Evidence-Based Treatment of Pediatric Obsessive-Compulsive and Related Disorders

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Abstract

Pediatric obsessive-compulsive disorder is a common childhood psychiatric illness. The primary focus of the chapter is on obsessive-compulsive disorder per se given the more robust evidence base, although additional evidence is briefly reviewed for other obsessive-compulsive related disorders such as body dysmorphic disorder, hoarding disorder, trichotillomania, and excoriation disorder. The cause of this disorder remains unknown, however, there are multiple biobehavioral etiological theories. The cause is likely multi-determined and includes cognitive-behavioral, biological, and environmental factors. The chapter discusses therapeutic considerations for the psychosocial treatment of pediatric OCD and related disorders. Cognitive-behavioral therapies have been identified as efficacious treatments for this pediatric condition. There is a strong evidence base from meta-analyses for both traditional cognitive behavioral treatments and cognitive-behavioral family treatment modalities. Emerging research has also focused on remote treatment delivery options and novel modalities for nonresponders such as intensive cognitive-behavioral therapies. Other psychosocial modalities have not been demonstrated as efficacious based on available evidence.

Obsessive-compulsive and related disorders include obsessive-compulsive disorder (OCD), body dysmorphic disorder (BDD), hoarding disorder, trichotillomania (hair-pulling disorder), and excoriation (skin-picking) disorder. Research on many of these disorders in pediatric populations is unfortunately sparse. The evidence base for pediatric OCD is considerably more robust and is, therefore, largely the focus of this chapter. The current evidence for other OCD-related disorders is briefly reviewed. Finally, treatment considerations are discussed for the treatment of pediatric OCD and other related disorders.

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Obsessive-Compulsive Disorder

Previously thought to be rare, recent research has identified pediatric OCD as one of the most common childhood psychiatric illnesses, with a point-prevalence rate between 1 and 2%, with prevalence increasing in the adolescent years (Fontenelle, Mendlowicz, & Versiani, 2006). Symptoms typically begin in adolescence (Brakoulias et al., 2017; Dell'Osso et al., 2016), with insidious onset, and follow a protracted yet fluctuating course (Visser, van Oppen, van Megen, Eikelenboom, & van Balkom, 2014). Not surprisingly, pediatric OCD is related to significant functional impairment within academic, family, and social domains (Storch, Larson, et al., 2010; Weidle, Ivarsson, Thomsen, Lydersen, & Jozefiak, 2015), largely due to distress and frequency of ritual engagement (Piacentini, Bergman, Keller, & McCracken, 2003). Advances in psychological and pharmacological interventions strongly suggest that early detection and treatment can improve prognosis (Fineberg et al., 2019).

Etiology

Although the cause of OCD remains unknown, there are multiple biobehavioral etiological theories. In all likelihood, the cause of OCD is multi-determined and includes cognitive-behavioral, biological, and environmental factors (Brander, Pérez-Vigil, Larsson, & Mataix-Cols, 2016; International Obsessive Compulsive Disorder Foundation Genetics Collaborative et al., 2017; Wilhelm, 2006). For example, cognitive-behavioral theory indicates that a neutral stimulus (or event) becomes conditioned to elicit distress due to its association with another feared situation. Subsequent to the acquisition of the conditioned fear, compulsive behaviors develop to reduce or avoid distress because they temporarily ameliorate the distress associated with obsessions through operant mechanisms (negative reinforcement). Cognitively, individuals with OCD frequently misattribute the meaning of intrusive thoughts. For example, intrusive thoughts might be interpreted such that an individual perceives responsibility for causing or failing to prevent harm, leading to obsessional patterns to reduce associated distress. Attempts to neutralize intrusive thoughts (obsessions) via rituals or avoidance prevent the disconfirmation of the patient's fears and maintain the reinforcement cycle.

A more biological model hypothesizes that abnormal serotonin metabolism is implicated in the expression of obsessive and compulsive symptoms. This hypothesis is supported by data from successful treatment-outcome studies with serotoninergic such as selective serotonin reuptake inhibitors (SSRIs; Öst, Riise, Wergeland, Hansen, & Kvale, 2016; Strawn, Welge, Wehry, Keeshin, & Rynn, 2015). Evidence from genetic, neuroimaging, and neuroendocrine studies also provide support for the neurochemical etiological model of pediatric OCD (Koch et al., 2012; Piras et al., 2015; Sinopoli, Burton, Kronenberg, & Arnold, 2017).

