Cognitive-Behavioral Therapy for Obsessive-Compulsive Disorder in Children and Adolescents

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Obsessive-compulsive disorder (OCD) is relatively common in children and adolescents, with a prevalence rate of 0.5% to 2% in community samples.1–4 As defined by the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revised (DSM-IV), OCD is characterized by obsessions and/or compulsions that are distressing, time-consuming (take more than 1 hour per day), or cause clinically significant impairment.5 Obsessions are recurrent, persistent, and distressing thoughts, images, or impulses. Compulsions are repetitive behaviors or mental acts performed in response to obsessions in order to reduce distress or avoid perceived harm.

A growing body of research has demonstrated the efficacy of cognitive-behavioral therapy (CBT) for childhood OCD, both as a monotherapy and when combined with psychopharmacological interventions.6–8 Based on a review of the literature and expert consensus, CBT is regarded as the initial treatment of choice for OCD in children and adolescents in terms of efficacy, safety, and durability of response.9,10 This article reviews the clinical presentation and assessment of childhood OCD, cognitive-behavioral conceptualization of OCD, implementation of CBT for childhood OCD, and the body of evidence supporting this treatment approach.

Disclosures: See last page of article.
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KEYWORDS
• Obsessive-compulsive disorder • Cognitive-behavior therapy • Exposure • Response prevention • Children/adolescents

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CLINICAL PRESENTATION OF CHILDHOOD OCD

Most youth with OCD experience both obsessions and compulsions. Common obsessions involve excessive concern about germs, contamination, and illness, fear of harm to self or others, preoccupations with symmetry, moral and religious obsessions, intrusive sexual thoughts, and superstitious obsessions. Common compulsions involve excessive and/or ritualized washing, checking, counting, touching, ordering, arranging, confessing, seeking reassurance, and mental rituals such as praying. Compulsions may be performed to alleviate anxiety, discomfort, disgust, or the sense that something is “not right.”

Typical age of onset is from 8 to 11 years, although onset can occur as young as 2 to 3 years with emerging interest in early-onset childhood OCD. Gender distribution tends to follow a 3:2 male to female ratio until adolescence, when this distribution even out. OCD in youth may be associated with significant functional impairment in home, daily living, school, and social domains. Psychiatric comorbidities are highly common and include other anxiety disorders, mood disorders, attention-deficit hyperactivity disorder (ADHD), and tic disorders. Of interest, comorbidity has been linked to greater OCD symptom severity and poorer response to CBT. Pediatric OCD is a typically chronic condition, with 40% of youth meeting diagnostic criteria up to 15 years after initial identification and 20% exhibiting subclinical symptoms. When untreated or inadequately treated, associated impairment tends to increase over time.

ASSESSMENT OF CHILDHOOD OCD

A comprehensive diagnostic assessment is recommended for youth presenting with OCD. Initial evaluation should include assessment of current and past OCD symptoms, current symptom severity, associated functional impairment, and psychiatric comorbidity. Evaluation should include information from multiple informants, as parent-child symptom agreement has been shown to be low. In addition, one must distinguish OCD from normative ritualistic behavior in early childhood, and understand that youth may not recognize their symptoms as inappropriate or impairing or may be guarded about their symptoms because of fear of punishment or embarrassment.

Several standardized measures exist for the assessment of childhood OCD, with the most commonly used presented here. The Anxiety Disorders Interview Schedule for DSM-IV—Parent and Child Version (ADIS-IV: PC) is a semi-structured clinician-administered diagnostic interview that is most commonly used in treatment studies to establish an OCD diagnosis, rule out phenomenologically similar conditions, and identify comorbidities. The Children’s Yale-Brown Obsessive Compulsive Scale (CY-BOCS) is a clinician-administered rating scale used to rate the severity of OCD symptoms. The Children’s Florida Obsessive-Compulsive Inventory (C-FOCI) is a brief screening instrument for pediatric OCD, and the Obsessive-Compulsive Inventory—Revised (OCI-R) measures distress associated with obsessions and compulsions. The Child OCD Impact Scale-Revised (COIS-R) assesses OCD-related functional impairment via both parent and child self-report versions. More detailed reviews of assessment strategies and instruments are provided by Merlo and colleagues and Lewin and Piacentini.

