



BRIEF CLINICAL REPORT

Schema therapy with cognitive behaviour day-treatment in patients with treatment-resistant anxiety disorders and obsessive-compulsive disorder: an uncontrolled pilot study

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Abstract

Background: Treatment resistance in patients with anxiety disorders and obsessive-compulsive disorder (OCD) might be caused by dysfunctional personality traits or, more specifically, early maladaptive schemas (EMSs) and schema modes, that can be treated with schema therapy (ST).

Aim: To explore possible effectiveness of ST-CBT day-treatment in patients with treatment-resistant anxiety disorders and OCD in an uncontrolled pilot study.

Method: Treatment-resistant patients with anxiety disorders or OCD ($n = 27$) were treated with ST-CBT day-treatment for 37 weeks on average including 11.5 therapy hours per week. The Symptom Questionnaire-48, Young Schema Questionnaire-2 and Schema Mode Inventory were completed before and after treatment.

Results: General psychopathology, EMSs and schema modes significantly improved after treatment. Spearman's correlations between pre- to post-treatment difference scores of general psychopathology, EMSs and schema modes were significant and high. The level of pre-treatment EMSs and schema modes did not predict post-treatment general psychopathology.

Conclusions: Symptom reduction was strongly correlated with improvement of EMSs and schema modes. Stronger pre-treatment EMSs and schema modes did not hinder improvement of symptoms. ST-CBT day-treatment is promising for patients with treatment-resistant anxiety disorders and OCD. Further controlled research is needed to substantiate evidence for schema therapy in patients with treatment-resistant anxiety disorders and OCD.

Keywords: anxiety disorders; day-treatment; obsessive-compulsive disorder; schema-focused therapy; schema therapy; treatment-resistant

Introduction

Anxiety disorders and obsessive-compulsive disorder (OCD) often run a chronic course. After an evidence-based treatment including pharmacotherapy and cognitive behaviour therapy (CBT) almost half of patients still fulfil the criteria of the index disorder and lack functional

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recovery. When patients do not respond to these first-line treatments, guidelines recommend intensive treatment such as day-treatment.

It is believed that dysfunctional personality traits account for treatment resistance in patients with anxiety disorders and OCD. More specifically, early maladaptive schemas (EMSs) and schema modes would result in persistence of symptoms. EMSs are 'patterns, developed during childhood or adolescence, consisting of memories, emotions, cognitions, and bodily sensations, regarding oneself and one's relationship with others' as defined by Young *et al.* (2003). Schema modes are the emotional states and coping responses arising when EMSs are activated. Indeed, research has provided some evidence that higher levels of EMSs significantly predicted poor response to CBT in patients with OCD (Sunde *et al.*, 2019; Thiel *et al.*, 2014), but this result was not confirmed in a study in patients with depression and anxiety disorders (Halford *et al.*, 2002).

If treatment resistance is associated with EMSs then treating these schemas could help to reduce anxiety and obsessive-compulsive symptoms. One treatment targeting EMSs is schema therapy (ST). ST has been found to be effective in patients with personality disorders. Preliminary evidence exists for the effectiveness of ST in mental disorders such as anxiety disorders, OCD, PTSD, chronic depression and eating disorders (Peeters *et al.*, 2022). Further preliminary evidence comes from a recent pilot study showing that improvement of general psychopathology was correlated to improvement of schema modes in patients with anxiety disorders and OCD; however, EMSs were not measured in this study (Peeters *et al.*, 2021).

To add to previous research, the aim of this exploratory study is to determine: (1) whether symptoms, EMSs and schema modes improve with ST-CBT day-treatment in patients with anxiety and OCD; (2) whether improvement in symptoms correlates with improvement in EMSs and schema modes; and (3) whether the level of EMSs and schema modes at baseline is associated with improvement of symptoms. If no association appears, stronger pre-treatment EMSs and schema modes are not related to symptom improvement. This would be consistent with the hypothesis that treating EMSs and schema modes abolishes treatment resistance.

Method

Participants

All patients who completed an intensive out-patient ST-CBT treatment between 2017 and 2020 were included in the study. To be eligible for the ST-CBT day-treatment, patients had to: (1) have completed at least one previous CBT targeting the primary anxiety disorder or OCD; (2) use or actively refused psychotropic drugs; and (3) experience severe limitations in daily functioning due to the disorder. The diagnoses were determined by experienced clinicians at the clinical assessment and re-assessed every three months by evaluating the criteria of possible diagnoses, given the symptoms of the patients. Diagnoses were made in accordance with *DSM* (fifth edition).

Design

Data were collected as part of routine clinical care before and after treatment.

ST-CBT day-treatment

The treatment was intensive and combined schema therapy with CBT. For a description, see the extended version of this manuscript online (Supplementary material).

