**Pergamon**

## CLINICAL REPORT

# Manualized Cognitive-Behavioral Psychotherapy for Obsessive-Compulsive Disorder in Childhood: A Preliminary Single Case Study

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**Abstract** — Using a within-subject multiple baseline design plus global ratings across treatment weeks, the authors conducted a preliminary evaluation of the effectiveness of manualized cognitive-behavioral psychotherapy in an eight-year-old girl with obsessive-compulsive disorder (OCD). Eleven weeks of treatment produced complete resolution in OCD symptoms; treatment gains were maintained at six-month follow-up. Symptom reduction within each baseline was specific to the exposure and/or response prevention targets for that baseline; generalization across baselines appeared late in treatment.

Cognitive-behavioral psychotherapy (CBT) in the form of exposure and response prevention (E/RP) has long been the psychotherapeutic treatment of choice for adults with OCD (Baer, 1992; Greist, 1992). Component analyses suggest that exposure is the active ingredient of treatment (Emmelkamp, van Linden, van den Heuvell, Uphan, & Sanderman, 1989b), with both graded exposure and flooding procedures showing empirical support (Marks, 1987). Level of anxiety during exposure is less important than exposure duration and

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consequent attenuation of anxiety (Marks, 1987); relaxation alone has been used as an active placebo in controlled studies of behavioral interventions in OCD (Marks, 1981). Although E/RP is the nugget at the heart of treatment, cognitive interventions may play a small but important role in selected patients (Emmelkamp & Beens, 1991). Because antiexposure instructions (in which patients are encouraged not to resist their obsessions and rituals) lessen the effectiveness of drug treatment (Marks, Lelliott, Basoglu, Noshirvani, Monteiro, Cohen, & Kasvidis, 1988), cognitive-behavioral psychotherapy and pharmacotherapy in combination may be the treatment of choice for OCD patients requiring medication (Greist, 1992).

Cognitive-behavioral psychotherapy likewise is generally considered to be an effective treatment for OCD in young persons (Wolff & Wolff, 1991), although empirical support is weak at best (March, in press a), and greatly lags that for pharmacotherapy (Rapoport, Swedo, & Leonard, 1992). Moreover, clinicians routinely complain that children will not comply with behavioral treatment; parents routinely complain that clinicians are poorly trained in the application of cognitive-behavioral psychotherapy to OCD.

To address these deficiencies, we developed a manualized cognitive-behavioral treatment protocol (March & Mulle, unpublished), explicitly designed to facilitate (a) patient and parental compliance; (b) exportability; and (c) empirical evaluation. Data from an open study suggest that "How I Ran OCD Off My Land&Copy;" is effective in reducing OCD symptoms, and that treatment gains are maintained at follow-up (March, Mulle, & Herbel, 1994). In this preliminary report, we use a within-subject multiple baseline design to evaluate the effectiveness of this protocol in an eight-year-old female with obsessive-compulsive disorder (OCD).

## METHODS

### Subject

Our patient was an eight-year-old medication-free Caucasian female of average to above-average intelligence who sought care for obsessive-compulsive disorder of six months' duration in the Program for Child and Adolescent Anxiety Disorders (PCAAD) at Duke University Medical Center. The initial evaluation included a clinical interview of the child and her parents with a child psychiatrist (JM) covering Axis I through V of DSM-III-R; multiple rating scales; review of school and previous mental health treatment records; and a series of computerized and pen and pencil neuropsychological tests. As a routine part of her evaluation, we administered the symptom checklist from the Yale-Brown Obsessive Compulsive Scale (YBOCS) to ascertain specific OCD symptoms, after which she was assigned a baseline score on the YBOCS and on the NIMH Global Obsessive-Compulsive Scale.

Other than OCD, she merited no psychiatric diagnoses on Axes I or II of DSM-III-R; her previous psychiatric history was entirely negative; her medical history and developmental history were unremarkable; there were no recent stressors; and, absent distress and dysfunction due to OCD, her overall functioning would have fallen within the normal range.

Her father had experienced episodic OCD since childhood, with secondary remitted alcoholism. A two-generational family history obtained from the parents during the initial clinical interview was otherwise negative for syndromal psychopathology.

