

BSESSIVE-COMPULSIVE DISORDER

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Introduction

Obsessive-compulsive disorder is characterized by elevated anxiety caused by uncontrollable and intrusive thoughts called obsessions, and repetitive, ritualistic behaviors called compulsions (March & Mulle, 1998). Children and adolescents with obsessive-compulsive disorder (OCD) cannot stop their worrying and anxiety. Obsession themes may include contamination, harming oneself or others, aggression, sexual misconduct, religiosity, forbidden thoughts, symmetry urges, and the need to tell, ask, or confess (March & Mulle). Compulsions take the form of overt behavioral acts, rituals or covert mental acts (e.g. silently counting). Compulsions may also include washing, repeating, checking, touching, counting, ordering/arranging, hoarding and praying (March & Mulle). Compulsions function to reduce the anxiety associated with the child's or adolescent's obsessions (American Psychological Association [APA], 2000). For example, a child with contamination obsessions may experience intrusive thoughts about catching a disease from touching a surface and then compulsively wash his or her hands for extended periods to lessen fears about being contaminated.

OCD, while very similar for children and adults, has several developmental differences (Swedo, Rapoport, Leonard, Lenane & Cheslow, 1989). The adult with OCD often recognizes that their behavior is abnormal and problematic. However, due to undeveloped cognitive abilities, children with OCD may not understand that their behaviors are unreasonable. Individuals with OCD experience distress when their compulsions cannot be completed. In children, this distress may manifest as tantrums or angry outbursts. Furthermore, children may not be able to specify the consequence of not engaging in their compulsions and may report a vague sense that "something bad might happen" if they are not able to complete the compulsion (Barrett, Farrell, Pina, Peris & Piacentinit, 2008).

With an estimated lifetime prevalence of 2.5% in adults and 1 to 2% in children and adolescents, OCD is a fairly common psychiatric disorder. Onset is most frequently between six and 15 years of age in males and between 20 and 29 years of age for females (APA, 2000). The impairment caused by OCD is significant. Because compulsions serve as the primary coping mechanism, children and adolescents with OCD experience increasing levels of distress and will respond by increasing the intensity and/or magnitude of their compulsions. Thus, these youth may spend more and more time engaging in their rituals. The child's dependence on their ineffective coping mechanism, in turn, interferes with school, work and social functioning. Accordingly, children with OCD may be reluctant to attend school for fear of embarrassment, and they often withdraw from social activities. Children and adolescents with OCD also possess a higher risk for comorbid anxiety disorders (e.g., social anxiety and panic disorder) and depression. While symptoms may fluctuate, the overall trend in symptom severity increases over the lifetime (APA).

Causes and Risk Factors

As with most psychological disorders, there are three primary risk factors for the development of OCD: biological, psychological and social factors. Biological factors are the genetic and neurological bases of OCD. Psychological factors include emotional and experiential factors that influence whether biological

factors are “activated.” Finally, social factors are those influences in the child’s social environment (e.g., family, friends, and school) that help to maintain the disorder. Each of these will be briefly reviewed in the paragraphs which follow.

Biological Factors

Numerous studies have demonstrated abnormal brain functioning in individuals with OCD (Saxena, Brody, Schawtrz & Lewis, 1998). These studies have identified overactivity in the limbic system, including the basal ganglia and cingulate gyrus, which sets the overall emotional tone. The basal ganglia set the body’s baseline arousal and suppress regulation of motor movement. Overactivity in this area is associated with the physical sensations of anxiety, avoidance tendencies and tics. The cingulate gyrus is associated with an individual’s cognitive flexibility. Overactivity in this area of the brain is associated with rigid and inflexible thinking (obsessions) and behavior patterns (compulsions). As a result, children and adolescents with abnormal functioning in these areas may be particularly susceptible to feeling intensified fear and developing rigid thought and behavior patterns.

