, however, Bob presented with a low mood. He was triggered by the ISIS terror attacks in Paris in the fall of that year and the overall threatening situation in the world at that time. His CAPS score at that moment was 44, and his PSS-SR score was 36. Although Bob at this point was no longer fulfilling the diagnostic criteria of PTSD, it was recommended to Bob to undergo further therapy at a general mental health setting for his remaining complaints. Bob decided not to take part in the follow-up CAPS administration. Therefore, Bob was considered a "missing" in the analysis (pretest to 3 months follow-up).

**Wilma.** Wilma, a 55-year-old woman, was raised in a violent environment and has a history of having been bullied and abused by peers during childhood. Later in life, she had been sexually abused by several ex-partners and became a victim of physical violence at work after which she developed PTSD (CAPS score = 57, PSS-SR score = 29). Wilma also fulfilled the diagnostic criteria for panic disorder and dysthymic disorder. Earlier in life, Wilma had been treated for adjustment disorder with anxiety. Wilma received several psychotherapeutic treatments that were mainly focused on her anxiety problems. Wilma reported neither substance abuse nor the use of any

psychotropic medication. The risk for suicide was estimated as low. In the first series of 4 treatment days, EMDR sessions focused on the memories of (a) Wilma being strangled by her ex-partner when she was 23 years old, (b) being strangled by a colleague when she was 30 year old, (c) an anal rape by one of her ex-partners when she was 28 years old, (d) the sexual abuse by another ex-partner when she was 23 years old, (e) a children's party where she was deliberately kept under water in a basin when she was 8 years old, (f) being attacked and forced by a group of children to undress in a construction container, and (g) being attacked by a group of children. The second series of 4 treatment days, the EMDR sessions focused on the memories of (h) the continuous sexual abuse by one of her boyfriends, (g) the unsafe and aggressive situation at home when she was a child, and of (h) a violent situation with Wilma's ex-husband. Because it seemed that all traumatic events that fulfilled the PTSD A criterion had been resolved, the afternoon session of the last treatment day focused on the flash-forward of having a painful colonoscopy. The SUD score dropped to 0, and the validity of cognition (VoC) score became 7. At posttreatment, the CAPS score was 44, and the PSS-SR score was 23. Wilma no longer met the diagnostic criteria for PTSD.

**Hilda.** Hilda, a 36-year-old woman of Moroccan origin, had been a victim of sexual abuse and severe maltreatment in her childhood by her father and subsequent abuse by her ex-partner in adulthood. From the moment her family moved from Morocco to the Netherlands, she lived in an unstable and unsafe environment and had been exposed to several life-threatening situations. At the time of treatment, Hilda suffered from severe stress because her children were living with her ex-husband and Hilda was not allowed to see them. Four years earlier when Hilda was forced to undergo a psychotherapeutic treatment in a closed hospital ward, her children were taken away from her by child protection services. Hilda was diagnosed with severe PTSD (CAPS score = 104, PSS-SR score = 41), a recurrent depressive disorder with melancholic features, panic disorder with agoraphobia, and social phobia. Hilda had undergone several psychotherapeutic treatments in 2013 and in 2015, but her PTSD had not been targeted and the symptoms remained. She had been addicted to alcohol, but two months before treatment, she stopped drinking because the combination of her medication (quetiapine, escitalopram, topiramate) and her alcohol intake was considered dangerous. The risk for suicide was estimated as low. The EMDR sessions focused on the



memories of (a) her son being taken away by her ex-husband when she was 33 years old, (b) being sexually abused by a nephew in a smelly toilet, (c) the abuse when she was 6 years old, (d) serious violent behavior of her ex-partner when she was 20 years old, forcing her and her daughter to seek for safety in a shelter, (e) being hospitalized after a serious fight between her and her partner during which she displayed serious violent behavior, (f) Hilda witnessing her drunken father killing another person by cutting his throat when she was 5 years old, (g) when she was young, her father being angry at her mother and throwing her from the stairs, almost killing her, and (g) a motor-bike accident resulting in being in a coma for 2 weeks, and her friend becoming blind. The last session of the treatment concentrated on (h) a flash-forward related to her agoraphobia. At posttreatment, the CAPS score appeared to be 1, as was the PSS-SR score. Hilda did not suffer from PTSD anymore and started a legal procedure to regain the custody of her children.