Early in treatment, we ask our patients to give OCD a "nasty nickname" in order to direct the focus of treatment toward OCD as the identified problem and to sharpen insight where necessary. Our patient, who already had spontaneously described her OCD symptoms as "silly worries," decided to name OCD "Silly Worry." Specific "silly worries" (phobic stimuli, rituals, or avoidance behaviors) included touching plants, the cat, something sticky, dish washing liquid, toxic paint, cleaning fluids, and people who were sick. She also had the obsession that her mouth was contaminated and needed to be wiped frequently with her shirt so that she would not become ill. These obsessions and accompanying dysphoric affects (anxiety and, to a lesser extent, disgust) were managed by washing and wiping rituals (particularly before meals or snacks), reassurance seeking, and avoidance behaviors. Her most difficult fears involved touching or using toxic paint and being near or touching sick people.

As described below, graded exposure and response prevention formed the mainstay of treatment; treatment with a serotonin reuptake inhibitor did not prove necessary. For example, exposure to paint came as part of a class project that she decided to use as an opportunity to practice "bossing back Silly Worry." Her mother acted as "coach" for the exposure task to sick people, taking her to visit an elderly friend in a nursing home. Within-session E/RP included imaginal and in vivo targets in which the therapist covertly or overtly modeled successful resistance to OCD. However, most E/RP tasks emphasized between-session homework that our patient completed on her own, with encouragement but not "therapist assistance" from parents, teacher, or friends.

*Treatment Procedures*

Treatment in our protocol takes place in four steps distributed over 16 weekly sessions (Table 1). Clinically, some children require fewer and others additional sessions. Each session includes a review of the preceding week; a statement of goals; new information, selection of E/RP targets; within-session imaginal and/or *in vivo* E/RP; "nuts and bolts" practice; defining E/RP homework for the coming week; and monitoring procedures. Details of the protocol can be found elsewhere (March & Mulle, in press; March et al., 1994).

Visit one is a predominately psychoeducational session that places OCD firmly within a medical model, namely, as a neurobehavioral disorder involving both neurological and behavioral features. Describing OCD within the medical model allows therapist, child, and family to ally against OCD as an illness affecting the child, while avoiding blaming, which often follows from the assumption that OCD is just a bad habit. To logically connect theory, cognitive-behavioral treatment, and desired outcome, visit one also presents a treatment rationale based in social learning theory, and defines relevant behavioral terminology.

TABLE 1
PROTOCOL DRIVEN TREATMENT

| Session | Goals |
| --- | --- |
| Week 1 | Establish a neurobehavioral framework |
| Week 2 | Make OCD the problem |
| | Introduce map metaphors |
| Week 3 | Generate stimulus hierarchy |
| | Identify and teach transition zone |
| | Anxiety management training |
| Weeks 4–15 | Anxiety management training |
| | Exposure and response prevention |
| Weeks 1, 6, and 12 | Parent/child sessions |
| Week 16 | Graduation ceremony |
| Week 22 | Booster session |

Visit two assigns OCD a "nasty nickname," and begins the process of generating a stimulus hierarchy in the context of the child's narrative history. Using cartographic metaphors, visit three completes the stimulus hierarchy, and sets the stage for the child to select graded exposure targets from the "transition zone," namely, where the child "wins" some but not all of the time against OCD. In practice, this usually means items at the bottom of the stimulus hierarchy. Visit three also introduces anxiety management training (AMT) which, along with E/RP, forms the focus of visits 4 to 16. AMT consists of relaxation training, diaphragmatic breathing, cognitive restructuring, and constructive self-talk, and provides the child with a dysphoria-reducing "tool kit" to use during E/RP. Given that level of anxiety is less important than duration of exposure (Marks, 1987), AMT as applied in our protocol appears to be of clinical benefit primarily by improving compliance with E/RP. Treatment ends at 16 weeks with a graduation ceremony, followed by a booster session at 22 weeks.

Parents are included at week 1, which focuses on psychoeducation and treatment planning, and at weeks 6 and 12, which are devoted to incorporating targets for parental response prevention or extinction, with the child again selecting targets from the transition zone. Rarely, parents are encouraged to select targets for response prevention or extinction, even when the child protests. Weekly homework assignments are described on written information sheets for parents, and parents are invited to comment on the process of treatment at the beginning of each session. Parents also receive written "tips" on how to manage themselves with respect to their child's OCD that are keyed to the goals of treatment.

