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Safety and effectiveness of intensive treatment for complex PTSD delivered via home-based telehealth

Hannelies Bongaerts, [a] Eline M. Voorendonk, [a,b] Agnes van Minnen, [a,b] and Ad de Jongh [a,c,d,e,f]

ABSTRACT

Background: Home-based psychotherapy delivered via telehealth has not been investigated in the context of intensive trauma-focused treatment for individuals with severe or Complex posttraumatic stress disorder (PTSD).

Objective: To examine the feasibility, safety and effectiveness of an intensive treatment programme containing prolonged exposure, EMDR therapy, physical activities and psychoeducation, delivered via home-based telehealth.

Method: The treatment was carried out within four consecutive days during the outbreak of the COVID-19 pandemic. The sample consisted of six (four female) patients suffering from severe or Complex PTSD resulting from exposure to multiple traumatic events, mostly during early childhood. Four of them fulfilled the diagnostic criteria of complex PTSD. Outcome measures were the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5), the PTSD Checklist for DSM-5 (PCL-5), and the International Trauma Questionnaire (ITQ).

Results: CAPS-5 and PCL-5 scores decreased significantly from pre- to post-treatment (Cohen's *d*s 1.04 and 0.93), and from post-treatment to follow-up (Cohen's *d*s 0.92 and 1.24). Four of the six patients lost their PTSD or Complex PTSD diagnostic status. No patient dropped out, no personal adverse events and no reliable symptom worsening occurred.

Conclusions: The results suggest that intensive, trauma-focused treatment of severe or Complex PTSD delivered via home-based telehealth is feasible, safe and effective, and can be a viable alternative to face-to-face delivered intensive trauma-focused treatment.

KEYWORDS: Complex PTSD, videoconferencing, online intensive trauma-focused treatment, COVID-19, home-based telehealth

HIGHLIGHTS

• First study to evaluate the effectiveness of a full, remotely applied, intensive trauma-focused home-based therapy programme for severe or Complex PTSD.

• Four days of remotely administered intensive trauma-focused therapy proved safe and effective.

• Four of the six participants improved significantly with regard to their posttraumatic symptomatology showing large effect-sizes.

1. Introduction

As far as we are aware, it has never been investigated whether home-based telehealth trauma-focused therapy is suitable for people with severe or Complex PTSD when delivered in an intensive and brief format. Conversely, there is evidence indicating that intensive forms of trauma-focused treatments yield significant symptom reduction in Complex PTSD patients in a short time period (e.g. Voorendonk, De Jongh, Roozendaal, & Van Minnen, 2020), whereas meta-analytic evidence (Turgoose, Ashwick, & Murphy, 2018) shows that telehealth yields similar outcomes regarding PTSD compared to traditional, face-to-face, treatment. Therefore, the purpose of the present study was to examine the feasibility, safety and effectiveness of a brief intensive treatment programme containing individual prolonged exposure and EMDR therapy (in total eight sessions) that was delivered in a home-based telehealth format during a period of four consecutive days. The sample consisted of a small group of six patients suffering from severe or Complex PTSD resulting from exposure to multiple traumatic events who were scheduled for our regular inpatient intensive treatment programme, but suddenly could not been treated face-to-face due to the outbreak of the COVID-19 pandemic.

2. Method

2.1. Participants

The six study participants (four women) took part in the online consecutive days treatment programme in the spring of 2020 delivered by the Psychotrauma Expertise Centre (PSYTREC), a mental health centre in The Netherlands. All patients were indicated after intake for a face-to-face inpatient brief and intensive trauma-focused treatment programme. However, due to the consequences of COVID-19 pandemic, face-to-face treatments could not be undertaken, and as an alternative, patients were invited to participate in an online variant of the programme. About one third of them responded positively to this invitation, of which this group of six was one of the first. The mean age of this group of participants was 38.7 years ($SD = 16.07$). All patients had experienced multiple interpersonal trauma's, including childhood sexual abuse ($n = 3$) and physical abuse ($n = 4$).

2.2. Procedure

During intake written informed consent was obtained from the study participants, who all took part in the evaluation of the standard PSYTREC care package for which medical ethical exemption has been granted (IRB00002991, FWA00017598). Patients were referred by their general practitioner, psychiatrist or psychologist, after which they were invited for two intake sessions on location to assess whether they fulfilled the DSM-5 criteria for PTSD. Inclusion criteria were: being classified as having PTSD, being at least 18 years old, and having sufficient knowledge of the Dutch language. Exclusion criterion was: having attempted suicide in the three months prior to intake.