Evidence-Based Pediatric OCD Therapies

In reviewing the evidence base, meta-analyses are particularly useful as they pool results from multiple studies to provide a more robust estimate of treatment effects compared to individual trials (Higgins & Green, 2011). Of particular relevance is the effect size, which reflects the differences in outcomes of interest (e.g., OCD severity) between groups (e.g., treatment versus control). The most commonly reported effect sizes for outcome studies are Cohen's d (d) and Hedges g (g), which reflect

the standardized mean differences in outcomes between groups (0.2 = small effect, 0.5 = medium effect, and 0.8 = large effect).

Cognitive-Behavioral Therapy (CBT)

CBT has been identified as an efficacious treatment for pediatric OCD (Öst et al., 2016). There is a strong evidence base for both traditional CBT and Cognitive-Behavioral Family Treatment (CBFT) modalities (Iniesta-Sepúlveda, Rosa-Alcázar, Sánchez-Meca, Rosa-Alcázar, & Parada-Navas, 2017; Öst et al., 2016; Wu, Lang, & Zhang, 2016). Emerging research has also focused on remote treatment delivery options and novel modalities for nonresponders (Jónsson, Kristensen, & Arendt, 2015; Wootton, 2016).

Meta-analytic results have supported CBT as a first-line treatment for youth with OCD (McGuire et al., 2015; Öst et al., 2016; Wu et al., 2016). In the most comprehensive meta-analysis (n = 42 studies; Öst et al., 2016), the overall effect of combined treatment was large (g = 0.80), with medium effects for CBT (g = 0.53) and SSRIs (g = 0.48) CBT alone has been found to produce higher treatment response rates (69.6%) when compared to the use of a pharmacologic agent (SSRIs) alone (48.9%). Effect sizes for CBT (g = 1.53 compared to wait-list, 0.93 compared to placebo, and 0.53 compared to all comparison groups) support the effectiveness of the treatment for addressing symptoms of pediatric OCD (Öst et al., 2016). Over half (52.7%) of participants utilizing CBT have been shown to no longer meet diagnostic criteria for OCD post treatment. No significant differences in treatment outcomes have been found between delivery formats (e.g., individual, group, or family).

Additionally, CBT alone has been shown to be more effective than SSRI treatment in producing OCD remission (Öst et al., 2016), although studies are somewhat difficult to compare due to differences in comparison groups (e.g., placebo or wait-list). Although combined CBT and SSRI treatment is recommended in clinical guidelines (Geller, March, & American Academy of Child and Adolescent Psychiatry Committee on Quality Issues, 2012), and supported by the landmark POTS trial (Pediatric OCD Treatment Study Team, 2004), meta-analytic findings have not consistently found improved outcomes of combined treatment over CBT-only treatment (Ivarsson et al., 2015). Further research is greatly needed to examine the comparative efficacy of combined treatment compared to CBT or SSRIs alone, particularly whether combined treatment may be beneficial for particular types of youth. Further, side effects from SSRIs have the potential to interfere with treatment, particularly for those who experience symptoms of activation syndrome (Reid et al., 2015). Overall findings suggest that CBT should be the first line of treatment for youth with OCD.

Family Treatment. There is a growing body of literature focused on family involvement in the treatment of pediatric OCD. CBFT involves a structured parental component that often includes parent involvement in treatment sessions, parent training and parental support during exposure exercises. A meta-analytic review found that CBFT effectively reduced obsessive-compulsive symptoms (d = 1.46; Iniesta-Sepúlveda et al., 2017). Additionally, CBFT has been shown to be more beneficial in an individual setting compared to a group setting (d = 2.43 and 1.41, respectively; Iniesta-Sepúlveda et al., 2017). Thus, a preponderance of evidence supports the utility of considering parent involvement during treatment planning. This is particularly relevant given the importance of reducing family accommodation during treatment for OCD, which includes children involving parents in their OCD symptoms and families changing their behaviors to avoid triggering OCD concerns (Wu et al., 2019).