## Assessment

During treatment, we used a fear thermometer to rate subjective units of discomfort (SUDS) for expected or actual level of anxiety (Kendall et al., 1992; Emmelkamp, Bouman, & Scholing, 1989a). On a 0–10 scale, with 10

being the highest, SUDS were obtained at each session to all exposure or response prevention targets — presented either imaginally or *in vivo* — on the stimulus hierarchy. We used the YBOCS, NIMH Global Scale, and the Clinical Global Impairment (CGI) scale to assess general improvement. The YBOCS rates obsession and compulsions separately on time occupied, distress, impairment, resistance, and control (Goodman et al., 1989), and is currently considered the scale of choice for rating OCD symptoms in children and adolescents (Wolff & Wolff, 1991). The NIMH Global Obsessive-Compulsive Scale is a measure of illness severity rated from 1 (normal) through 12 (extremely impaired) (Leonard et al., 1989). The CGI is a measure of global impairment rated from 1 (not at all ill) to 6 (severely ill).

*Design*

To evaluate the effectiveness of treatment with our treatment manual, we chose a within-subject multiple baseline experimental design. We listed our patient's OCD-specific phobic objects, rituals, or avoidance behaviors on a stimulus hierarchy, which allowed us to define the multiple baselines in terms of discrete targets for E/RP. More specifically, because each hierarchy item was assigned a SUDS score on a weekly basis, it was possible to evaluate a specific E/RP intervention directed at the corresponding hierarchy item or items relative to change (or lack of change) in SUDS scores for all hierarchy items. To insure experimental control, that is, to minimize the chance that changes in symptoms were due to development, spontaneous change, or environmental influences, we staggered selection of E/RP baselines (corresponding to a specific hierarchy item or items) on a weekly basis, beginning with the least anxiety-provoking E/RP targets. For example, week 5 involved exposure to "sticky things" without recourse to washing. Note also that the three treatment components — AMT, E/RP, and parent interventions — were phased in across time, providing A/B designs for the treatment components, but not true experimental control. Treatment was administered by one of us (KM); treatment fidelity was evaluated by checking therapist notes against the goals and procedures outlined in the treatment manual during weekly supervision by a child psychiatrist (JM).

Our hypotheses were as follows: (a) treatment will reduce OCD at posttreatment and at follow-up; (b) E/RP directed at one target will reduce SUDS scores for that target alone; (c) symptom reduction will begin with the introduction of E/RP. Within the framework of the multiple baseline design, we evaluated our hypotheses by visual inspection as described by Kazdin (Kazdin, 1982).