COGNITIVE AND BEHAVIORAL CONCEPTUALIZATIONS OF CHILDHOOD OCD

Behavioral Conceptualization

The behavioral model of OCD conceptualizes obsessions as intrusive and unwanted thoughts, images, or impulses that generate a significant and rapid increase in anxiety,
distress, or discomfort, with compulsions as behaviors or cognitions that serve to reduce these negative feelings. From the perspective of learning theory, compulsions become negatively reinforced over time by their ability to reduce obsession-triggered distress. In other words, the more successful compulsions are at reducing distress, the more powerful they become (the obsessive-compulsive cycle). For example, a child with fears of germs and illness may feel anxious or disgusted when confronted with the need to touch a doorknob (obsession). This distress triggers a strong desire to wash his or her hands repeatedly until they feel germ-free (compulsion). Further, each time the child engages in the compulsion (ie, hand-washing), the resultant decrease in distress strengthens the ritual (Fig. 1).

**Cognitive Conceptualization**

Cognitive models of OCD view beliefs as influential to the etiology and maintenance of OCD. Cognitive factors that have been associated with OCD in adults include exaggerated appraisals of risk, elevated responsibility for harm, and pathological self-doubt. OCD in adults has also been associated with thought-action fusion (TAF), or the tendency to view negative thoughts and actions as equivalent. Extant cognitive theories may not be fully adaptable to OCD in youth, due to children’s more limited level of cognitive development. Two studies comparing youth with OCD versus nonanxious controls found elevated responsibility for harm and TAF in the OCD group. One study found the same pattern of cognitive distortions in children with OCD as in adults; however, these youths were largely similar to children with non-OCD anxiety. Coles and colleagues recently developed the Obsessive Belief Questionnaire—Child Version (OBQ-CV), a standardized measure of OCD-related beliefs in children, and found positive correlations between OCD symptom severity and elevated appraisals of risk and responsibility for harm, among other factors. The potential role of cognitive factors in childhood OCD warrants further investigation.

**FOUNDATIONS OF COGNITIVE-BEHAVIORAL TREATMENT FOR CHILDHOOD OCD**

**Exposure Plus Response Prevention**

Exposure plus response prevention, or ERP, was developed several decades ago by Meyer and remains the most effective form of behavior therapy for OCD. Originating in distress, or discomfort, with compulsions as behaviors or cognitions that serve to reduce these negative feelings. From the perspective of learning theory, compulsions become negatively reinforced over time by their ability to reduce obsession-triggered distress. In other words, the more successful compulsions are at reducing distress, the more powerful they become (the obsessive-compulsive cycle). For example, a child with fears of germs and illness may feel anxious or disgusted when confronted with the need to touch a doorknob (obsession). This distress triggers a strong desire to wash his or her hands repeatedly until they feel germ-free (compulsion). Further, each time the child engages in the compulsion (ie, hand-washing), the resultant decrease in distress strengthens the ritual (Fig. 1).

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**Fig. 1.** The obsessive-compulsive cycle. (Adapted from Piacentini J, Langley A, Roblek T, et al. Treatment for childhood OCD: a combined individual child and family treatment manual. 3rd revision. Los Angeles (CA): UCLA Department of Psychiatry; 2003; with permission.)
from the behavioral model described earlier, ERP involves triggering the patient’s obsessions (exposure) and assisting the patient in resisting his or her compulsions (response prevention), that is, breaking the cycle of negative reinforcement. Studies of adult OCD samples have found that both exposure and response prevention are necessary for clinical improvement. Treatment traditionally proceeds in a gradual fashion according to a hierarchy of obsessive-compulsive symptoms arranged from the least distressing to the most distressing. In this manner, milder symptoms are first exposed, and exposures gradually become more difficult as treatment progresses. Treatment typically involves in vivo and/or imaginal exposure in session, followed by repeated practice in the patient’s natural environment. Imaginal exposures are often useful for symptoms that are difficult to recreate in the therapy setting, symptoms that are initially too difficult for in vivo exposure, or pure obsessional symptoms. It is postulated that over the course of repeated exposures, the distress associated with the triggering of obsessions gradually decreases through a process of autonomic habituation, and response prevention leads to the extinction of the negative reinforcement properties of the associated compulsion. In addition, successful completion of exposures is believed to facilitate the development and storage of corrective learning about the feared situation. For example, the child with fears of germs and illness learns after repeatedly touching a doorknob and not washing hands that the feared consequences (eg, becoming sick) do not occur.