**James.** James, a 39-year-old man, grew up in an unsafe and violent environment. When he was 21 years old, he served as a soldier in former Yugoslavia. As a result, he developed a severe PTSD (CAPS score = 101, PSS-SR score = 34). He consistently suffered from serious aggression outbursts and fulfilled the diagnostic criteria of recurrent depressive disorder with melancholic features. In the past, James had tried to find help for his PTSD but aborted treatment because of a lack of trust in the treatment. There was neither indication of substance abuse nor did James use any psychotropic medication. The risk for suicide was estimated as low. The first EMDR sessions were focused on James's memories of (a) the violent situations at home concerning his father, stepmother, and grandmother having fights when he was 17 years old, (b) Bosnia, when a truck with warriors tried to push him in a ravine, (c) James not being able to prevent a child being shot while his mother witnessed the killing, (d) an inmate who had committed suicide when James was working in a prison between 1999 and 2015, (e) his preparation to commit suicide, and (f) the divorce of his parents when he was a boy. At the last day, all traumatic events that fulfilled the PTSD A criterion were resolved and his self-image had improved. All SUD scores had dropped to 0, and appropriate PCs could be installed. At posttreatment, James' CAPS score was 9 and the PSS-SR score was 7. James no longer suffered from PTSD.

**Ellen.** Ellen, a 38-year-old woman, had been a victim of physical violence and abuse by her father from her 13th to her 15th year. In addition, when she was

about 15 years old, she was locked up and assaulted by two boys who wanted to rape her. Fortunately, Ellen was able to escape. When she was 18 years old, she started working as a prostitute and remained to do so for over 10 years in this line of work. At the age of 23 years, Ellen had her first psychotic episode and was hospitalized. After this, she was hospitalized several times and was diagnosed with a bipolar I disorder. She was also diagnosed with PTSD (CAPS score = 89, PSS-SR score = 23), panic disorder with agoraphobia, bipolar disorder, and a personality disorder not otherwise specified (NOS). She had been in treatment several times for her bipolar disorder and had been on medication for 5 years (seroquel 700 mg, oxazepam 20 mg, temazepam 20 mg). To cope with the flashbacks, Ellen developed a benzodiazepine addiction (oxazepam). The risk for suicide was estimated as high. Two years before her treatment, Ellen had received some exposure therapy sessions for her PTSD but aborted treatment because she had the feeling that her mental state worsened. Six months prior to her treatment at PSY-TREC, she had received one session of EMDR therapy. The EMDR sessions were aimed at the memory concerning (a) her father entering her bedroom carrying a butcher's knife and trying to strangle her, (b) her first psychotic episode in which she woke up in an isolation cell and felt petrified, (c) witnessing a big fire, (d) being assaulted by a friend and a friend of his, (e) a situation in which she was threatened with a knife, being raped, and being strangled by her boyfriend while she had been asleep. Afterwards, Ellen experienced the treatment as being helpful and positive, and she did not feel the tendency to avoid anymore. Because of a severe illness of Ellen's spouse, she did not attend any post-treatment or follow-up.

## Overall Results of Treatments

No adverse events or symptom exacerbation associated with treatment were reported. Also, no dropouts occurred during the course of the treatment.

Table 2 shows the PTSD symptom change according to the CAPS and the PSS-SR for all individuals. Despite the low number of study participants, the scores were normally distributed. Regarding the effect of the treatment from pretest to follow-up, four of the seven patients showed a loss of diagnosis, of which two patients went in remission (i.e., "loss of diagnosis" plus a CAPS severity score of <20), and two patients responded with a CAPS score reduction of 10 points or more. The scores of two persons (of Ellen at posttest and at follow-up, and of Bob at follow-up) were missing.