During the first face-to-face intake session, the Dutch version of the Clinical Administered PTSD Scale for DSM-5 (CAPS-5; Boeschoten et al., 2018), the Life Events Checklist for DSM-5 (LEC-5; Boeschoten, Bakker, Jongedijk, & Olff, 2014), and the Mini International Neuropsychiatric Interview (M.I.N.I. PLUS; Overbeek, Schruers, & Griez, 1999) were administered and carried out by trained clinical psychologists. Between the two intakes, self-report instruments were filled out online, including the PTSD Checklist for DSM-5 (PCL-5; Boeschoten et al., 2014), and the International Trauma Questionnaire (ITQ; Eidhof, Ter Heide, Boeschoten, & Olff, 2018). During the second face-to-face intake session 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. Adverse events and attrition were monitored for the duration of the study by therapists and staff. All patients received four days of intensive, trauma-focused treatment which they underwent at home. At post-treatment, one week after the last treatment day, the PCL-5, and the ITQ were completed online at home. Also, the CAPS-5 was administered online which was conducted by a research assistant who was blind to the treatment progress of the patients. At the follow-up at four weeks after treatment, the CAPS-5, the PCL-5, and the ITQ were used again.

2.3. Treatment

During their treatment patients stayed at home or at a place where there was enough privacy to attend the psychotherapy and psycho-education part of the programme, and enough space to do the exercises, albeit patients were encouraged to go outdoors for physical activities. Therapy consisted of four consecutive days comprising each day an online individually administered prolonged exposure therapy session (90 minutes) and an EMDR therapy session (90 minutes), six hours of physical activities, and three hours of psycho-education in between the sessions and in the evening. This treatment programme was applied as described earlier (Van Woudenberg et al., 2018), but adapted for use via telehealth (see supplementary file 1). There was no preparation or stabilization phase prior to the start of the treatment. Five or 10 min before the therapy session would start a secure link for videoconferencing (Therapieland; https://therapieland.nl/) was sent to the patients. Each session was delivered by a different psychologist, according to the principles of 'therapist rotation' (Van Minnen et al., 2018). Therapists who provided therapy sessions worked at home and were trained in prolonged exposure and EMDR therapy.

2.4. Statistical analysis

The analyses were conducted with SPSS 24 (IBM SPSS). To compare the pre-treatment CAPS-5 and the PCL-5 scores with those of post-treatment, and the post-treatment mean scores with those of the one-month follow-up, paired samples *t*-tests were conducted. Because specific hypotheses were formulated, one-tailed tests were performed. A reliable change (RC) index was calculated to determine whether individuals experienced clinical reliable symptom worsening on the CAPS-5, PCL-5, and ITQ from pre- to post-treatment, and from pre-treatment to one-month follow-up. For within-group effect sizes, Cohen's *d* was calculated using the pre-treatment, post-treatment and one-month follow-up means, and standard deviations of the relevant outcome measures. The level of significance for all statistical analyses in this study was set at $a = .05$.

3. Results

This study contained six participants. Besides PTSD, most of the patients also suffered from multiple and comorbid psychiatric conditions (i.e. depression, panic disorder, social phobia, eating disorder, obsessive compulsive disorder, avoidant personality disorder). Two individuals reported moderate to high suicidality based upon the M.I.N.I. PLUS. Three of the six patients were overtly reluctant and quite sceptical towards the remotely administered intensive programme, but gave it a chance.

3.1. Safety

No participants dropped out of treatment and no significant symptom worsening occurred either on the CAPS-5, PCL-5, ITQ from pre-to post-treatment, and from pre-treatment to one-month follow-up. No adverse events associated with online treatment were reported.

3.2. Results of treatments

There were no missing data on the CAPS-5, the PCL-5, or the ITQ. Despite the low number of study participants, the scores were normally distributed. Table 1 shows the PTSD symptom severity (CAPS-5 and PCL-5), and patients' diagnostic status according to the CAPS-5 and ITQ. Figure 1 displays patients' individual trajectories.

Table 1.

PTSD symptom change, and diagnostic status according to CAPS-5; symptom change according to PCL-5; (C)PTSD diagnostic status according to ITQ

	CAPS-5			**Diagnostic status CAPS-5**			**PCL-5**			**Diagnostic status**	
Patient	**Pre**	**Post**	**FU**	**Pre**	**Post**	**FU**	**Pre**	**Post**	**FU**	**Pre**	**Post**
1.	40	45	43	PTSD	PTSD	PTSD	55	61	54	NA	CPTSD
2.	34	35	32	PTSD	PTSD	PTSD	50	46	35	CPTSD	PTSD
3.	44	18	1	PTSD	NA	NA	66	26	26	CPTSD	NA
4.	50	9	6	PTSD	NA	NA	32	14	6	CPTSD	NA
5.	37	4	2	PTSD	NA	NA	58	0	0	CPTSD	NA
6.	43	21	16	PTSD	NA	NA	52	34	25	PTSD	NA
Mean	41.33	22.00	16.67				52.12	30.17	24.33		
SD	*5.65*	*15.54*	*17.34*				*11.36*	*21.93*	*19.62*		
ES		1.04	0.92					0.93	1.24		
RCI			12.54						13.54		

CAPS-5: Clinical Administered PTSD Scale for DSM-5

PCL-5: PTSD Checklist for DSM-5

ITQ: International Trauma Questionnaire (ITQ)

NA: not meeting diagnostic criteria of PTSD (CAPS-5), nor (C)PTSD (ITQ)

ES: effect size; pre-post, post-FU

RCI: reliable change index; pre-post, pre-FU

Figure 1.

