



SHORT COMMUNICATION



Intensive outpatient treatment for PTSD: a pilot feasibility study combining prolonged exposure therapy, EMDR, physical activity, and psychoeducation

Trude Julie Brynhildsvoll Auren^a, Andreas Gjerde Jensen^a, Julie Rendum Klæth^a, Elma Maksic^a and Stian Solem^b

^aRegional Unit for Treatment of Severe Posttraumatic Stress Disorder, Nidaros DPS, St. Olavs Hospital, Trondheim, Norway; ^bDepartment of Psychology, Norwegian University of Science and Technology, Trondheim, Norway

ABSTRACT

Background: Intensive treatment could be effective for patients with post-traumatic stress disorder (PTSD).

Objective: The aim of the study was to test the feasibility of an 8-day (2-week) intensive outpatient treatment for PTSD.

Method: Treatment each day consisted of individual Prolonged Exposure (PE), Eye Movement Desensitization and Reprocessing (EMDR), and psychoeducation and physical activity in groups. Patients met different therapists from session to session.

Results: Six patients started and completed treatment. Levels of attendance of sessions was high. Patients reported that they were satisfied with the treatment, describing it as emotionally taxing, but meaningful. Therapists also described several positive aspects of the treatment format. There were large reductions in PTSD symptoms.

Conclusions: Given these promising, but preliminary findings on the programme's feasibility, future research should investigate this treatment format using larger samples and controlled designs.

Tratamiento ambulatorio intensivo para el TEPT: Un estudio piloto de viabilidad que combina terapia de exposición prolongada, EMDR, actividad física y psicoeducación

Antecedentes: El tratamiento intensivo podría ser eficaz para los pacientes con trastorno de estrés postraumático (TEPT).

Objetivo: El objetivo del estudio fue comprobar la viabilidad de un tratamiento intensivo de 8 días (2 semanas) en régimen ambulatorio para el TEPT.

Método: El tratamiento diario consistió en forma individual la exposición prolongada (EP), desensibilización y reprocesamiento por movimientos oculares (EMDR), y en grupo la psicoeducación y actividad física. Los pacientes se reunían con diferentes terapeutas de una sesión a otra.

Resultados: Seis pacientes iniciaron y completaron el tratamiento. El nivel de asistencia a las sesiones fue alto. Los pacientes informaron que estaban satisfechos con el tratamiento, describiéndolo como emocionalmente agotador, pero significativo. Los terapeutas también describieron varios aspectos positivos del formato del tratamiento. Hubo grandes reducciones en los síntomas del TEPT.

Conclusiones: Teniendo en cuenta estos resultados prometedores, pero preliminares, sobre la viabilidad del programa, la investigación futura debería investigar este formato de tratamiento utilizando muestras más grandes y diseños controlados.

PTSD的强化门诊治疗:结合延长暴露疗法, EMDR, 体育锻炼和心理教育的试点可行性研究

背景: 强化治疗可能对创伤后应激障碍 (PTSD) 患者有效。

目的: 本研究旨在考查为期8天 (2周) 的PTSD强化门诊治疗的可行性。

方法: 每天的治疗包括个体的延长暴露 (PE), 眼动脱敏和再加工 (EMDR) 以及心理教育和体育锻炼。患者在每次治疗时会遇到不同的治疗师。

结果: 6例患者开始并完成了治疗。治疗参与率很高。患者报告说他们对治疗很满意, 称其在情感上很费力, 但很有意义。治疗师还描述了治疗形式的几个积极方面。PTSD症状明显减轻。

结论: 鉴于此治疗计划的这些有希望但初步的发现, 未来研究应使用更大样本和对照设计来研究这种治疗方式。

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关键词

简短; 集中; EMDR; 运动; PE; PTSD; 创伤

HIGHLIGHTS

- This 8-day (2-week) intensive outpatient treatment programme was feasible for patients suffering from severe PTSD.
- Treatment combined two types of trauma-focused treatment (PE and EMDR), psychoeducation, physical activity, and therapist rotation.
- All patients completed treatment and described it as emotionally taxing, but manageable and meaningful.
- Patients reported to be satisfied with the treatment, and there were large reductions in PTSD symptoms.