Although habituation is a purported mechanism of clinical improvement in exposure therapy, a recent review of the adult exposure therapy literature found no reliable evidence that the degree of habituation within session predicts clinical improvement, and only some evidence that the degree of habituation between sessions predicts improvement. The emphasis on distress reduction in traditional models and methods of exposure therapy assumes that fear expression in session is commensurate with learning, although this is inconsistent with basic science research on learning. Therefore, revised models of exposure therapy with adults emphasize the importance of fear or distress toleration in addition to reduction, which may be relevant to youth, as many children and adolescents with OCD do not experience immediate reduction in distress during ERP. Further research is needed within the child exposure therapy literature to determine whether these adult findings translate to youth.

Cognitive Interventions

Despite the need for further study of the suitability of current cognitive models to OCD in youth, the incorporation of some form of cognitive therapy in ERP is somewhat standard and may be used to enhance patient compliance with treatment. Typical cognitive interventions include cognitive restructuring, such as recognizing and relabeling intrusive thoughts as OCD and more accurately evaluating the likelihood of feared consequences (ie, reducing appraisals of risk). Additional strategies include developing constructive self-talk and nonattachment to obsessions. Cognitive techniques must be tailored to the patient’s specific symptoms, and must be appropriate to the patient’s developmental stage and cognitive abilities. Taken together, cognitive interventions aim to assist the patient in corrective learning achieved through ERP, and are viewed as facilitators of rather than substitutes for ERP. For example, the child with fears of germs and illness learns to relabel the thoughts after touching a doorknob as OCD, facilitating efforts at response prevention following exposure.

Although the inclusion of some form of cognitive therapy in ERP is typical, the incremental efficacy of its inclusion is unclear. Several studies of adult OCD have found cognitive interventions to be efficacious, although more recent research comparing ERP plus cognitive therapy with ERP plus relaxation training found no differential
benefit. To date no studies have examined the incremental efficacy of cognitive interventions to ERP for childhood OCD.

DEVELOPMENTAL CONSIDERATIONS IN THE TREATMENT OF CHILDHOOD OCD

As stated earlier, CBT for youth with OCD has largely been adapted from adult models of treatment; however, several developmental factors have been noted to complicate treatment in children and adolescents. For example, many young children have difficulty describing specific obsessions or recognizing the role of obsessions in triggering rituals. Young children also tend to have a present-orientation that, relative to adults, may decrease their willingness to engage in difficult therapeutic exercises despite the potential for future symptom relief. Youths with OCD may also have less insight than adults and may be less likely to describe their symptoms as unrealistic and/or excessive, which may similarly decrease motivation for treatment. In addition to high levels of psychiatric comorbidity, low frustration tolerance and poor coping abilities can complicate treatment. As each of these developmental factors will apply differentially to different cases, optimal treatment planning entails careful evaluation of these variables.

The most successful CBT packages for youth with OCD have included elements to address these developmental considerations intrinsic to working with children and adolescents. For instance, many CBT protocols include psychoeducation tailored to the child’s level of cognitive development, the use of age-appropriate metaphors to facilitate cognitive restructuring, behavioral reward systems to enhance treatment compliance, and as described in the next section, greater parent involvement in treatment. A detailed description of treatment tailored to OCD in early childhood is presented by Hirschfeld-Becker and colleagues elsewhere in this issue.

FAMILY FACTORS IN THE TREATMENT OF CHILDHOOD OCD

Given the developmental considerations intrinsic to treating child and adolescent OCD, family involvement in treatment is particularly important. Virtually all protocols for individual child OCD treatment call for some degree of family participation, with treatments that more directly target the family becoming increasingly more popular. At the most basic level, work with families has been aimed at providing them with psychoeducation about OCD and general behavior management strategies to help them support the child’s exposure-based exercises. However, there has been growing emphasis on examining family factors associated with childhood OCD more fully, to see how these features might interact with the treatment process and, in turn, what can be done to address them.