Observed individual trajectories of the CAPS-5 of the six patients

Regarding the overall effect, as displayed in Figure 2, the slope of the PTSD-symptoms as indexed with the CAPS-5 shows a significant decrease from pre- to post-treatment [$t(5) = 2.56$, $p < .05$; Cohen's $d = 1.04$], and from post-treatment to one-month follow-up [$t(5) = 2.25$, $p < .05$; Cohen's $d = 0.92$]. Patients' mean scores on the PCL-5 declined significantly from pre- to post-treatment [$t(5) = 2.29$, $p < .05$; Cohen's $d = 0.93$], and from post-treatment to one-month follow-up [$t(5) = 3.04$, $p < .05$; Cohen's $d = 1.24$].

Figure 2.

Observed trajectory of patients' CAPS-5 and the PCL-5 mean scores ($n = 6$)

Error bars represent standard error of the mean.

3.3. Loss of diagnosis

Four of five of the patients showed a loss of PTSD (CAPS-5) or Complex PTSD diagnosis (ITQ) at post-treatment and follow-up. One patient maintained her diagnostic status (both on the CAPS-5 and ITQ), and one patient maintained her diagnostic status of PTSD on the CAPS-5, while she fulfilled the diagnostic criteria of Complex PTSD (ITQ) at post-treatment and follow-up (Table 1).

4. Discussion

To our knowledge, this is the first study to evaluate the effectiveness of a full remotely applied intensive trauma-focused therapy programme for individuals with severe or Complex PTSD. The results are supportive of the notion that intensive trauma-focused therapy of two sessions per day delivered by home-based telehealth is feasible, safe and effective. Figure 1 shows that two participants showed no change. The cause of this is unclear: whether this is due to telehealth as treatment modality, whether the treatment was too short, or whether this would not also had happened if this person had been treated face-

to-face. Four of the six participants improved significantly during the programme with regard to their posttraumatic symptomatology showing large effect-sizes. They no longer met the diagnostic criteria for PTSD, or Complex PTSD, after treatment. Importantly, during treatment no personal adverse events, dropout or reliable symptom worsening occurred. These results are in line with other studies showing that remotely offered psychotherapy is a viable and effective treatment option (e.g. Acierno et al., 2017; Turgoose et al., 2018). The present findings differ in that these were achieved in only four days.

This study has a number of drawbacks that are mainly related to the design of the study. A small study such as this one, with few participants, and without a control group, is particularly vulnerable to selection bias and placebo effects. Also, this was a self-selected group of which only one-third responded positively to the invitation to participate in the online variant of the treatment programme. Accordingly, conclusions about the acceptability of the treatment should be considered in light of this. Hence, studies on intensive trauma-focused treatment delivered by home-based telehealth with a longer follow-up period than just four weeks are clearly necessary to verify the effects found here.

In conclusion, the results are promising and show that home-based telehealth can be a viable alternative to face-to-face delivered intensive trauma-focused treatment.

Supplementary Material

Supplemental Material:

Click here for additional data file.(47K, doc)

Author contributions

Hannelies Bongaerts had full access to all data in the study and takes responsibility for the integrity of the data and the accuracy of the data analyses.

Study concept and design: Bongaerts, De Jongh

Acquisition of data: Bongaerts, Rozendael, Tell van Witzenburg

Analysis and interpretation of data: Bongaerts, Van Minnen, Voorendonk, De Jongh

Drafting of the manuscript: Bongaerts

Critical revision of the manuscript for important intellectual content: Bongaerts, Van Minnen, Voorendonk, De Jongh

Administrative, technical, or material support: Bongaerts, Van Minnen, De Jongh

Study supervision: Van Minnen, De Jongh

Data availability statement

The data that support the findings of this study are available on request from the corresponding author [AdJ; a.de.jongh@acta.nl]. The data are not publicly available due to information that could compromise the privacy of research participants.

Disclosure statement

Agnes Van Minnen receives income for published book chapters on PTSD and for the training of postdoctoral professionals in prolonged exposure. Ad de Jongh receives income from published books on EMDR therapy and for the training of postdoctoral professionals in this method. The other authors do not have competing interests.

Supplementary material

Supplemental data for this article can be accessed here.

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