## RESULTS

Figure 1 graphs fear thermometer ratings (SUDS) for each symptom baseline as reported by our patient during successive weeks of treatment and at six-month follow-up. Visual inspection shows that baseline one, in which our patient chose to touch her mouth, began improving at week 3 with initiation of a trial exposure task designed to test simultaneously the accuracy of the
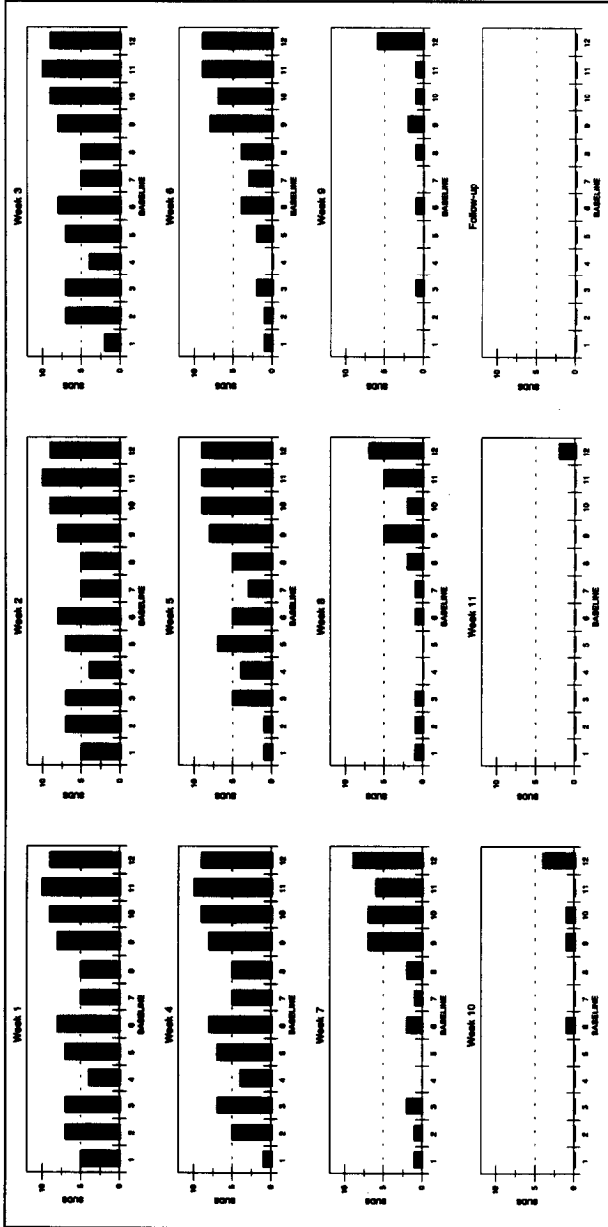
FIG. 1. WEEKLY SUDS SCORES ACROSS ALL BASELINES.

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"transition zone" and her ability to tolerate anxiety. Symptom reduction began in earnest at week 4 with the introduction of intensive E/RP. Reductions in SUDS generally showed a one-to-one correspondence between a specific baseline and the E/RP tasks targeting that baseline. By week 8, however, improvement began to cross baselines either because of generalization across baselines or, less commonly, intentional selection of multiple E/RP targets during a single week.

SUDS ratings can be both unstable and situation-specific, especially in the age range of our patient. Moreover, children sometimes report an artificially low SUDS rating in order to escape exposure prematurely, thereby presenting a false estimate of the degree of distress or interference associated with E/RP for a specific hierarchy item. For these reasons, behavioral observations — such as frequency counts of compulsions or parent diaries — are useful to confirm the reliability and validity of the child's statements regarding changes in SUDS. Whereas we did not obtain frequency counts in this study, we did obtain weekly YBOCS, NIMH Global, and CGI scores, which took into consideration both patient and parental reports of symptom frequency, associated distress, interference, degree of resistance, control of symptoms, and overall functioning. Again visual inspection reveals that treatment gains began with the introduction of E/RP, with essentially complete resolution of symptoms by week 11 (Fig. 2). Treatment gains were maintained at six-month follow-up; other than a telephone booster session at six weeks, no treatment occurred between the end of treatment and follow-up. These results are thus consistent with the pattern generated by weekly SUDS ratings across the symptom baselines.

## DISCUSSION

As one of the few studies to empirically evaluate cognitive-behavioral treatment for OCD in young persons, this report adds to the literature through the use of (a) a manualized treatment protocol and (b) careful assessment of treatment outcome across all phases of treatment. Consistent with earlier findings (March et al., 1994), our patient and her parents experienced treatment in this format as highly acceptable; treatment produced substantial improvement in OCD symptoms over a relatively short time period; and treatment gains were maintained at follow-up.

As in the adult literature on CBT for OCD (Marks, 1981; Baer, 1992), symptom reduction within each baseline for the most part was specific to the exposure and/or response prevention targets for that baseline, suggesting that exposure forms the core of treatment. Furthermore, the lack of prominent improvement during weeks 1 to 3 implies that the narrative interventions and AMT may not exert an independent effect on outcome. However, true experimental control is lacking for component analyses, and we wish to state clearly that firm conclusions regarding the singular impact of any specific treatment component cannot be drawn from this study.