1. Introduction

How psychotherapy is organized within a clinic can be crucial for treatment outcomes (Clark et al., 2018). Providing more frequent sessions could lead to greater symptom reduction (Gutner, Suvak, Sloan, & Resick, 2016), and intensive treatment is a promising alternative to traditional weekly therapy (e.g. Bruijnicks et al., 2020). Intensive treatment is commonly operationalized as treatment delivered more than twice weekly (Sciarrino, Warnecke, & Teng, 2020). Prior studies investigating intensive outpatient treatment for post-traumatic stress disorder (PTSD) has shown it to have outcomes as good as ordinary outpatient treatment (e.g. Foa et al., 2018), and have lower dropout rates (Sciarrino et al., 2020). Despite short-term discomfort, intensive treatment is experienced by patients as a way of limiting distractions and avoidance, in addition early gains in intensive treatment enhance engagement and motivation (Sherrill et al., 2020).

A Dutch study (van Woudenberg et al., 2018) investigated the effectiveness of an intensive 8-day inpatient treatment for PTSD with a mixed treatment composition combining Prolonged Exposure (PE; Foa, Hembree, & Rothbaum, 2007), Eye Movement Desensitization and Reprocessing (EMDR; Shapiro, 2001) along with group psychoeducation and physical activity (PA). PA as an adjunct treatment has been associated with stronger reduction in PTSD symptoms compared to usual care or control conditions (Rosenbaum, Sherrington, & Tiedemann, 2015). The study (van Woudenberg et al., 2018) reported a clinical meaningful response for more than 80% of the patients. Half of the patients lost their PTSD diagnosis, and few dropped out (<3%). The programme utilized therapist rotation as the patients met different therapists from session to session. This could prevent therapist drift and under-utilization of exposure therapy (Becker, Zayfert, & Anderson, 2004; van Minnen et al., 2018). The treatment programme was feasible for patients diagnosed with PTSD from childhood sexual abuse (Wagenmans, van Minnen, Sleijpen, & De Jongh, 2018), and presence of a dissociative subtype of PTSD did not moderate the outcome (Zoet, Wagenmans, van Minnen, & de Jongh, 2018).

Inspired by the intensive 8-day inpatient programme for PTSD in the Netherlands, we wanted to test the feasibility of this programme when implemented in an outpatient setting. As far as we know, no other clinic combines two evidence-based therapies for PTSD in an intensive outpatient programme. An outpatient setting could be more ecologically valid, require less resources, and be available to a greater number of patients. We kept every element of the original programme, but reduced time for PA and psychoeducation to fit the schedule of a day programme, while prioritizing psychotherapy. The

hypothesis was that this programme would be acceptable to patients and that they would report symptom reduction and improved functioning.

2. Method

2.1. Participants

Patients ($N = 6$, one male and five females) willing to participate in the programme were recruited from referrals to an outpatient clinic specializing in treatment of patients with severe post-traumatic symptoms. Every referred patient meeting the inclusion criteria (PTSD as primary diagnosis, and not responding to previous treatment for this problem) were considered for the intensive treatment programme. Nine patients were offered participation before the six spots were filled. Three patients declined to participate due to conflicts with work, education, and somatic health problems.

The participants' age ranged from 29 to 57 years ($M = 40.5$, $SD = 9.7$). Reported traumas included war, childhood sexual and/or physical abuse, acute physical illness, and domestic sexual abuse and rape. All participants reported more than one traumatic experience. They reported having suffered from mental health problems for 15–30 years. The number of previous psychological treatments (minimum three months of psychotherapy) ranged from five to one. Five had received pharmacological treatment. None of the patients used antidepressants at the time of treatment. One reported occasional use of benzodiazepines. All received disability benefits.