Intensive CBT. Despite the high rates of treatment success, not all patients respond to traditional therapeutic approaches. An alternative for such cases of treatment-resistant OCD, or for those who do not have access to local CBT providers, is intensive CBT formats. These can range from delivering a

similar number of therapy hours in a limited number of sessions, to full residential programs with hours of therapy each day. These studies produce good reductions in OCD severity (Jónsson et al., 2015; Leonard et al., 2016; Storch et al., 2007; Whiteside, Dammann, Tiede, Biggs, & Jensen, 2018). However, there is a lack of research comparing intensive formats to traditional delivery formats, so it is unclear which participants would benefit specifically from intensive treatments. Further, intensive treatment can require more therapist and family time, include additional costs, and is not widely available. Currently, intensive treatments are generally reserved for children with the most severe concerns or those requiring quick improvement (Jónsson et al., 2015).

Other Psychosocial Therapies

Although many non-CBT psychosocial modalities have been used to treat OCD (e.g., play-based, supportive, and psychoanalytic therapy), they have not been demonstrated as efficacious based on available evidence. In the adult literature, one emerging modality that has demonstrated efficacy similar to manualized CBT for treatment of OCD is acceptance and commitment therapy (ACT; Bluett, Homan, Morrison, Levin, & Twohig, 2014). However, this approach has not yet been studied in samples of children and adolescents.

Pharmacotherapy

SSRIs such as sertraline, fluoxetine, and fluvoxamine are the first-line pharmacotherapy for pediatric OCD (Geller et al., 2012). Meta-analytic studies of randomized, double-blind clinical trials support the efficacy of SSRIs with moderate effect sizes (g = 0.43–0.50) compared to placebo (Ivarsson et al., 2015; McGuire et al., 2015; Öst et al., 2016), and no differential response to different SSRIs (Varigonda, Jakubovski, & Bloch, 2016). Although generally well tolerated, SSRIs are not without side effects. For example, a constellation of side effects referred to as activation syndrome (e.g., irritability, disinhibition) has been shown to negatively impact treatment response in multimodal treatment for pediatric OCD (Reid et al., 2015). Further, SSRIs have been associated with an elevated risk of suicidality compared to placebo across pediatric OCD, anxiety, and depression samples (Locher et al., 2017). Although the risk in pediatric OCD samples has not been thoroughly established, it is clear that patient education and reasonable levels of clinical oversight are warranted when prescribing SSRIs in pediatric patients. Further research is greatly needed to determine optimal dosing strategies that balance anxiety reduction with side effects and treatment tolerability in pediatric OCD.

Serotonin and norepinephrine reuptake inhibitors (SNRIs) such as duloxetine are an emerging pharmacotherapy for pediatric OCD; however, a meta-analysis literature search revealed no double-blind trials evaluating the use of SNRIs for pediatric OCD as of 2016 (Locher et al., 2017). There has been great interest in pharmacological methods to enhance outcomes of exposure therapy, with most research focusing on d-cycloserine (DCS). Although initial DCS trials in pediatric OCD were promising, the largest pediatric OCD study to date failed to find an advantage for DCS over placebo in reducing OCD symptoms (Storch et al., 2016), and a recent meta-analysis of child and adult OCD DCS studies did not support the use of DCS (Gu, Storch, Zhao, Xu, & Wang, 2017). However, strong interest remains in attempting to identify pharmacologic agents that may augment the effect of exposure therapy (Abramowitz, Blakey, Reuman, & Buchholz, 2018).

Cognitive-Behavioral Treatment for Pediatric OCD: Practical Applications of Evidence-Based Principles

Cognitive-behavioral therapists combine techniques based on the cognitive and behavioral conceptualizations of OCD. To address the classical and operant conditioning mechanisms that theoretically establish and maintain OCD behaviors, CBT therapists engage their patients in exposure and response prevention (ERP) exercises. To address cognitive distortions that are common in OCD, ERP is combined with cognitive restructuring techniques.

