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Clinical report

Who gets better when? An investigation of change patterns in group cognitive behavioral therapy for obsessive-compulsive disorder

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ABSTRACT

Many studies attest to the efficacy of exposure-based cognitive-behavioral therapy for obsessive-compulsive disorder (OCD), yet there is little research assessing varying patterns of change throughout the course of this treatment. Given recent research showing that change patterns during cognitive-behavioral treatment predict long-term maintenance of gains, identifying different patterns of OCD symptom change is important. In the present investigation, we conducted a cluster analysis on session-by-session measures of OCD symptom severity from 54 clients who completed group exposure-based cognitive-behavioral therapy. Four distinct change patterns emerged that showed noticeable differences in both the pace of symptom reduction and the extent of overall treatment response. Among two clusters with relatively higher initial severity, one cluster experienced more noticeable early symptom reduction as well as superior response by post-treatment. We found this same pattern among the other two clusters with initially lower OCD severity. We also saw differential treatment response in relation to depressive severity. Similar cluster patterns emerged across symptom types; however, obsessions appeared to benefit least from exposure-based CBT. The present findings offer possible explanations for previous inconsistencies in the literature on the effect of OCD and depression severity on treatment outcomes for OCD.

1. Introduction

Numerous studies demonstrate that exposure-based cognitive behavioral therapy (CBT) in the treatment of obsessive-compulsive disorder (OCD) is efficacious (Rosa-Alcázar, Sánchez-Meca, Gómez-Conesa, & Marín-Martínez, 2008). Additionally, CBT is effective in clinical settings with less experimental control (Franklin, Abramowitz, Kozak, Levitt, & Foa, 2000). Based on this evidence, national health organizations advocate for CBT as a first-line treatment for OCD (NICE, 2005). Importantly, group CBT for OCD appears to be equally efficacious as individual CBT (Jónsson, & Hougaard, 2009), making treatment delivery more efficient and accessible.

Unfortunately, some individuals who undergo CBT either show no meaningful treatment response or experience only mild reduction in OCD symptoms, and other individuals relapse following successful treatment (Riggs & Foa, 1993). These shortcomings are also present in group CBT. In one study, approximately 30% of clients showed minimal response to group CBT (Cordioli et al., 2003), and among clients who did respond, over one-third had relapsed at one-year follow-up (Braga, Cordioli, Niederauer, & Manfro, 2005). Stanley and Turner (1995) estimated that over half of individuals treated with CBT will experience long-term benefit (considering rates of symptom remission between 1 and 6 years following treatment). Taken together, these findings suggest that treatment outcome in CBT for OCD varies markedly from one client to the next.

In addition to research examining change in symptoms from pre- to post-treatment, researchers have recently emphasized *patterns* of change that occur over the course of treatment (Stulz & Lutz, 2007). Researchers have found significant variability in

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change patterns between subgroups of treatment participants, and these patterns predict acute and long-term outcome for anxiety disorders. To illustrate, clients receiving group CBT for panic disorder who experienced a "sudden gain" (i.e., sharp symptom reduction) early in treatment evidenced superior outcome compared to clients who did not experience a sudden gain (Clerkin, Teachman, & Smith-Janik, 2008). Furthermore, distinct patterns of symptom change throughout the course of group CBT predicted symptom levels at six-month follow-up when controlling for pre- and post-treatment symptom levels (Steinman, Hunter, & Teachman, 2013). Specifically, large panic symptom reductions early in treatment predicted more durable maintenance of gains.

Despite the abundance of literature examining CBT treatment outcome for OCD, very little research has assessed patterns of change in this literature. de Haan and colleagues (1997) found that clients who experienced earlier symptom reduction during CBT for OCD maintained therapeutic gains at follow-up. Although other studies have used similar methodologies, no previous studies to our knowledge have investigated session-by-session OCD symptom change patterns during CBT among people who completed all or most of the treatment protocol. Understanding patterns of symptom change in CBT for OCD is important for several reasons. First, previous work suggests that variations in the course of OCD symptom reduction throughout treatment are associated with long-term outcome – Marks, Hodgson, and Rachman (1975) found that more substantial improvement by the third week of CBT treatment predicted more robust gains at one-year follow-up. Additionally, within other anxiety disorders, differences in change patterns during the course of CBT predict maintenance of therapeutic benefit (e.g., Steinman et al., 2013). In contrast to traditional evaluations of pre-post treatment efficacy, assessing change dynamically over the entire course of treatment may help to identify subgroups of clients at risk for experiencing little benefit from CBT. Finally, assessing different change patterns in CBT treatment for OCD may provide some clarity surrounding discrepant findings on factors that influence treatment outcomes. Whereas some studies have found that initial OCD symptom severity predicts attenuated CBT outcome (e.g., Franklin et al., 2000), others showed no such relation (e.g., Rufer, Fricke, Moritz, Kloss, & Hand, 2006), and one study found that higher initial OCD severity was associated with *superior* CBT outcome (Boschen, Drummond, Pillay, & Morton, 2010).