All met the criteria for a PTSD diagnosis and four had comorbid disorders (depressive episode, ADHD, avoidant personality disorder, and social phobia). Three had previous substance abuse. Four of the patients reported moderate dissociative symptoms.

2.2. Treatment

Each day of the 8-day (2-week) treatment included 90 minutes of individual PE, 45 minutes of group PA administered by a physiotherapist, 90 minutes of individual EMDR, and 45 minutes of group psychoeducation. The goal of the PA was to give the patients tasks that demanded attention, activation of the whole body and an experience of mastery. The exercises were designed to fit everyone independent of their physical fitness, and to be of moderate intensity. More specifically the activities included: step aerobics; medicine ball exercises; exercises with a punching bag; a nearby hiking trail; circuit training; badminton; and basketball. Participants' levels of fitness and experience of mastery was not systematically monitored (e.g. heart rate) or assessed using structured measures.

The psychoeducation was derived from the PE protocol, with the addition of psychoeducation about PA. The sessions consisted of the following themes: PTSD symptoms as common reactions to trauma; rationale for exposure; benefits of physical activity for patients with PTSD; avoidance and other maladaptive strategies; negative thoughts, beliefs and cognitive distortions; the importance of emotional processing as part of healing from trauma; self-image and self-compassion; and finally relapse prevention. The patients were given in-vivo exposure exercises to complete at home, and they were told to listen to audio recordings of the imagery exposure from PE. Each patient met either six or seven therapists in the individual therapy sessions. The therapists met twice daily to inform each other of the therapy process, discuss the next session, and strengthen the implementation of the therapy protocols.

2.3. Procedure

Patients had a diagnostic evaluation including self-report forms and structured diagnostic interviews. Patients had to be at least 18 years of age and speak Norwegian relatively well. After completing the intensive treatment programme, each patient had assessments at post-treatment (2 weeks after ending treatment), and 3- and 6-month follow-up. Additionally, therapists (not involved with the psychotherapy) conducted a semi-structured interview with the patients about their experiences with the programme two weeks after treatment, as well as a group interview with the therapists.

2.4. Measures

Three measures of PTSD symptoms were included; The PTSD Symptom Scale Interview (PSS-I; Foa, Riggs, Dancu, & Rothbaum, 1993), the Impact of Event Scale – Revised (IES-R; Weiss, 2007), and the PTSD Checklist for DSM-5 (PCL-5; Blevins et al., 2015). The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) was used to assess anxiety symptoms, and the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996) to assess depressive symptoms. In addition, the Work and Social Adjustment Scale (WSAS; Mundt, Marks, Shear, & Greist, 2002) was used to assess the impact of the patients' mental health on their ability to function, and the Client Satisfaction Questionnaire-8 (CSQ-8; Larsen, Attkisson, Hargreaves, & Nguyen, 1979) to assess patients' satisfaction with the treatment.

2.5. Statistical analysis

Treatment effect was evaluated using a repeated measures ANOVA with Greenhouse-Geisser correction. Two effect sizes were calculated; partial eta squared,

and Cohen's d (using pooled standard deviation). Missing values were replaced using EM method. A total of 5.8% (8/138) values were missing, spread evenly across self-report measures.

3. Results

All of the participants completed treatment, but some treatment days and sessions were not attended. Mean attendance of the 16 psychotherapy session was 14.5 (1.4). Mean attendance of the eight psychoeducation- and PA sessions was 6.5 (1.3) and 6.8 (0.7). The primary reason for not attending was patient illness or care for ill children. One patient did not meet for half of the psychoeducation sessions because of difficulties with concentrating and participating in the group.