The causes of these biological abnormalities are unclear. Considerable research has demonstrated a genetic predisposition to OCD and tic disorders. (Additional information on tic disorders is provided in the *Collection’s* section “Habit Disorders.”) Research has revealed that families of an individual diagnosed with a tic disorder are also more likely to have other first degree relatives (i.e., parent, sibling and offspring) with a tic disorder and/or OCD (March & Mulle, 1998). There is also evidence that a subset of children with OCD developed symptoms after an infection of Group A beta hemolytic streptococcus (e.g. strep throat) or Sydenham’s chorea, a variant of rheumatic fever (American Academy of Child & Adolescent Psychiatry [AACAP], 1998). This is called Pediatric Autoimmune Neuropsychiatric Disorder Associated with Strep (PANDAS). It is believed that during infection, antigens react with basal ganglia tissue, leading to OCD and/or tic symptoms (AACAP).

Psychological Factors

The specific thought and behavior patterns that children and adolescents with OCD develop are based on learning processes and lifetime experiences. Research has suggested that the types of intrusive thoughts which cause distress in youth with OCD are experienced by most individuals. These thoughts may originate from a traumatic experience, illness or information from others (e.g. family, friends, news reports, etc.). However, children and adolescents with OCD may experience shame, guilt or fear in response to these thoughts and have difficulty dismissing them (March & Mulle, 1998). As a result of these unpleasant and/or fearful feelings, the youth attempts to escape or avoid the fear (Mowrer, 1939). Any behaviors that are associated with the reduction in fear are then reinforced, even if these behaviors do not cause the reduction in fear. While some compulsions, such as excessive washing, are related to the obsession (e.g., fear of contracting a disease), other compulsions are not rationally related (e.g., counting in response to fears about harming others). Furthermore, because the situations that trigger obsessions are not easily avoided, the child or adolescent with OCD attempts to actively avoid feelings of fear by repeatedly engaging in the behaviors associated with fear reduction. The reduction in fear negatively reinforces this ritualized behavior (Mowrer). Behavior patterns maintained through this type of conditioning are difficult to extinguish. This avoidance/escape pattern prevents the youth from fully experiencing the fearful situation. Therefore, the child’s or adolescent’s fear cannot naturally depart through a process called “extinction” (Pierce & Cheney, 2004).

Social Factors

OCD is not caused by parenting or other family problems, however, the way a family reacts to a child with OCD can affect the disorder (March & Mulle, 1998). It has been suggested that the parents’ reaction to their child’s behavior can either increase or decrease the child’s anxiety. Barrett, Shortt, and Healy (2002) found that parents of children with OCD, when compared to the parent’s of non-OCD children, did not use as much problem-solving, did not encourage their child’s independence, and did not have as much confidence in their child’s abilities. Similarly, children with OCD were less confident in themselves, used problem-solving less, and showed less warmth with their parents than children without OCD.

Assessment

Assessment of OCD should follow general diagnostic practices, including obtaining complete developmental, medical and family histories, evaluation of psychosocial functioning across multiple domains (e.g., family, friends, school, and home) and history of current and past symptoms ([AACAP, 1998). Both the parents and the child should complete diagnostic interviews to determine mental rituals and/or obsessions that the parent might not be aware of, and behavior problems that the youth may be reluctant to report.

Structured diagnostic interviews can help identify the presence of OCD, as well as other potential comorbid conditions. A thorough assessment will also determine the presence, age of onset, duration and severity of each symptom. This also aids in the conceptualization and formation of a treatment plan. Evidence-based assessment tools for youth with OCD are discussed in Table 1.

Table 1

Evidence-based Assessment Tools for Youth with OCD

Broad Structured Diagnostic Interviews:

- National Institute for Mental Health (NIMH) Diagnostic Interview Schedule for Children-IV (DISC-IV; NIMH, 1997)
- Schedule of Affective Disorders and Schizophrenia for School Aged Children, Present and Lifetime Version (K-SADS-PL; Kaufman et al., 1996)

Anxiety-specific Structured Diagnostic Interviews:

- Anxiety Disorders Interview Schedule for *DSM-IV*: Parent and Child Versions (ADIS-IV:C/P; Silverman & Albano, 1996)
- Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS; Scahill, et al., 1997)
- Children's Version of the Leyton Obsessional Inventory (Berg et al., 1988)

Sources: Commission on Youth Graphic of references listed in table.