Families of youth with OCD contend with a unique set of difficulties in that they are often actively involved in symptoms. Parents may provide frequent reassurance to distressed youngsters or provide items needed to complete rituals (eg, soap, clean towels). Siblings may assume responsibility for chores that are too difficult for the affected child to complete or may facilitate avoidance of triggering stimuli. This involvement in symptoms, labeled accommodation, can take many forms, and is exceedingly common among families of youth with OCD. Indeed, recent research suggests that more than half of all families with a child with OCD participate in rituals in some form or another on a daily basis. Accommodation of symptoms is problematic because it is likely to interfere directly with the key tasks of exposure-based treatment by reinforcing fear and avoidance behaviors. Indeed, there is evidence that family accommodation may mediate the link between OCD symptom severity and
parent-reporting of child functional impairment, and that decreases in accommodation predict treatment outcome for youth receiving CBT for OCD.70–72 Beyond accommodation, however, rates of distress and disrupted family functioning are also notably high, underscoring the burden with which these families contend.73 High rates of blame, hostility, and criticism are also common correlates of childhood OCD.74,75 These family features, although less studied in child and adolescent OCD, are likely to be relevant for treatment in that they create an emotionally charged home environment that may complicate successful completion of exposure exercises. Given this fact, an important component of assessment and case conceptualization rests with a careful consideration of family functioning, including areas of accommodation, attributions about OCD, and emotional reactions to the issues raised by the disorder.

SPECIFIC COGNITIVE-BEHAVIORAL TREATMENT STRATEGIES

**Psychoeducation**

Following a comprehensive diagnostic assessment, the initial phase of CBT, typically the first session, centers on educating the patient and family about OCD, introducing the cognitive-behavioral conceptualization of OCD, and explaining what the treatment will entail. The involvement of parents during this phase may vary with the age and developmental level of the child, and can be negotiated up-front with the therapist. Psychoeducation aims to reduce stigma in the child, address a range of negative feelings (eg, anger, blame, hopelessness) in the family, and give the child and parents a sense of confidence in the therapy and therapist.

OCD and anxiety are presented as relatively common problems, and to help reduce stigma the therapist may describe prevalence rates of OCD in the context of the child’s school (eg, in a school with 1000 students, between 10 and 20 children will be affected).48 The concept of OCD as a neurobehavioral disorder, albeit with a role for environmental influences, may also help to reduce family members’ negative reactions to the child’s symptoms, such as the view that the behaviors are intentional.20,68 The nature and chronicity of OCD may also be likened to another medical condition (eg, asthma, diabetes) for this purpose. It is important to describe CBT as a psychological treatment that can be very effective in improving the child’s control over fears and compulsions. In addition, as some OCD symptoms may return in the future, particularly during times of change or stress, the child can use skills learned in CBT to help control them again. The metaphor of OCD as a “false fire alarm” in the brain (eg, feeling nervous and thinking something bad is going to happen, even though there is no real danger) further assists as a framework for understanding OCD.20 Treatment may be described as a way for the child to learn that OCD fears are false alarms and that if the child ignores them nothing bad will happen. The cognitive-behavioral conceptualization of OCD illustrates the manner in which ritualizing in response to obsessions actually reinforces the OCD cycle, and that treatment will involve resisting rituals to make OCD weaker. Lastly, with regard to the concepts of repeated exposure and autonomic habituation, the metaphor of slowly entering a swimming pool (eg, at first it feels cold, however after a few minutes the body becomes accustomed to it and it does not feel so cold anymore) may be helpful in reducing anticipatory anxiety. However, as noted earlier, habituation is not the immediate goal of ERP, and distress toleration may also be a useful skill for the child to learn in treatment. Underscoring the importance of psychoeducation, patient and family understanding, and acceptance of the treatment rationale may affect compliance and ultimate success of the interventions.
Creation of Symptom Hierarchy

The next step in treatment, following from the discussion of habituation described earlier, involves creation of the graduated OCD symptom hierarchy. The symptom hierarchy guides the design of individual ERP tasks, described in the next section, and determines the order in which they will be attempted. The CY-BOCS includes a symptom checklist that may provide a useful starting point for this purpose. The therapist asks the child, and/or parents if necessary, to rank the distress associated with each obsession and compulsion using a fear thermometer (Fig. 2). For some symptoms, it may be useful to describe specific exposure tasks (e.g., resisting hand-washing for 5 minutes) and obtain rankings of distress associated with each of these tasks. Each symptom or task is given a ranking from 1 (least distressing) to 10 (most distressing).