Instruments

To assess severity of general psychopathology, the Symptom Questionnaire-48 (SQ-48) was used.

In patients with a primary diagnosis of OCD, severity of OCD was assessed using the Yale Brown Obsessive Compulsive Scale for Severity – Self-Report (Y-BOCS).

To assess presence of EMSs, the Young Schema Questionnaire-2 (YSQ-2) was used.

To assess presence of adaptive schema modes (*Happy Child* and *Healthy Adult*) and maladaptive schema modes (all other subscales), the Schema Mode Inventory (SMI) was used.

Statistical analysis

Results were analysed using the Statistical Package for Social Sciences (version 26). To evaluate the level of symptoms, EMSs and schema modes, one-sample *t*-tests were computed with norm data from the literature. To examine changes between pre- and post-treatment scores, paired samples *t*-tests were calculated. To determine reliable change and clinically significant recovery, Jacobson and Truax's method was used; see online (Supplementary material) for the critical values.

To examine correlations between pre- to post-treatment difference scores of general psychopathology, EMSs and schema modes, Spearman's correlations were computed. To examine whether the level of EMSs and schema modes at baseline was associated with treatment outcome, regression analyses of pre-treatment level of EMSs and schema modes on outcome of general psychopathology were performed, corrected for severity of pre-treatment general psychopathology.

Results

Sample characteristics

Twenty-seven patients were included in the sample. Most patients (89%) had co-morbid mental disorders – mainly other anxiety, mood and personality disorders. Moreover, patients had followed 6.4 previous treatments on average. At admission, 63% of the patients were using psychotropic medication, predominantly SSRIs and SNRIs. The mean treatment duration was 36.8 weeks ($SD = 11.2$) including 11.5 treatment hours per week.

The mean level of general psychopathology was significantly higher than a non-clinical population ($t_{26} = 19.9, p < 0.01$) and also compared to a population of patients with clinical disorders ($t_{26} = 7.3, p < 0.01$). Patients with a primary diagnosis of OCD had severe obsessive-compulsive symptoms (Y-BOCS mean = 27.3; $n = 4$). The level of EMSs was significantly higher than in a non-clinical population ($t_{25} = 7.9, p < 0.01$) and not significantly different from in-patients with personality disorders ($t_{25} = -0.8, p = 0.42$), indicating severe dysfunctional patterns. The level of schema modes was significantly worse than non-patients (maladaptive: $t_{26} = 8.0, p < 0.01$; adaptive: $t_{26} = -11.9, p < 0.01$) and patients with clinical disorders ($t_{26} = 2.8, p = 0.01$; $t_{26} = -4.2, p < 0.01$) but not significantly different from patients with personality disorders ($t_{26} = -2.0, p = 0.06$; $t_{26} = -0.2, p = 0.84$), indicating that dysfunctional coping of problems and emotions was frequently used in contrast to healthy coping which was seldom used.

Treatment results

Table 1 presents the treatment results. General psychopathology, EMSs, maladaptive and adaptive schema modes all significantly improved. The severity of OCD improved with 45% from severe to mild symptoms. However, this effect was not significant, probably due to the small subsample. An improvement on the Y-BOCS of 35% and more is considered clinically relevant. A reliable improvement of general psychopathology was present in 74% of the patients. About a third of all patients had a clinically significant recovery.

Spearman's correlation between pre- to post-treatment difference scores of general psychopathology on the one hand and EMSs ($r_s = 0.64; p < 0.01$), maladaptive ($r_s = 0.72; p < 0.01$) and adaptive schema modes ($r_s = -0.80; p < 0.01$) on the other hand were significant and high, indicating strong correlations between improvement of general psychopathology and improvement of EMSs, and schema modes.

Table 1. Treatment results

	Pre-treatment	Post-treatment	Paired samples t-test	Reliable improvement	Reliable deterioration	Clinically significant recovery
	mean (SD)	mean (SD)	t (df), p	n (%)	n (%)	n (%)
General psychopathology ^a (n = 27)	78.6 (16.4)	52.4 (25.7)	5.0 (26), <0.01*	20 (74%)	1 (4%)	10 (37%)
Y-BOCS (n = 4)	27.3 (10.1)	15.0 (5.7)	3.1 (3), 0.05			
Early maladaptive schemas ^b (n = 26)	48.1 (11.2)	39.5 (11.2)	3.7 (25), <0.01*	14 (54%)	2 (8%)	9 (35%)
Maladaptive schema modes ^c (n = 27)	33.9 (6.8)	29.2 (7.2)	3.0 (26), 0.01*	14 (52%)	3 (11%)	9 (33%)
Adaptive schema modes ^c (n = 27)	6.5 (1.2)	7.8 (1.6)	-4.3 (26), <0.01*	16 (59%)	1 (4%)	10 (37%)

^aSQ-48 total score without work/study and vitality; ^bYoung Schema Questionnaire (YSQ-2); ^cSchema Mode Inventory (SMI).