To successfully implement ERP exercises, it is essential to choose an exposure exercise that is anxiety provoking, yet not so much so that the patient is unable to refrain from compulsive behavior. Thus, a ritual hierarchy, or list of anxiety-provoking situations that motivate rituals that is rank ordered from least to most distressing, is developed early in the therapy process. Exposure exercises typically begin with tasks that are minimally or moderately anxiety provoking (i.e., lower on the hierarchy). For example, a child who exhibits obsessions regarding contamination and responds with excessive hand washing would be exposed to situations that provoke the contamination obsession (e.g., placing bare hands on a dirty floor). Thereafter, the patient would stay in that situation without washing his or her hands until the anxious arousal decreases significantly (based on subjective ratings of distress and behavioral observations). This accomplishes two behavioral goals. First, from an operant conditioning perspective, by refraining from washing hands during the exposure the compulsive behavior was not negatively reinforced, thus weakening the association between handwashing and distress reduction. Second, from a classical conditioning perspective, the exposure sets up a situation where the conditioned stimulus (obsessions about exposure to potential contaminants) is presented in absence of the unconditioned stimulus (e.g., getting violently ill). Thus, with subsequent exposures, the conditioned response (anxious arousal) will be weaker. With a decrease in the anxious arousal, it becomes easier to refrain from compulsive behavior.

Although studies regarding the role of cognitions in symptom presentation for children with OCD are inconclusive, cognitive restructuring techniques are often utilized in the treatment of pediatric OCD (Schneider & Storch, 2017). Children are taught to recognize cognitive distortions (e.g., "I will get sick if I don't go to the bathroom before meals") as "just my OCD," to identify types of cognitive distortions, and to use specific strategies to address particular types of distortions (Lewin, Storch, Adkins, Murphy, & Geffken, 2005). For example, if a child is exaggerating the likelihood or magnitude of a particular feared event, then the child may be coached to use reminders about the realistic likelihood and severity of that negative outcome (e.g., "It probably will not happen and it wouldn't be that bad if it did."). Another treatment strategy to help children better conceptualize and implement the cognitive aspects of treatment is "bossing back" the OCD. When "bossing" their OCD, children verbalize the irrational or unlikely nature of their obsessions and provide an opposite to the thought by "telling the OCD" that they are going to do something different and that it cannot hurt them. In addition, giving the OCD an undesirable nickname, visualizing it as something the child has control over, and portraying treatment as a "fight" against the nasty OCD, can help children better conceptualize treatment and become more engaged (i.e., making treatment more fun).

Incorporating the child's family has been the focus of more recent pediatric OCD treatment. Family-focused CBT attempts to equip the child and parents with tools to improve their understanding and management of OCD symptoms (Freeman et al., 2014). Family-focused CBT begins with providing psychoeducation to the child and parent in appropriate, clear language that conceptualizes treatment and outlines a path to recovery. This includes a discussion of family accommodation of the child's OCD symptoms and the long-term benefits that come at the cost of the short-term difficulties of systematically reducing accommodating behaviors. Behavioral management skills

training is provided as a way to equip the parents with strategies to manage symptoms and encourage progress. These include differential reinforcement, shaping, and contingency management strategies. Externalizing strategies like those mentioned above are taught to the child to help reduce stigma and shame and to motivate progress against a common obstacle.

Treatment Considerations for Pediatric OCD

Developmental Adaptations. As with any pediatric psychosocial intervention, a variety of developmental issues must be considered. From the onset of therapy, accurate assessment is a challenge with children as they may have difficulty recognizing/reporting obsessions and the relationship between obsessions and compulsive behavior. To address this issue, CBT therapists may use treatment exercises as an opportunity to gain further information and to teach the child about obsessions or other relevant symptoms. Specifically, a therapist may get a child started with an exposure exercise then ask the child during a state of clear distress "What are you thinking?" The therapist can use this information to gain a better understanding of the nature of the child's presentation and coach the child in the use of cognitive restructuring techniques. In children who do not acknowledge the presence of specific cognitive components, therapists can defer to a sense of discomfort as the trigger for ritual engagement. Additionally, psychoeducation and metaphors used in therapy must be adjusted to meet the cognitive development of the child, while adequately conveying the conceptual basis of the therapy. Finally, younger children tend to focus on the present. Thus, the temporary distress associated with ERP may have a stronger effect on their motivation to engage in therapy than the abstract future positive gains. This is particularly difficult in children who do not find their obsessions or ritual engagement distressing. To address this, many CBT therapists use contingency management techniques involving positive consequences for the completion of therapy exercises and negative consequences for refusal to attempt therapy exercises.