All patients were satisfied with the individual treatment. They all referred to the repeated revisiting of the trauma memories as emotionally taxing, but meaningful. They highlighted how the intensity limited avoidance and provided increased support compared to ordinary, weekly sessions. All patients reported appreciating the PA, describing it as a joyful break, and allowing them to focus on something else than trauma memories, thereby helping them adhere to treatment. The therapist rotation element initially triggered scepticism, but everyone described it positively post-treatment, reporting that it decreased drift, facilitated increased focus, limited avoidance, and encapsulated a greater number of therapeutic themes and perspectives. Three found the psychoeducation interesting while two reported difficulties concentrating and feeling exhausted (one was neutral). Two found the homework assignments too anxiety provoking and difficult, while four reported it as helpful. In addition, two patients experienced distress in the days after the intensive treatment was ended, and wanted support earlier than the 2-week follow-up session.

The mean CSQ-8 (Client Satisfaction Questionnaire) score was 26.7 (6.2) with scores ranging from 15 to 32 (see Table 1). Five of the six patients scored from 25–32. One patient reported less satisfaction with the

Table 1. Patients' scores on treatment satisfaction at post-treatment.

	Scale score			
	1	2	3	4
Quality of service	0	1	1	4
Kind of service	0	1	2	3
Met needs	0	1	4	1
Recommend to friend	0	1	1	4
Amount of help	0	1	2	3
Dealt with problems	1	0	2	3
Overall satisfaction	0	1	1	4
Come back	0	1	2	3

Mean CSQ-8 score was 26.7 (6.2) with scores ranging from 15 to 32. Five of the six patients scored from 25–32.

programme. This patient stated that she was not dissatisfied with the treatment but felt a need for further treatment.

In the interviews, the patients reported a reduction of symptoms and increased vocational and social functioning. They reported fewer intrusive symptoms, less hyperactivity, less avoidance, and better coping with triggers. One patient started ordinary work, and two patients started work as part of a work rehabilitation programme. Four patients did not go on to receive further treatment. One patient was referred to treatment for social phobia three months after treatment. The last patient (the one with the poorest outcome) was given five additional sessions focusing on interpersonal problems and work rehabilitation after completing the programme.

Interviews with the therapists suggested that the programme facilitated a clear structured therapy, with shared responsibility between therapists, high adherence to protocol, and close monitoring of the patients. Many therapists reported increased energy and excitement for work, but some also experienced it as demanding to relate to many new patients in a short time period. The therapists were excited to see improvements in patients, improvements that they thought otherwise would have been time-consuming and difficult to attain.

Table 2 shows changes in symptoms and functioning for all six participants. According to PSS-I, four out of six patients no longer met criteria for a PTSD diagnosis post-treatment. The mean PSS-I score decreased significantly from pre-treatment to 3-month follow-up

Table 2. Patients' scores on measures of symptoms and functioning at pre-treatment, post-treatment, and follow-up.

Scale	Patients						M	SD	d	η^2	p
	1	2	3	4	5	6					
IES-R pre	56	77	60	49	62	71	62.5	10.1			
Post	31	58	17	9	52	30	32.8	19.1	1.94		
3 m F-U	27	37	4	29	49	17	27.2	15.6	2.69		
6 m F-U	38	42	39	39	25	35	35.5	13.1	2.31	.76	.001
PSS-I pre	32	42	39	39	25	35	35.3	6.2			
Post	8	20	5	0	38	11	13.7	13.7	2.03		
3 m F-U	0	11	2	3	14	21	8.5	8.2	3.69	.71	.008
PCL-5 pre	40	64	60	55	55	72	57.7	10.7			
Post	32	54	17	8	56	31	32.9	19.3	1.59		
3 m F-U	30	40	4	14	48	30	27.7	16.3	2.18		
6 m F-U	34	43	21	23	44	39	34.0	10.0	2.29	.68	.014
BAI pre	15	46	31	16	32	37	29.5	12.1			
Post	14	34	9	4	34	17	18.6	12.7	0.88		
3 m F-U	9	40	0	8	28	12	16.2	14.9	0.98		
6 m F-U	14	37	3	7	25	17	17.2	12.4	1.00	.58	.024
BDI-II pre	9	34	32	37	36	36	30.7	10.8			
Post	11	23	14	2	41	18	18.2	13.2	1.04		
3 m F-U	7	22	6	11	37	15	16.3	11.7	1.28		
6 m F-U	13	20	2	23	31	18	17.8	9.8	1.25	.47	.046
WSAS pre	29	22	30	31	28	31	28.4	3.4			
Post	15	23	19	0	28	18	17.1	9.5	1.58		
3 m F-U	8	19	16	20	23	24	18.3	5.8	2.12		
6 m F-U	10	20	6	31	19	14	16.7	8.8	1.75	.39	.095