![OCD fear thermometer](image)

Fig. 2. OCD fear thermometer. (Adapted from Piacentini J, Langley A, Roblek T, et al. Treatment for childhood OCD: a combined individual child and family treatment manual. 3rd revision. Los Angeles (CA): UCLA Department of Psychiatry; 2003; with permission.)
Once the hierarchy is completed, the therapist and patient select an initial ERP task. The starting task should be a concrete behavior that is associated with relatively low distress and is easily able to be recreated in the therapy session. That is, the therapist should consider a task for which the child is likely to be successful, in order to engender feelings of self-efficacy and enhance the child’s motivation for further ERP.

**Exposure Plus Response Prevention**

ERP comprises the largest portion of cognitive-behavioral treatment. For in-session ERP tasks, in general the therapist encourages the child to have contact with the feared stimulus (eg, doorknob) and resist all associated rituals or other distress-reduction actions (eg, distraction) over the entire exposure period. It is important that in-session ERP tasks be as realistic as possible in order to trigger the patient’s distress and lead to generalization to the natural environments in which the symptoms occur. Distress ratings are typically assessed every 30 to 60 seconds at the onset of the exposure trial and may occur less frequently as the exposure trial proceeds. The therapist may graph the child’s distress ratings over the course of the exposure trial to monitor the pattern of habituation. In traditional models of CBT for OCD, the exposure trial is conducted until distress ratings decrease by 50%. However, as noted earlier in the adult exposure therapy literature, habituation may not be necessary for learning to occur, and reducing distress to very low levels or “overlearning” does not seem to lead to improved clinical outcomes. Graphing can, however, provide a visual demonstration to the child of any habituation that does occur, and help to identify more distressing aspects of the exposure that may need additional exposure or other treatment techniques (eg, cognitive restructuring).

In addition, therapist modeling of the exposure task and coping strategies to be employed can assist in reducing anticipatory anxiety and increasing use of constructive self-talk during ERP practice. For more distressing symptoms (eg, touching the doorknob of a public bathroom and resisting hand-washing), the therapist may need to gradually shape the desired behavior (eg, first touching the doorknob with one finger and resisting washing for 5 minutes, progressing to touching the doorknob with the entire hand and not washing entirely). ERP tasks may also progress beyond what would be expected in the natural environment (eg, touching the doorknob with the hand, and then putting the hand to the face) to enhance corrective learning that the feared outcome will not occur.

Once an ERP task has been practiced in session, the therapist instructs the child to practice the task at least several times per week in the natural environments in which the symptom occurs. The therapist and child and/or parents negotiate locations and times in which exposures will be completed in order to enhance homework compliance. An ERP practice form serves as a visual trigger for the child to complete the task out of session and specifies the manner in which it is to be completed. Also, the child is instructed to resist ritualizing if the target symptom arises naturally. The child is not expected to be able to resist symptoms that have not yet been addressed in treatment.

**Addressing Obsessions Through Exposure**

Obsessions occurring in the absence of overt compulsions (eg, fears of harm to self or others, violent or horrific thoughts, sexual obsessions) can be addressed through behavioral and imaginal exposure as well. Exposure similarly proceeds in a gradual fashion, and may involve imagining the feared stimuli, writing about the feared stimuli, drawing the feared stimuli, describing the thoughts or images aloud, having the therapist describe the feared scenario to the child, and recording the child describing
the scenario and listening to it repeatedly. Children and adolescents may deny associated compulsions; however, it is common for intrusive obsessions to give rise to cognitive compulsions (eg, thought suppression, ritualistic neutralizing thoughts) and/or behavioral compulsions (eg, avoiding contact with triggering stimuli). In such cases, these avoidance behaviors can be added to the symptom hierarchy and resisted in subsequent exposure tasks. An adaptation of exposure procedures for youth with OCD entails changing the emotional valence of the obsessional thought or image using age-appropriate strategies. For example, the child may sing, rap, or rhyme the content of the obsession, or change the image to a benign or humorous one (eg, imagining a water pistol instead of a real gun).