Caregiver Involvement. The importance of family involvement in the treatment of pediatric OCD is generally accepted in the research and clinical fields (Lebowitz, Panza, & Bloch, 2016). Of particular importance is assessing accommodating behaviors that are common and contribute to maintaining the child's symptoms (Caporino et al., 2012). Systematically identifying and reducing family accommodation can make it difficult for a child to engage in unwanted behaviors and, thus, increases the likelihood that a child will make efforts to engage in alternate behaviors when faced with distressing obsessions or urges. Family members, typically parents, are also trained to lead the child through exposure exercises. Thus, steps on the hierarchy can be targeted outside of therapy sessions thereby increasing the speed of treatment progress and enhancing generalization of skills. Additionally, family members and other caregivers can act as accountability agents and may be actively involved in contingency management of therapy compliance.

Therapy Intensity. Traditionally, CBT for pediatric OCD takes place in the context of a 45–50 min in-office therapy session on a weekly basis; however, a variety of factors can change to increase the intensity of the therapy as needed for the child. For example, exposure sessions can be moved outside of the therapy office into more relevant environments (e.g., public bathrooms, school, home, public places). The duration of the sessions may also be increased to accommodate for multiple in-session exposure exercises or the frequency of the sessions may be increased to multiple times per week. Although the comparative efficacy of these methods of intervention has not been well established, some results suggest an increased frequency of sessions may increase the effectiveness for children who do not respond to once weekly sessions (Jónsson et al., 2015; Storch et al., 2007). An alternative approach for cases of intractable OCD or for those who do not have access to local CBT providers is to refer the youth to an intensive CBT program. Treatment incorporates identical principles to

standard weekly CBT; however, children undergo a concentrated course of therapy characterized by an aggressive targeting of symptoms. Preliminary results of studies in difficult-to-treat pediatric OCD patients supports its use and should stimulate future research and trials among refractory cases (Jónsson et al., 2015; Storch, Lehmkuhl, et al., 2010).

Teletherapy and Remote Treatment. Despite the availability of effective treatment for pediatric OCD, many families experience barriers to seeking face-to-face treatment and a significant number of children and adolescents go untreated. To overcome these barriers, emerging research has examined the utility of remote treatment modalities (Storch, Caporino, et al., 2011; Wootton, 2016). Remote treatment modalities are those that can be provided without having a therapist in the same room. Remote treatments can differ in format and include high-intensity treatments (i.e., those that deliver real-time services through the use of technology such as videoconference or phone calls or low-intensity treatments (i.e., structured lessons or provision of skill information using computer modules or workbooks. Both low- and high-intensity remote treatments have demonstrated similar efficacy to what is seen in face-to-face treatment (Wootton, 2016). Remote treatments may be particularly useful within a stepped-care model, where individuals receive low-intensity remote treatments and only move onto high-intensity treatment if it is deemed necessary.

Prognostic Indicators

Many potential predictors of treatment outcomes have been examined, though results tend to be inconsistent. We review some potential predictors that have received support in the literature.

OCD Severity. Greater symptom severity appears to be associated with poorer treatment outcomes (Garcia et al., 2010; Torp et al., 2015). CBT is recommended for all levels of OCD severity, though youth with very severe symptoms may require additional care such as pharmacologic treatment, intensive CBT, or extensive duration of treatment.

Symptom Types. Although CBT appears effective for a wide range of OCD symptom dimensions (e.g., washing, checking, repeating, etc.), some symptom presentations are generally considered more difficult to treat. For example, children with aggressive intrusive thoughts and checking behavior responded more favorably to CBT than other OCD symptom types in one study (Storch, Merlo, Larson, Bloss, et al., 2008).