The first challenge in diagnosing a child with OCD is distinguishing developmentally appropriate beliefs and behaviors from those symptomatic of OCD. For example, children and adolescents with OCD may fear that, by merely thinking a thought (e.g., hurting a loved one), they will cause it to happen (i.e., thought-action fusion). In children, it is important to differentiate developmentally normal "magical thinking" from pathological beliefs that drive compulsions and cause distress (Shafran, 2001). Young children may insist on sameness and order or adhere to rigid routines, such as elaborate bedtime routines, as part of normal development in early childhood, reflecting the need for mastery and control (March & Mulle, 1998). Research suggests that compulsive-like behaviors are particularly common among children between the ages of two and four (Evans, Leckman, Carter & Reznick, 1997). Normal obsessive-compulsive behaviors can be differentiated from OCD based on timing, content and severity of the symptoms. Children with OCD will show symptoms into middle childhood and later years, have symptoms that seem bizarre, and have symptoms that impair daily life (March & Mulle).

The role of the family and school in maintaining the OCD symptoms must also be assessed. Parents and family often become entangled in the youth's symptoms by making accommodations for, or even participating in, obsessive-compulsive behaviors (AACAP, 1998; Barrett et al, 2004). The degree to which this occurs influences the degree of intervention in these settings.

Comorbidity

Comorbid conditions that often occur in youth with OCD include other anxiety disorders, depression, learning disorders, ADHD, tic disorders and trichotillomania. Approximately one-half to one-third of youth with ADHD also meet diagnostic criteria for another anxiety disorder, most commonly generalized or separation anxiety (AACAP, 1998). It is estimated that 20 to 70% of youth with OCD meet the criteria for mood disorders, potentially due to the impairment and isolation associated with OCD (AACAP; March & Mulle, 1998). As many as 33 to 50% of youth with OCD also meet diagnosis criteria for ADHD or oppositional defiant disorder (ODD). However, it must be determined whether oppositional behaviors are a function of ODD or of the rigid compulsions associated with OCD (AACAP). Nearly 60% of children with OCD report a lifetime history of tic disorder. Some researchers believe that OCD and tic disorder may be alternative expressions of the same gene (AACAP). Children with prepubertal onset of OCD are also more likely to have a comorbid diagnosis of tic disorder. Trichotillomania, compulsive hair pulling to the point of significant hair loss, is found at increased rates in youth with OCD and their first degree relatives. However, youth with primary trichotillomania do not usually have OCD (AACAP). Additional information about the comorbid disorders discussed in this paragraph can be found in the corresponding sections of the *Collection*.

Obsessive-compulsive symptoms are also common features of pervasive developmental disorders (PDD) such as autism, Asperger's disorder and related disorders. Because rigidity and repetitive behaviors

are central features of PDD, it can be difficult to determine whether comorbid OCD is present. However, research suggests that obsessive-compulsive symptoms are frequently present in first degree relatives of youth with a PDD diagnosis and may respond similarly to medication (AACAP).

Evidence-based Treatments

Effectively treating OCD in children and adolescents is crucial to aiding in their lifelong functioning. The process of assessment and treatment planning can also be beneficial. The opportunity to review the child's difficulties and to distinguish the OCD symptoms as a disorder, rather than as a behavior issue, can be very helpful to both the child and family (AACAP, 1998).

Individual features of OCD may have important implications for treatment planning in terms of compliance, response to treatment and factors that exacerbate or lessen symptoms (AACAP, 1998). Mild obsessions or compulsions that are not the source of substantial distress or impairment may warrant monitoring over time without the initiation of specific treatment (AACAP). If such obsessions or compulsions are related to external or developmental stressors, psychotherapy or other psychosocial interventions targeted to these stressors may be useful.

For this review, evidence-based treatments are divided into three categories: What Works, Not Adequately Tested, and What Does Not Work. These treatments are discussed in the following paragraphs and outlined in Table 2.

Table 2

Summary of Treatments for OCD

What Works – Psychosocial	Description
Exposure and Response Prevention (ERP)	Individual child (probably efficacious); family-focused individual and family-focused group treatments (possibly efficacious). ERP meets well-established criteria for adult OCD.
What Works – Pharmacological	Description
SRI	Clomipramine: Approved for children age ten years and older. Recommend periodic electrocardiographic (ECG) monitoring.
SSRI	Fluoxetine (Prozac): Approved for children eight years of age and over. Sertraline (Zoloft): Approved for children six years of age and over. Fluvoxamine (Luvox): Approved for children eight years of age and over.
Not Adequately Tested	Description
Cognitive Therapy alone Psychodynamic Therapy Client-centered Therapy	Systematic controlled studies have not been conducted using these approaches.
What Does Not Work	Description
Antibiotic Treatments	Antibiotic treatments are only indicated when the presence of an autoimmune or strep-infection has been confirmed and coincided with onset or increased severity of OCD symptoms.
Herbal Therapies	Herbs, such as St. John's Wort, have not been rigorously tested and are not FDA approved. In some instances, herbal remedies may make symptoms worse or interfere with pharmacological treatment.