IES-R = Impact of Event Scale – Revised, PSS-I = The PTSD Symptom Scale Interview, PCL-5 = PTSD Checklist for DSM-V, BAI = Beck Anxiety Inventory, BDI-II = Beck Depression Inventory II, WSAS = Work and Social Adjustment Scale.

($d = 3.69$). The patients' scores on other questionnaires measuring post-traumatic symptoms, anxiety symptoms and depressive symptoms also decreased significantly from pre-treatment to follow-up and the effect sizes were large. However, there was no significant change on the WSAS.

4. Discussion

The aim of the study was to investigate whether this intensive 8-day treatment programme for PTSD was feasible in an outpatient setting. Six of nine referred patients chose intensive treatment over weekly therapy sessions. This indicated that the programme was an attractive treatment option. No adverse events were reported, and none of the patients dropped out of the treatment. All six patients reported reductions in PTSD symptoms and the overall rating of treatment satisfaction was good.

None of the patients dropped out of the treatment. Dropout rates in intensive treatments have been lower compared to 'ordinary' outpatient treatment (Sciarrino et al., 2020). Compared to inpatient treatment, outpatient treatment may risk reduced attendance and reduced completion of homework assignments. This can be due to everyday issues getting in the way and increased leeway for avoidance. On the other hand, an outpatient setting provides a cost-effective and more ecologically valid setting for treatment and exposure tasks.

The six patients included in the present study reported being satisfied with the treatment programme, in line with previous research (Sherrill et al., 2020). On par with previous research (Rosenbaum et al., 2015), the patients highlighted the PA as an important and facilitating factor for profiting from treatment. Furthermore, our positive findings on therapist rotation are in line with previous research (van Minnen et al., 2018), and that exposure within different contexts can strengthen new learning (Craske et al., 2008). Positive findings on therapist rotation (i.e. being less dependent upon a single therapist) promotes the programmes feasibility. The results also showed that the therapists were satisfied with the intensive treatment format.

A recent thematic analysis of patients' experiences undergoing our treatment programme found five major themes (Thoresen & Engesæth, 2020). The first theme, 'Terrible but worth it', was related to patients' impression of the treatment as very demanding but rewarding. The themes 'Physical activity as a necessary break from a mental marathon' and 'Sense of unity' represented factors important for completing treatment. The fourth theme referred to the experience of therapist rotation as contributing to new perspectives, new relational experiences, and making exposure therapy easier to endure. The final

theme was ‘The whole is greater than the sum of its parts’ as patients perceived the different treatment elements as one integrated treatment.

The results from the present pilot study indicated that all six patients (with severe PTSD) showed a clinically meaningful response both at post-treatment and follow-up. The results from this study are consistent with previous studies of intensive treatment for PTSD, suggesting that the intensive treatment format is feasible (e.g. Foa et al., 2018; van Woudenberg et al., 2018).

There are a number of weaknesses to our study such as the limited sample size and the uncontrolled design. We did not use systematic qualitative methods to analyse patient and therapist interviews. Furthermore, the combination of different treatment elements conceals what specifically contributed to treatment outcome. Also, the study lacked multiple assessments to establish a pre-treatment baseline. However, the study suggested that this intensive outpatient format could be a feasible option. Future studies using larger samples and controlled designs should explore this treatment format further.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The authors confirm that the data supporting the findings of this study are available within the article.

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