Psychiatric comorbidity. Comorbid psychiatric conditions can have a significant impact on treatment. It appears that poorer treatment outcomes are associated with greater externalizing symptoms (Garcia et al., 2010; Storch, Merlo, Larson, Geffken, et al., 2008), depression symptoms (Højgaard et al., 2019; Lavell, Farrell, Waters, & Cadman, 2016), and Attention-Deficit/Hyperactivity Disorder (ADHD) symptoms (Farrell, Waters, Milliner, & Ollendick, 2012). Interestingly, the presence of a tic disorder was associated with better treatment outcomes (McGuire et al., 2015).

Family factors. Family factors, such as family accommodation, higher conflict, and parental blame are associated with OCD and predict poorer treatment outcomes (Garcia et al., 2010; Rudy, Lewin, Geffken, Murphy, & Storch, 2014; Wu et al., 2019).

Treatment of Other Obsessive-Compulsive and Related Disorders

Body Dysmorphic Disorder

BDD involves an excessive preoccupation with perceived defects in appearance (American Psychiatric Association, 2013). BDD typically begins in early to mid-adolescence (Bjornsson et al., 2013),

affecting approximately 2% of young people (Enander et al., 2018; Schneider, Turner, Mond, & Hudson, 2017). To date, pediatric BDD treatment research is very limited, and primarily driven by findings from adult research.

Meta-analysis findings support the use of CBT for BDD; across 7 studies including 299 (mainly adult) participants, a large treatment effect was found (d = 1.22) compared to wait-list or control (Harrison, de la Cruz, Enander, Radua, & Mataix-Cols, 2016). Moderate response rates have been found in three small (n = 6, 13, and 30) adolescent CBT outcome studies (Greenberg, Mothi, & Wilhelm, 2016; Krebs, Turner, Heyman, & Mataix-Cols, 2012; Mataix-Cols et al., 2015). Response rates at follow-up range from 40 to 75%, and CBT response was superior to a psychoeducation and support control condition. Although CBT is a promising treatment for pediatric BDD, further research is greatly needed in order to improve treatment outcomes.

SSRIs are the recommended pharmacotherapy for BDD, supported in adult samples by a systematic review (Phillipou, Rossell, Wilding, & Castle, 2016) and a recent (n = 100) open trial (Phillips et al., 2016). In a chart review study, 53% of 19 adolescents treated with an SSRI had substantial improvement in symptoms (Albertini & Phillips, 1999). The results from a number of other case studies appear to support the use of SSRIs in adolescents with BDD, with high doses often required for response (Greenberg, Sullivan, & Wilhelm, 2017).

In the adult literature, emerging BDD treatment modalities include internet-delivered CBT (Enander et al., 2016; Gentile et al., 2019), acceptance-based exposure therapy (Linde et al., 2015), interpretation bias modification training (Summers & Cougle, 2016), and visual processing training (Beilharz, Castle, Grace, & Rossell, 2017). However, these treatments have not been examined in pediatric samples.

Body-Focused Repetitive Behaviors

Body-focused repetitive behavior disorders include excoriation (skin-picking disorder) and trichotillomania (hair-pulling disorder). These disorders involve excessive grooming behaviors that are experienced as difficult to control, are associated with distress and impairment, and can cause temporary or permanent physical damage such as hair loss or scarring (American Psychiatric Association, 2013).

Meta-analytic findings demonstrate large overall treatment effects of cognitive-behavior therapy for adult trichotillomania (d = 1.41; McGuire et al., 2014). Studies including pediatric samples are very limited at this time. Two case studies examined ACT and Dialectical Behavior Therapy for adolescents with trichotillomania, finding promising results (Fine et al., 2012; Welch & Kim, 2012). Moreover, an open trial of 46 children and adolescents reported a 77% decrease in trichotillomania symptoms severity at post treatment (Tolin, Franklin, Diefenbach, Anderson, & Meunier, 2007). Finally, two randomized controlled trials (n = 24 and 14) demonstrated large reductions in symptoms from pre- to post treatment (Franklin, Edson, Ledley, & Cahill, 2011; Lee et al., 2018).

A meta-analysis of three adult excoriation disorder treatment studies (n = 5 [open trial], 17 [wait-list control], and 151 [open trial]) found large treatment effects (g = 1.09) for behavioral treatments (Selles, McGuire, Small, & Storch, 2016). Unfortunately, efficacy of cognitive-behavior therapy for excoriation disorder in children and adolescents remains largely unexamined.