Regression analyses showed that the levels of pre-treatment EMSs ($StB = 0.19$; $p = 0.42$), maladaptive ($StB = 0.01$; $p = 0.96$) and adaptive schema modes ($StB = -0.07$; $p = 0.74$) did not predict post-treatment level of general psychopathology, corrected for pre-treatment level of general psychopathology.

Discussion

General psychopathology improved significantly from pre- to post-treatment, as well as EMSs and schema modes. These results suggest that ST-CBT day-treatment is an effective treatment option in patients with chronic, treatment-resistant anxiety disorders and OCD with many psychiatric co-morbidities. Our findings corroborate previous findings in patients with anxiety disorders and OCD treated with a similar day-care treatment (Peeters *et al.*, 2021). More patients in our study were reliably improved and clinically significantly recovered compared with the previous findings (Peeters *et al.*, 2021), possibly because our treatment was of longer duration: 37 weeks of 11.5 therapy hours per week compared with 26 weeks including 10.25 therapy hours, which would be congruent with previous findings that more sessions with schema therapy or CBT leads to better results. Another explanation for the difference from previous findings might be that the mean level of psychopathology before treatment in our sample ($Z = 4.28$) was higher than that of Peeters *et al.* ($Z = 3.02$), allowing for a greater reduction of symptoms.

Improvement of general psychopathology was strongly correlated to improvement of EMSs and schema modes in our study. This result is congruent with the hypothesis that treatment resistance is caused by EMSs and schema modes. We may hypothesize that improved EMSs and schema modes allow for better compliance with CBT and thus may ameliorate anxiety and obsessive-compulsive symptoms resistant to CBT before. However, another interpretation of our result might be that both symptoms and EMSs/schema modes are independently improved by treatment and this is reflected in a correlation. Our result replicates a previous finding on schema modes with even stronger correlations (Peeters *et al.*, 2021). Our finding contributes to an emerging field of research into the effectiveness of schema therapy in patients with treatment-resistant anxiety disorders and OCD.

Pre-treatment level of EMSs and schema modes did not predict outcome of symptoms, indicating that strong, pre-treatment EMSs and schema modes did not hinder improvement of symptoms in our sample of patients with anxiety disorders and OCD. Possibly, treatment of EMSs and schema modes contributed to this result. Congruent with this possible interpretation are two previous findings showing that outcome of CBT – without schema

therapy – was worse for patients with OCD with strong EMSs (Sunde *et al.*, 2019; Thiel *et al.*, 2014). This finding, however, was not replicated in a study with patients with depression and anxiety disorders (Halford *et al.*, 2002). While our findings do not demonstrate effectiveness of schema therapy, they suggest that ST-CBT day-treatment may be promising for patients with treatment-resistant anxiety disorders and OCD. It might offer prospect of improvement and recovery even in the most vulnerable patients.

A strength of this study is that we had a naturalistic sample of patients with treatment-resistant anxiety disorders and OCD. Thus, our results are generalizable to this population. A limitation of our study is the lack of a control treatment. Consequently, it is not known whether ST-CBT day-treatment caused the outcome. In addition, as the treatment was examined as a package, it is not known which elements caused which result. Psychopharmacological treatment may have resulted in improvement as well. Also, it is not known whether ST-CBT day-treatment is superior to other treatments for treatment-resistant anxiety disorders and OCD, such as intensive exposure treatment. Last, diagnoses were clinician-based and personality disorders were not assessed.

To conclude, ST-CBT day-treatment is promising in patients with chronic, treatment-resistant anxiety disorders and OCD with many psychiatric co-morbidities. Improvement of general psychopathology was strongly correlated to improvement of EMSs and schema modes, suggesting that treatment of EMSs and schema modes helps to reduce symptoms in these patients. Pre-treatment level of EMSs and schema modes did not predict outcome of symptoms, indicating that stronger EMSs and schema modes that were present before treatment did not hinder symptom improvement. Further controlled research is recommended to substantiate evidence for schema therapy in patients with treatment-resistant anxiety disorders and OCD.

Supplementary material. To view supplementary material for this article, please visit: <https://doi.org/10.1017/S1352465822000625>

Data availability statement. Research data are not publicly available on ethical grounds.

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Ethical standards. This study was approved by the research committee of GGZ inGeest (CWO-2020-013). Because the current study was file research, informed refusal applied. Patients were informed about the study by the clinician/researcher and data from those who objected were not included. This study was conducted in accordance with the Declaration of Helsinki.

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