Sources: AACAP, 1998; Barrett, Farrell, Pina, Peris & Piacentini, 2008; March & Mulle, 1998.

Psychosocial Treatments

Behavioral and pharmacological treatments have both demonstrated efficacy in the treatment of OCD in youth, though behavioral approaches appear to be the most effective in the few studies comparing treatments (AACAP, 1998; Barrett et al., 2008). One particular behavioral treatment, exposure and response

prevention (ERP) was developed as a bi-modal treatment that addresses both the obsessive and compulsive features of OCD. Although ERP is considered a well-established treatment for adult OCD (Task Force on the Promotion and Dissemination of Psychological Procedures, 1995), studies are only recently emerging that examine ERP as a treatment for childhood OCD. As a result, ERP is considered a probably efficacious treatment for childhood OCD, the highest of any treatment for childhood OCD at this point (AACAP; Barrett et al.). The overall results of these studies suggest that ERP-based cognitive behavioral therapy (CBT) is effective in significantly reducing OCD symptoms in children and adolescents. Emerging research suggests that ERP-based CBT may be more effective than pharmacological treatments (Barrett et al.). All studies found statistically and/or clinically significant reductions in OCD symptoms using ERP-based CBT. Most studies directly used or modified the manual by March and Mulle (1998) (Benazon, Ager & Rosenberg, 2002; DeHaan, Hoogduin, Buitelaar & Keijsers, 1998; March, Mulle & Herbel, 1994; POTS, 2004; Simons, Schneider & Herpertz-Dahlmann, 2006; Thienemann, Martin, Cregger, Thompson & Dyer-Friedman, 2001; Valderhaug, Larsson, Gotestam & Piacentini, 2007). As a result, most studies evaluated the effectiveness of ERP imbedded within other CBT techniques (e.g., relaxation training, cognitive restructuring). The exposures were the active ingredients in the treatment protocol, while the other components were also necessary to increase the likelihood of successful exposure (March, Mulle & Herbel, 1994).

While only a few relatively-controlled studies have been conducted, family-based ERP is considered possibly efficacious since the existing studies were promising. Barrett, Healy-Ferrell, and March (2004) conducted a controlled trial of cognitive behavioral family therapy (CBFT) with children with OCD and found significant improvements in OCD diagnostic status and symptom severity. The treatment protocol includes a psychoeducational/cognitive phase and ERP phase followed by relapse prevention. The family portion of the treatment protocol includes psychoeducation, problem-solving, reduction of parental involvement in the child's symptoms and home-based exposure-response prevention strategies. Moreover, some form of parent involvement is included in most individual ERP treatment protocols. The seven studies that followed the March and Mulle or Piacentini manuals, or combination of the two, included four parent sessions and also invited the parent at the end of each session for 15 to 30 minutes (Benazon et al., 2002; DeHaan et al., 1998; March et al., 1994; POTS, 2004; Simons et al., 2006; Thienemann et al., 2001; Valderhaug et al., 2007). In the multiple-baseline study by Knox et al., (1996), client progress was tracked across a baseline phase, ERP phase, ERP plus parent involvement phase and treatment maintenance phase. Decreases in the OCD symptoms were witnessed only after the involvement of the parents, suggesting that parental involvement was an important component.

Pharmacological Treatment

Although traditionally used to treat depression, serotonin reuptake inhibitors (SRIs), including selective serotonin reuptake inhibitor (SSRIs), are approved by the FDA for treatment of pediatric OCD (AACAP, 1998). There are currently four medications approved by the FDA for treatment of pediatric OCD: clomipramine, fluoxetine, sertraline and fluvoxamine (AACAP). Concurrent pharmacological treatment and CBT is recommended by AACAP for children with severe symptoms or for those who do not respond favorably to CBT alone (AACAP). These medications have been shown to be superior to placebo treatments. Although all of these treatments act on availability of serotonin in the brain, evidence suggests that children may respond differently to different medications (AACAP). Therefore, youth who do not respond to one SSRI may respond differently to another.