Meta-analytic findings demonstrate moderate overall treatment effects (d = 0.41) for serotonin reuptake inhibitors in adult trichotillomania studies (McGuire et al., 2014). A randomized controlled trial of *N*-acetylcysteine in 39 children and adolescents found no significant benefit compared to placebo (Bloch, Panza, Grant, Pittenger, & Leckman, 2013).

A recent meta-analysis examined treatments for adults with excoriation disorder (Selles et al., 2016). Lamotrigine was examined in two treatment studies (n = 16 [placebo control] and 24 [open trial]) for excoriation disorder. Combined, the studies demonstrated large treatment effects (g = 0.98). Four treatment studies (n = 10 [placebo control; fluoxetine], 14 [open trial; fluvoxamine], 15 [open trial; fluoxetine], and 29 [open trial; escitalopram]) using SSRIs demonstrated a large treatment effect when combined (g = 1.09). Research is badly needed in pediatric populations.

Hoarding Disorder

Hoarding disorder is characterized by difficulty discarding items leading to their accumulation that cause significant congestion of living areas as well as distress and impairment. The prevalence of hoarding disorder in adults is estimated at 2–6%. No wide-scale epidemiological study has examined hoarding in pediatric populations; however, rates are generally estimated to be similar to adult populations. To date, hoarding disorder treatment research is limited and largely consists of findings from adult research (Reviews: Morris, Jaffee, Goodwin, & Franklin, 2016; Storch, Rahman, et al., 2011).

A recent meta-analysis supports CBT as a treatment for hoarding disorder in adults. The analysis of 12 open and randomized controlled trials for hoarding disorder found an overall large treatment effect (g = 0.82) for CBT (Tolin, Frost, Steketee, & Muroff, 2015). Two case studies have examined a family-based CBT treatment approach for pediatric hoarding disorder. The cases involve a 9-year-old girl and an 11-year-old boy with significant hoarding behaviors, resulting in significant distress and impairment. The cases examined presenting treatment in an age-appropriate manner, addressing family dynamics such as accommodation, and maintaining treatment gains. Outcomes were favorable in both cases, indicating the potential for family-based CBT, although further research is desperately needed in this area.

Meta-analytic findings also support the use of a pharmacological intervention for hoarding disorder in adults (Brakoulias, Eslick, & Starcevic, 2015). The analysis consisted of seven case series, open, and randomized controlled trials for hoarding disorder and estimated that 37–76% of participants significantly responded to pharmacological treatment. Compared to CBT, the evidence for pharmacotherapy interventions is currently less robust with only a single randomized controlled trial included in the meta-analysis. Moreover, to date, no pharmacological treatment trials exist for pediatric hoarding, thus, treatment recommendations are unclear at this time.

Conclusion

The empirical basis for the treatment of OCD in children and adults has expanded substantially, with considerable evidence for CBT and SSRIs. However, research on other obsessive-compulsive and related disorders has greatly lagged behind OCD, and significant research is required to establish evidence-based care for disorders including BDD, hoarding, trichotillomania, and excoriation. Although recent advances in treatment research are encouraging, families can face many barriers to accessing evidence-based care. Further, it can be challenging for clinicians and researchers to directly compare outcomes across studies and meta-analyses due to differences in study design and analyses. This highlights the need for continued development both in treatment research and in dissemination of evidence-based treatment protocols. Together these efforts will enhance access to high-quality care for youth with OCD and related disorders.

Key Points

- There is strong evidence supporting the use of Cognitive-Behavioral therapy (CBT) and SSRIs to treat pediatric OCD.
- More head-to-head treatment studies are needed for youth with OCD in order to determine the outcome of combined treatment compared to CBT and SSRI monotherapies.
- OCD studies are increasingly focusing on the identification of moderators and predictors of treatment outcome for youth OCD.
- The evidence supporting the use of CBT for BDD, trichotillomania, skin-picking, and hoarding disorder comes from adult samples, however, there is promising early evidence from pediatric samples.
- There is little to no evidence for the use of pharmacotherapy for pediatric trichotillomania, skin-picking, and hoarding in pediatric populations.

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