**TABLE 2. Posttraumatic Stress Disorder Symptom Change According to the Clinician-Administered PTSD Scale and PTSD Symptom Scale Self-Report Questionnaire**

	PSS-SR			CAPS			End-State CAPS	
	Pre	Post	Follow-Up	Pre	Post	Follow-Up	Post	Follow-Up
Harry	23	11	27	99	45	70	Response	Response
Jenny	30	14	20	86	47	47	Response	Response
Bob	40	36	NA	77	22	NA	Loss of diagnosis	NA
Wilma	29	25	10	57	44	43	Loss of diagnosis	Loss of diagnosis
Hilda	41	1	0	104	2	0	Remission	Remission
James	34	6	3	99	15	13	Remission	Remission
Ellen	23	NA	NA	89	NA	NA	NA	NA
Total	31.4	15.5	12	87.3	28.5	34.6		
SD	(7.3)	(12.9)	(11.4)	(16.2)	(18.3)	(28.0)		

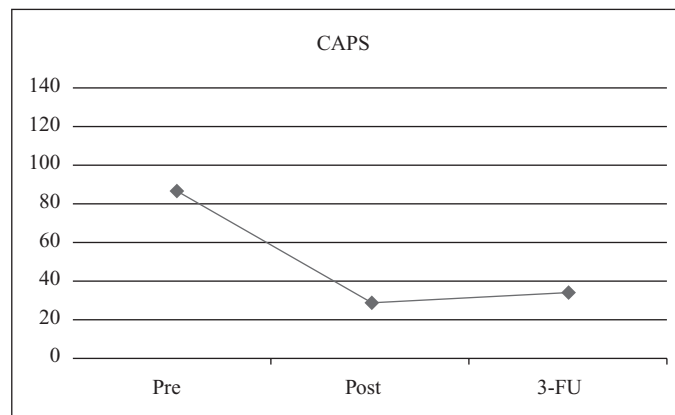
Note. Response is the reduction of 10 or more points of the CAPS score. Loss of diagnosis as Response plus no longer meeting either B, C, or D criteria and a score <45. Remission as Loss of diagnosis plus a score <20. PSS-SR = PTSD Symptom Scale Self-report questionnaire; CAPS = Clinician-Administered PTSD Scale; NA = not available.

As shown in Figure 2, the mean CAPS score decreased significantly from pre- to posttreatment ( $t[5] = 4.67, p = .005$ ), from pretest to 3 months follow-up ( $t[4] = 3.15, p = .035$ ), but not significantly from posttest to 3 months follow-up ( $t[4] = -.935, p = .403$ ). The PTSD symptoms according to the CAPS decreased substantially with very large effect sizes (Cohen's  $d = 3.2$ ) from pre- to posttreatment and from pretreatment to follow-up (Cohen's  $d = 2.3$ ). The effect size from posttreatment to follow-up was small (Cohen's  $d = 0.2$ ). Also, the patients' mean scores on the PSS-SR decreased significantly from pre- to posttreatment with a large effect size ( $t[5] = 2.98, p = .031$ ; Cohen's  $d = 1.7$ ) but not significantly from pretest to 3 months follow-up ( $t[4] = 2.47, p = .069$ ; Cohen's  $d = 2.1$ ). The mean scores from

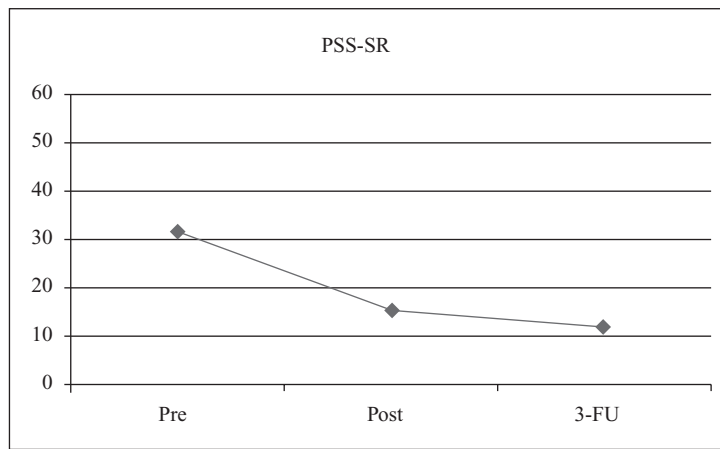
posttest to 3 months follow-up were not significant and the effect size was small ( $t[4] = -.117, p = .912$ ; Cohen's  $d = .058$ ; Figure 3).