While these medications may be helpful, they are not without risks and side-effects. The SRI clomipramine, in high doses (5mg/kg per day or 250mg/day), has been associated with seizures and electrocardiographic (ECG) changes. Youth taking clomipramine should receive periodic ECG monitoring. Other side effects of clomipramine are similar to those of SSRIs. Common side effects of SSRIs (e.g. fluoxetine, sertraline, and fluvoxamine) include nausea, headache, tremor, gastrointestinal complaints, drowsiness, akathisia (restlessness), insomnia, disinhibition, agitation or hypomania (a period of persistently elevated, expansive or irritable mood) (AACAP, 1998). There has also been greater awareness in the last few years of an increased risk of suicidal ideation in youth taking antidepressants, including SSRIs. These risks must be weighed against the potential benefit from the medication when making treatment decisions. Youth taking these medications should be monitored for potential medical or psychological side-effects throughout treatment, particularly if other medications are also prescribed. The interaction of medications is poorly researched, particularly in children and adolescents, therefore combination of medications should be carefully considered (AACAP). For additional information on this topic, please refer to the *Collection's* section "Antidepressants and the Risk of Suicidal Behavior."

Unproven Treatments

Several treatments are classified as unproven, based on either the absence of conclusive research or research suggesting that there is no benefit. Cognitive therapy, in the absence of ERP, has not

demonstrated significant benefits for youth with OCD. The addition of cognitive therapeutic techniques to ERP treatment has suggested that these techniques may increase treatment participation in ERP, but perform no specific action on reducing symptoms (Barrett et al., 2008). Likewise, insight-oriented therapies have not been shown to be effective in treating youth with OCD. As discussed in the causes/risk factors section of this review, there is a subset of children who develop OCD following a strep-infection (e.g., PANDAS). For these children, treatments with antibiotics have been shown to reduce symptoms. However, antibiotic treatment has not been shown to be effective without the presence of a strep infection. Therefore, antibiotic treatment should only be prescribed for children with a confirmed medical diagnosis that leads to the sudden onset or increase of OCD symptoms (AACAP, 1998). Herbal remedies have not been sufficiently tested as a treatment for OCD. St. John's Wort, frequently used by some to treat mild depression, has been popular as an alternative treatment for anxiety, including OCD. However, a blind placebo-controlled study found no difference between St. John's Wort and placebo (Kobak et al., 2005).

Cultural Considerations

Research is extremely limited on the role of culture, race and ethnicity in OCD. Although anxiety and its physiological symptoms are universal, the way in which the experience is interpreted and expressed varies as a function of culture (Washington, Norton & Temple, 2008). Culture also influences help-seeking behaviors and treatment preferences (Sue, Zane & Young, 1994). Clinicians should consider, but not assume, cultural influences to ensure proper identification and treatment.

Clinicians should be familiar with the ways in which youth and families conceptualize the symptoms. Cultural practices and norms shape the way in which emotions are understood and expressed. This can lead to differences in attributions of emotions and behaviors, expressions of symptoms and the language used to describe the symptoms. Clinicians and researchers who are unaware of culture-specific idioms of distress may fail to notice important symptoms, dismiss symptoms as irrelevant or misattribute the symptoms to a different diagnosis. Normative cultural practices should also be considered to avoid characterizing certain behaviors as psychologically abnormal. For example, research on standardized measures has demonstrated that African American individuals report higher levels of cleaning and checking symptoms but do not report anxiety and/or impairment. Thus, they do not always meet diagnostic criteria for OCD during structured interviews (Thomas, Turkheimer & Oltmanns, 2000; Williams, Turkheimer, Schmidt & Oltmanns, 2005). Similarly, South Asian/East Indian and Southeast Asian individuals are more likely to report obsessive-compulsive symptoms compared to Caucasian, African American and Latino individuals (Washington, Norton & Temple, 2008). However, these elevated reports of obsessive-compulsive symptoms were only associated with OCD distress and impairment in South Asian/East Indian individuals. Elevated reports of obsessive-compulsive symptoms in Southeast Asian individuals were not associated with increased incidence of OCD (Washington, Norton & Temple).