**Cognitive Restructuring**

Although further research is needed regarding the role of cognitive factors in childhood OCD, as described earlier, cognitive interventions can facilitate the course of ERP. As stated, recognizing and relabeling intrusive thoughts as OCD and developing constructive self-talk may help to enhance child understanding and motivation, and help to manage extreme anxiety. More accurate estimation of the probability of feared events may be achieved through questions about the number of other people or specific people (eg, parents) who have come in contact with the feared stimulus and have not experienced the feared event (eg, the number of people who have touched a doorknob and have not become sick). The child may also be taught certain self-statements to use during ERP to increase the likelihood of ERP completion in the face of distress (eg, OCD is “playing a trick” on the brain, and through exposure the child is becoming “stronger” than the OCD).

**Contingency Management**

A structured reward program is typically incorporated into CBT for childhood OCD to increase treatment compliance. Of importance, the child or adolescent is rewarded for the effort involved in completing CBT tasks in and out of session, and not for habituation of distress. The specific rewards used may depend on the age of the child, as younger children tend to prefer concrete external rewards and adolescents tend to report less need for such rewards. The use of a reward program is explained by the therapist at treatment outset, and nature and type of rewards are negotiated among the child, parents, and therapist. Social reinforcement (eg, praise) is given by the therapist, parents, and others who are close to the child.

**EMPIRICAL SUPPORT**

Evidence in support of CBT for childhood OCD continues to mount. A recent meta-analysis of randomized controlled trials for pediatric OCD yielded a large effect size of 1.45 (95% confidence interval [CI] = 0.68–2.22). This level of response, coupled with a growing number of studies documenting its efficacy, tolerability, and durability of response, has led to its designation as the first-line treatment for mild to moderate OCD in children and adolescents. However, further research is needed to establish and optimize CBT for childhood OCD, especially relative to other pediatric disorders. In fact, no treatments for pediatric OCD currently meet criteria for a well-established evidence-based psychosocial treatment.

A series of early single-case studies and open clinical trials of CBT for childhood OCD (eg, single case studies, open clinical trials) documented the acceptability and feasibility of CBT for childhood OCD and provided preliminary data regarding the efficacy and durability of this treatment.
To date, 4 published controlled trials have assessed outcomes of individual CBT for OCD in children and adolescents. Only 3 of these trials meet criteria for a Type I study (most methodologically rigorous) based on the Nathan and Gorman criteria. Barrett and colleagues compared individual cognitive-behavioral family-based therapy (CBFT), group CBFT, and wait-list control. At posttreatment (14 weeks), both active conditions were associated with significant improvement in OCD symptoms, and gains were largely maintained at 6-month follow-up. The Pediatric OCD Treatment Study, the largest controlled trial for childhood OCD to date, compared CBT, a selective serotonin reuptake inhibitor (SSRI) (sertraline [Zoloft; SER]), their combination (COMB), and pill placebo (PBO), over a 12-week treatment period followed by an additional 4 weeks of treatment for those who responded, with multiple follow-up assessment periods. Using an intent-to-treat analytical strategy, COMB was found to outperform CBT and SER, which did not differ from one another, and all 3 conditions outperformed PBO. Of interest, further analyses based on CY-BOCS scores revealed that the 2 groups receiving CBT included greater proportions of “excellent responders” than the SER group. Finally, Piacentini and colleagues (under review) tested the efficacy of a family-focused CBT protocol for childhood CBT (FCBT) against a credible psychosocial treatment involving psychoeducation and relaxation training (PRT). Results demonstrated greater reduction in CY-BOCS scores and OCD-related functional impairment in the FCBT group than in the PRT group. FCBT was also associated with greater decreases in family accommodation relative to PRT, and changes in family accommodation were found to precede improvement in the CY-BOCS and mediate reductions in child-reported functional impairment. Treatment gains were largely durable over a 6-month follow-up period.