Many if not most patients with OCD benefit from pharmacotherapy with a serotonin reuptake inhibitor (Rapoport, Leonard, Swedo, & Lenane, 1993). Thus, the decision regarding the appropriateness of medication, CBT, or
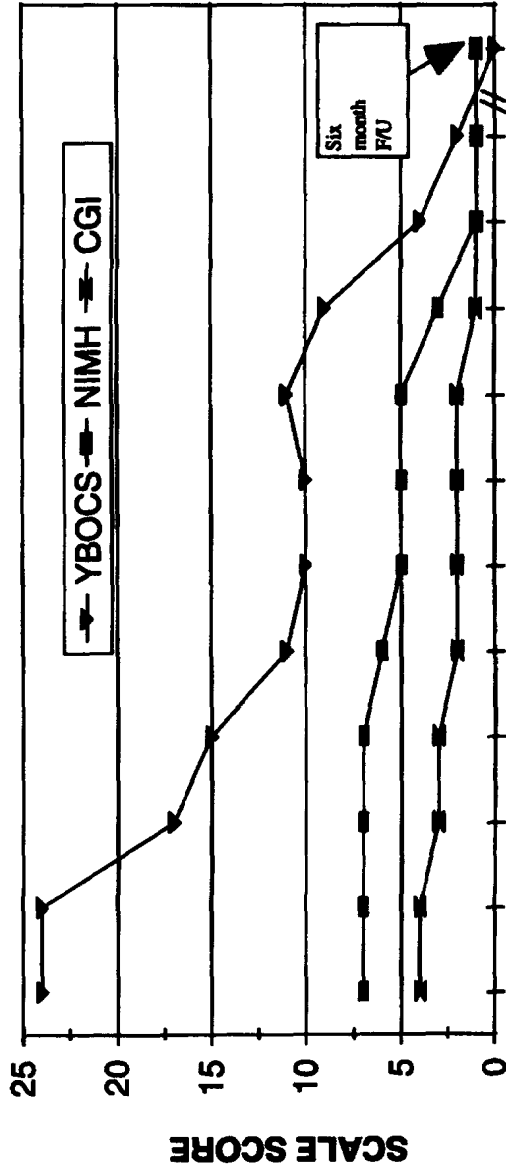
Fig. 2. Weekly YBOCS, HIMH global, and CGI scores.

combination treatment, and the sequencing of these treatments, must be individualized for each patient. In patients treated with medication, concurrent CBT, including booster treatments during medication discontinuation, may improve both short- and long-term outcome in medication-responsive patients, including those for whom ongoing pharmacotherapy proves necessary (Leonard et al., 1993). However, controlled comparisons of cognitive-behavioral psychotherapy to pharmacotherapy and combination treatments, as well as dismantling strategies, remain necessary to disentangle the effects of heterogeneous treatments and components of treatments. Our treatment protocol is intentionally formulated to allow such experimental strategies.

Finally, this report must be considered preliminary in that it exhibits important methodological limitations — including the absence of a structured interview to assess syndromal psychopathology; limited procedures for evaluating treatment fidelity; failure to incorporate behavioral observations; and the absence of blind raters — that were driven largely by clinical exigencies. Moreover, as Foa points out, predictors of a successful response to behavior therapy include the presence of overt rituals, the desire to eliminate symptoms, ability to monitor and report symptoms, absence of complicating comorbidities, and willingness to cooperate with treatment (Foa & Emmelkamp, 1983). Unlike many children with OCD, our patient met all of these so-called good prognostic criteria and, thus, she may not be typical of the modal child with OCD in her response to treatment (Leonard et al., 1993). Future investigations covering divergent subjects and clinical settings will be necessary to see if children and adolescents with difficult-to-manage OCD (March, in press b) will respond to manualized treatment, and before substantive conclusions about exportability and general clinical efficacy are possible. Ready availability of a manualized treatment protocol should facilitate this process.[1]

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[1]"How I Ran OCD Off My Land: A Guide to Cognitive-Behavioral Psychotherapy for Children and Adolescents with Obsessive-Compulsive Disorders©," is still a research tool. With additional replication studies addressing the twin issues of efficacy and exportability, we plan to revise the manual for publication as both a self-help and therapist treatment manual. The manual is available (at the cost of reproduction) to clinicians who wish to treat patients as part of the replication study. If you are interested in participating, please contact us at the following address: John March, M.D., M.Ph., Department of Psychiatry, DUMC Box 3527, Durham, NC 27710.

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