Race/ethnicity may also play a role in attribution biases of African American youth's behaviors. Lau and colleagues (2004) found that, while African American youth reported slightly higher levels of their own internalizing symptoms compared to Caucasian youth, teachers rated Caucasian students as having higher anxiety and African American students as higher on externalizing symptoms. Children with OCD may exhibit refusal to approach feared situations or tantrums when compulsions are interrupted or prevented, which may lead observers to interpret this behavior as oppositional behavior (Klein, 2009). Teachers may interpret anxious refusal as oppositional-defiance based on racial stereotypes (Lau et al.).

Another limit to the pediatric ERP literature is the inclusion of racial/ethnic minorities and/or participants of various socioeconomic statuses. Only seven studies reported racial/ethnic demographics; four of these were entirely Caucasian, while the others still underrepresented minorities. No studies reported socioeconomic status of the participants. Factors such as cultural or social stigma and availability of social and economic resources may impact a family's ability to access treatment and/or conduct ERP at home. This limits the ability to generalize results of these studies for use in community-based clinics that serve minority and economically disadvantaged patients. General recommendations for adapting treatments to be culturally sensitive apply to the treatment of OCD in the absence of specific research on OCD treatment and individual racial/ethnic/cultural groups. In a recent review of evidence-based treatments and modifications for ethnic minority youth, treatments discussed were the selective use of culturally responsive adaptations based on actual client need and avoidance of overgeneralizations based on race/ethnicity/culture (Huey & Polo, 2008).

Sources

- American Academy of Child & Adolescent Psychiatry (AACAP). (1998). Practice parameters for the assessment and treatment of children and adolescents with obsessive-compulsive disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37 (10: Suppl), 27-45.
- American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.) (DSM-IV-TR). Washington, DC: Author.
- Barrett, P., Farrell, L., Pina, A., Peris, T., & Piacentini, J. (2008). Evidence-based psychosocial treatments for child and adolescent obsessive-compulsive disorder. *Journal of Clinical Child and Adolescent Psychology*, 37 (1), 131-155.
- Barrett, P., Healy-Farrell, L., & March, J. (2004). Treatment of OCD in children and adolescents. In P. Barrett & T. Ollendick (Eds.), *Handbook of interventions that work with children and adolescents: prevention and treatment* (pp. 187-216). West Sussex, England: Wiley.
- Barrett, P., Shortt, A., & Healy, L. (2002). Do parent and child behaviours differentiate families whose children have obsessive-compulsive disorder from other clinic and non-clinic families? *Journal of Child Psychology and Psychiatry*, 43, 597-607.
- Benazon, N., Ager, J., & Rosenberg, D. (2002). Cognitive behavior therapy in treatment-naïve children and adolescents with obsessive-compulsive disorder: An open trial. *Behaviour Research and Therapy*, 40, 529-539.
- Berg, C., Whitaker, A., Davies, M., Flament, M., & Rapport, J. (1988). The survey form of the Leyton Obsessional Inventory-Child Version: norms from an epidemiology study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 759-763.
- DeHaan, E., Hoogduin, K., Buitelaar, J., & Keijsers, G. (1998). Behavior therapy versus clomipramine for the treatment of obsessive-compulsive disorder in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37 (10), 1022-1029.
- Evans, D., Leckman, J., Carter, A., & Reznick, J. (1997). Ritual, habit, and perfectionism: The prevalence and development of compulsive-like behavior in normal young children. *Child Development*, 68 (1), 58-68.
- Huey, S., & Polo, A. (2008). Evidence-based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child and Adolescent Psychology*, 37 (1), 262-301.
- Kaufman, J., Birmaher, B., Brent, D., Rao, U., & Ryan, N. (1996). Schedule of Affective Disorders and Schizophrenia for School Aged Children, Present and Lifetime Version (K-SADS-PL). University of Pittsburgh: Pittsburgh, PA. [Online]. Available: <http://www.wpic.pitt.edu/ksads/default.htm>. [May 2009].
- Klein, R. (2009). Anxiety disorders. *Journal of Child Psychology and Psychiatry*, 50, 153-162.
- Knox, L., Albano, A., & Barlow, D. (1996). Parental involvement in the treatment of childhood obsessive-compulsive disorder: A multiple-baseline examination incorporating parents. *Behavior Therapy*, 27, 93-115.
- Kobak, K., Taylor, L., Bystritsky, A., Kohlenberg, C., Greist, J., Tucker, P., et al. (2005). St John's wort versus placebo in obsessive-compulsive disorder: Results from a double-blind study. *International Clinical Psychopharmacology*, 20 (6), 299-304.
- Lau, A., Garland, A., Yeh, M., McCabe, K., Wood, P., & Hough, R. (2004). Race/Ethnicity and inter-informant agreement in assessing adolescent psychopathology. *Journal of Emotional and Behavioral Disorders*, 12 (3), 145-156.
- March, J., & Mulle, K. (1998). *OCD in children and adolescents: A cognitive-behavioral treatment manual*. New York: Guilford Press.