Both of the non-Type I studies compared 2 established interventions for OCD. de Haan and colleagues found CBT to be more efficacious than clomipramine (Anafranil) with regard to response rate and symptom reduction, although this study did not include a no-treatment control group. Storch and colleagues compared intensive versus weekly individual CBT, which also included a structured family component, and demonstrated a 75% response rate (CY-BOCS total score of 10 or lower) in the intensive treatment condition and 50% in the weekly condition.

Predictors of Treatment Response

Several potentially important findings have emerged regarding predictors of response to treatment for childhood OCD. Greater symptom severity and poorer academic and social functioning at baseline has been associated with poorer outcome of CBT. As stated earlier, psychiatric comorbidity has also been associated with poorer response to CBT. In a recent review, poorer family functioning and greater symptom severity predicted poorer response to CBT, whereas comorbid tics and externalizing disorders predicted poorer response to medication. Secondary analyses of the Pediatrics OCD Treatment Study (POTS) data similarly indicate that comorbid tics may affect outcome of medication treatment but not CBT.

Psychopharmacology

The existing treatment literature also supports the efficacy and tolerability of pharmacological intervention for OCD in youth, specifically with the SSRIs. Large-scaled controlled trials have indicated efficacy and tolerability of clomipramine (Anafranil), fluoxetine (Prozac), sertraline (Zoloft), and fluvoxamine (Luvox) for OCD in children and adolescents. In their meta-analysis of published psychopharmacology trials for pediatric OCD, Geller and colleagues reported an overall effect size of 0.48 (95% CI = 0.36–0.61). Although methodological differences complicate direct
comparison of the psychopharmacological and CBT treatment literature, the relatively modest effect size reported by Geller and colleagues is considerably smaller than that reported for CBT (eg, 1.45). In the POTS study, the effect size for CBT-alone was larger than that for sertraline-alone (0.97 vs 0.67, respectively). In addition, a higher proportion of children receiving CBT-alone achieved remission as compared with those in the sertraline-alone condition (39.3% vs 21.4%, respectively). However, neither of these group differences were statistically significant. Although, as noted earlier, CBT is generally considered the first-line treatment for pediatric OCD in most cases, SSRI medication can play an important role in the treatment of youth who do not fully respond to CBT, whose symptoms are too severe to allow for exposure-based treatment, and who exhibit multiple comorbidities, or in situations in which quality CBT is unavailable.

SUMMARY

Although ERP emerged as a treatment modality several decades ago, its optimal adaptation for child and adolescent OCD continues to evolve. The past two decades have seen the advancement of developmentally sensitive, multimodal treatment protocols for use across childhood and adolescence, along with an increase in methodologically rigorous, randomized controlled outcome trials of these treatments. However, further research is greatly needed. For example, as psychiatric comorbidity, which remains the norm in childhood OCD, has been shown to complicate treatment, optimal intervention is dependent on a clearer understanding of this complication and how best to address it in treatment. In addition, while ERP continues to be viewed as the primary component of treatment, cognitive and family-based interventions are areas of growing interest. In particular, evidence that family factors such as accommodation may mediate treatment outcome underscores the need for targeted family interventions that move beyond traditional psychoeducation and behavior management approaches to address family-level variables. Future research will also need to address predictors and mechanisms of outcome across different treatment conditions, and bridge the gap between the basic science of learning and the models and methods of exposure therapy through increasingly translational methodologies.

DISCLOSURES

Drs Kircanski, Peris, and Piacentini have received grant support from the National Institute of Mental Health. In addition, Dr Piacentini has received grant support from the Tourette Syndrome Association, the Obsessive Compulsive Foundation, and the Eisner Family Foundation. He has also received royalties from Oxford University Press for the OCD treatment manuals described in this article and for treatment manuals on tic disorders, and from Guilford Press and from the American Psychological Association Press for books on child mental health. In addition, he has received a consultancy fee from Bayer Schering Pharma and speaking honoraria for CME presentations from the Tourette Syndrome Association.

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