## Discussion

To our knowledge, this is the first study to evaluate the feasibility and effectiveness of a brief, intensive trauma-focused treatment program with EMDR therapy administered to patients suffering from complex PTSD and with multiple co-occurring Axes I and II diagnoses. The results of this study were supportive of the notion that the application of massed EMDR in patients with severe PTSD, without any form of stabilization prior to therapy, is safe, feasible, and acceptable for patients.



**FIGURE 2.** Observed trajectory of the Clinician-Administered PTSD Scale ( $n = 6$ ).



**FIGURE 3.** Observed trajectory of the PTSD Symptom Scale Self-report questionnaire ( $n = 6$ ).

That is, no adverse events of the treatment were reported, and no dropouts occurred during the course of the treatment. Not only was the intensive version of EMDR therapy safe, but it also appeared to be associated with a significant decrease of PTSD symptoms, and results were maintained at follow-up.

The present results are largely in line with previous studies of similar intensive programs using PE or cognitive therapy (Blount et al., 2014; Ehlers et al., 2010, 2014; Gantt & Tinnin, 2007; Hendriks et al., 2010; Lande et al., 2011). Although EMDR therapy has been administered intensively in previous studies, this case series was the first to evaluate an intensive treatment not only with EMDR therapy applied in a massed way of 3 hours per day but also in patients with complex presentations of PTSD. Also, sometimes more than 10 memories per patient were targeted during the intensive treatment. Important differences relative to earlier EMDR studies (Grey, 2011; Jarero et al., 2015; Lobenstine & Courtney, 2013; Proudlock & Hutchins, 2016; E. Shapiro & Laub, 2015; Wesson & Gould, 2009) were that the patients stayed at the institution twice, for 4 consecutive days in a row, and were offered an intensive sports program as well as psychoeducation. The contribution and influence of this, and the fact that every session was conducted by a different therapist, is unknown but may all have contributed to the large effect sizes found in this study.

### Limitations and Strengths

The current case series has several limitations. First of all, the sample was small, and doing significance testing with such a small population is always problematic. This seriously limits the generalization of the results. In addition, our case design comprised multiple measurement points but was not baseline controlled.

Therefore, future research should be focused on a comparison between the application of different TFTs using a larger sample, a randomized controlled design, and a longer follow-up. Another limitation is that the course of comorbid conditions and symptoms, including depression, anxiety, addiction behavior, and symptoms related to personality disorders were not evaluated during this study. This was problematic because patients who suffer from a variety of comorbid conditions generally need and seek aftercare even when their PTSD has successfully been treated, which interferes with a reliable evaluation of long-term treatment outcomes. Bob can be considered as an example of such a situation. The strength of this study is the diversity of the population and its comorbidity. Another strength is the 3 months follow-up, demonstrating that results were consistent and could be maintained.

### Conclusion

In conclusion, the results of this first, small cases series suggest that intensive EMDR therapy is feasible to implement within a treatment program for severe PTSD and that it has the potential to significantly decrease PTSD symptoms among patients with multiple or severe comorbidities without significant symptom exacerbation. Although these findings are promising, there is clearly a need for more extensive research in this area. This kind of data would serve to mitigate beliefs that individuals with severe or so called complex PTSD are too vulnerable and too complicated to treat or cannot benefit from trauma-focused therapy and are often offered different (stabilization) programs while the PTSD symptoms are not targeted. To this end, the present results are not only promising but also in line with recent recommendations to offer TFTs routinely, consistent with current general PTSD treatment guidelines

to prevent a delay or restriction of access to effective trauma-focused treatments (de Jongh et al., 2016).

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