- March, J., Mulle, K., & Herbel, B. (1994). Behavioral psychotherapy for children and adolescents with obsessive-compulsive disorder: An open trial of a new protocol-driven treatment package. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35 (3), 333-342.
- Mowrer, O. (1939). A stimulus-response analysis of anxiety and its role as a reinforcing agent. *Psychological Review*, 46, 553-565.
- National Institute of Mental Health Diagnostic Interview Schedule for Children-IV (NIMH DISC-IV; 1997). Columbia DISC Development Group, Division of Child and Adolescent Psychiatry, New York, NY.
- Pierce, W., & Cheney, C. (2004). *Behavior analysis and learning* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Saxena, S., Brody, A., Schwartz, J., & Baxter, L. (1998). Neuroimaging and frontal-subcortical circuitry in obsessive-compulsive disorder. *British Journal of Psychiatry*, 173 (Suppl. 35), 26-37.
- Scahill, L., Riddle, M., King, R., et al., (1997). The Children's Yale-Brown Obsessive-Compulsive Scale: Preliminary report of reliability and validity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 844-853.
- Shafraan, R. (2001). Obsessive-compulsive disorder in children and adolescents. *Child Psychology & Psychiatry Review*, 6, 50-58.
- Silverman, W., & Albano, A. (1996). *Anxiety disorders interview schedule for children for DSM-IV, child and parent versions* (ADIS-IV: C/P; 1997). San Antonio: Psychological Corporation.
- Simons, M., Schneider, S., & Herpertz-Dahlmann, B. (2006). Metacognitive therapy versus exposure and response prevention for pediatric obsessive-compulsive disorder. *Psychotherapy and psychosomatics*, 75, 257-264.
- Sue, S., Zane, N., & Young, K. (1994). Research on psychotherapy with culturally diverse populations. In A. E. Bergin, S. L. Garfield, A. E. Bergin & S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed.). (pp. 783-817). Oxford England: John Wiley & Sons.
- Swedo, S., Rapoport, J., Leonard, H., Lenane, M., & Cheslow, D. (1989). Obsessive-compulsive disorder in children and adolescents: Clinical phenomenology of 70 consecutive cases. *Archives of General Psychiatry*, 46, 335-341.
- Task Force on Promotion and Dissemination of Psychological Procedures. (1995). Training and dissemination of empirically-validated psychological treatments: Report and recommendations, *Clinical Psychologist*, 48, 3-24.
- The Pediatric OCD Treatment Study (POTS) Team (2004). Cognitive-behavior therapy, sertraline, and their combination for children and adolescents with obsessive-compulsive disorder. *Journal of the American Medical Association*, 292 (16), 1969-1976.
- Thienemann, M., Martin, J., Cregger, B., Thompson, H., & Dyer-Friedman, J. (2001). Manual-driven group cognitive-behavioral therapy for adolescents with obsessive-compulsive disorder: A pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40 (11), 1254-1260.
- Thomas, J., Turkheimer E., & Oltmanns, T. (2000). Psychometric analysis of racial differences on the Maudsley Obsessional Compulsive Inventory, *Assessment*, 7 (3), 247-258.
- Valderhaug, R., Larsson, B., Gotestam, G., & Piacentini, J. (2007). An open clinical trial of cognitive-behaviour therapy in children and adolescents with obsessive-compulsive disorder administered in regular outpatient clinics. *Behaviour Research and Therapy*, 45, 577-589.
- Washington, C., Norton, P., & Temple, S. (2008). Obsessive-compulsive symptoms and obsessive-compulsive disorder: A multiracial/ethnic analysis of a student population. *Journal of Nervous and Mental Disease*, 196 (6), 456-461.