In the present study, we used a repeated measures design to assess patterns of symptom change *during* group CBT for OCD. We followed the work of Steinman et al. (2013) in using a *k*-means cluster analysis to characterize symptom change patterns among an ecologically valid sample of clients who were assessed and treated with 12 weeks of group CBT in a tertiary care anxiety disorders clinic. We also examined demographic and psychological predictors of any symptom change patterns identified in the cluster analysis. We administered a measure of OCD symptom severity at pre- and post-treatment as well as immediately prior to each group therapy session. We also administered measures of depression symptom severity and functional impairment associated with OCD symptoms at pre- and post-treatment. Given previous research showing variant patterns of symptom change in CBT for anxiety disorders (Steinman et al., 2013; Sunderland, Wong, Hilvert-Bruce, & Andrews, 2012), we hypothesized our cluster analysis would yield several distinct patterns of OCD symptom change throughout CBT varying in both the extent and rate of change. Further, based on previous work demonstrating that CBT treatment outcomes for OCD appear to be influenced by both heightened obsessive-compulsive (e.g., Franklin et al., 2000) and depressive symptom severity (e.g., Abramowitz, 2004), we hypothesized that the severity of these two symptom areas would characterize varying patterns of CBT treatment response.

Table 1.
Descriptive statistics for baseline measures.

Measure	*n*	*M*	*SD*	*Min.*	*Max.*	*Possible Range*	*Cronbach's α*
OCI-R						0–72	
Pre-tx	54	32.33	13.12	2.00	62.00		.84
Post-tx	54	18.54	11.88	.00	55.00		.91
BDI-II						0–63	
Pre-tx	34	20.71	12.20	2.00	50.00		.76
Post-tx	31	12.23	9.05	0	32		.90
DASS-D						0–21	
Pre-tx	15	8.87	5.45	3.00	18.00		.92
Post-tx	14	8.21	5.01	3	17		.94
IIRS						0–91	
Pre-tx	46	52.82	17.56	13.00	81.00		.89
Post-tx	43	43.98	17.32	15	84		.90

Tx=treatment, OCI-R=Obsessive Compulsive Inventory-Revised (interpolated data), BDI-II=Beck Depression Inventory-II, DASS-D=Depression subscale of the Depression Anxiety Stress Scales, IIRS=Illness Intrusiveness Rating Scale.

2. Method

2.1. Participants

We collected data for the present study from clients ($N=54$) who attended at least 8 out of 12 sessions of group CBT for OCD at a hospital-based tertiary care anxiety disorders clinic. All clients had received a primary diagnosis of OCD using the *Structured Clinical Interview for DSM-IV* (SCID; First, Spitzer, Gibbon, & Williams, 1995). We excluded only clients with current psychosis, mania, or active suicidality. The mean age of the sample was 34.6 years ($SD=13.5$), and the mean self-reported duration of clients' OCD was 14.2 years ($SD=12.7$). Half of the sample was female, and most clients identified their ethnicity as White/Caucasian ($n=48$, 88.9%). A majority of the sample ($n=39$, 72.2%) reported completing at least some college or university. Most clients were diagnosed with a comorbid mood disorder ($n=33$, 61.1%) and/or one or more comorbid anxiety disorders ($n=35$, 64.8%). Participants reported receiving the following treatments at some point during the year prior to their assessment, with 55.6% of participants reporting two or more treatments: anxiety medication ($n=19$, 35.2%), SSRI ($n=28$, 51.9%), other antidepressants ($n=15$, 27.8%), other psychotropic medication ($n=11$, 20.4%), CBT ($n=4$, 7.4%), and other psychotherapy ($n=14$, 25.9%).

2.2. Measures

2.2.1. OCD severity

To measure OCD symptom severity, we used the Obsessive Compulsive Inventory-Revised (OCI-R; Foa et al., 2002), a widely-used 18-item questionnaire. Participants indicate the extent to which they were distressed by various OCD symptoms (e.g., "I check things more often than necessary") during the past week, ranging from 0 (*Not at all*) to 4 (*Extremely*). The OCI-R has excellent psychometric properties in clinical samples (Abramowitz, & Deacon, 2006). See Table 1 for internal consistencies of all questionnaires used. We also elected to individually examine each of the six OCI-R subscales identified in previous work (Washing, Checking, Ordering, Obsessing, Hoarding, and Neutralizing; Foa et al., 2002).[1] Because assessment was based on DSM-IV criteria, participants may have included people with hoarding symptoms. However, within our clinic, people with primary hoarding symptoms typically received group CBT specific to hoarding, rather than treatment for OCD, per se. At all 12 time points (i.e., group sessions), each of the subscales showed good internal consistency (all αs $\geq .80$).

[1] We are grateful to an anonymous reviewer for this suggestion.