Williams, M., Turkheimer, E., Schmidt, K., & Oltmanns, T. (2005). Ethnic identification biases responses to the Padua Inventory for obsessive-compulsive disorder, *Assessment*, 12 (2), 174-185.

CBT Treatment Manuals

Individual

Piacentini, J., Langley, A., Robleek, T. (2007). *Cognitive-behavioral treatment of childhood OCD, it's only a false alarm: Therapist Guide (Programs that work)*. New York: Oxford. (Child/ adolescent workbook is also available from same authors and publisher.)

March, J., & Mulle, K. (1998). *OCD in children and adolescents: A cognitive-behavioral treatment manual*. New York: Guilford Press.

Family

Barrett, P., Healy-Farrell, L., & March, J. (2004). Treatment of OCD in children and adolescents. In P. Barrett & T. Ollendick (Eds.), *Handbook of interventions that work with children and adolescents: prevention and treatment* (pp. 187-216). West Sussex, England: Wiley.

Freeman, J., & Garcia, A. (2009). *Family based treatment for young children with OCD: Therapist guide (Treatments that work)*. New York: Oxford. (Parent workbook is also available from same authors and publisher.)

Organizations

American Academy of Family Physicians

<http://familydoctor.org/online/famdocen/home/common/mentalhealth/anxiety/133.printerview.html>

American Academy of Child & Adolescent Psychiatry (AACAP)

Obsessive-Compulsive Disorder in Children and Adolescents

http://www.aacap.org/cs/root/facts_for_families/obsessivecompulsive_disorder_in_children_and_adolescents

Anxiety Disorders Association of America (ADAA)

<http://www.adaa.org>

International OCD Foundation

<http://www.ocfoundation.org/whatisocd.aspx?gclid=CNLBhpTluKECFRBx5Qod8EKDAQ>

Mayo Clinic

<http://www.mayoclinic.com/health/obsessive-compulsive-disorder/DS00189>

Mental Health America (MHA) (formerly National Mental Health Association)

<http://www.nmha.org/go/ocd>

<http://www.nmha.org/go/information/get-info/trichotillomania>

National Alliance on Mental Illness (NAMI)

http://www.nami.org/Template.cfm?Section=About_Treatments_and_Supports&template=/ContentManagement/ContentDisplay.cfm&ContentID=7952

National Anxiety Foundation

<http://www.lexington-on-line.com/naf.ocd1.html>

Obsessive-Compulsive Foundation

<http://www.ocfoundation.org>

Parent Support Groups for Children with OCD

<http://www.childrensdisabilities.info/OCD/groups-OCD-child.htm>

U.S. Department of Health and Human Services
Substance Abuse and Mental Health Services Administration (SAMHSA)
National Mental Health Information Center
<http://mentalhealth.samhsa.gov>

National Institutes of Health
National Institute of Mental Health (NIMH)
<http://www.nimh.nih.gov/health/topics/obsessive-compulsive-disorder-ocd/index.shtml>
<http://www.nimh.nih.gov/health/publications/when-unwanted-thoughts-take-over-obsessive-compulsive-disorder/index.shtml>

U.S. Public Health Service/Office of the Surgeon General
Report of the Surgeon General's Conference on Children's Mental Health: A National Action Agenda.
Washington, DC. (2001): Department of Health and Human Services.
<http://www.surgeongeneral.gov/topics/cmh>

Virginia Resources

Family Help in Virginia

Focus Adolescent Services
<http://www.focusas.com/Virginia.html>

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<http://www.focusas.com/Virginia.html>

University of Virginia Health System

http://www.healthsystem.virginia.edu/uvahealth/peds_mentalhealth/gad.cfm
http://www.healthsystem.virginia.edu/uvahealth/peds_mentalhealth/anxhub.cfm

Virginia Commonwealth University (VCU)

Center for Psychological Services and Development
Anxiety Clinic
<http://www.has.vcu.edu/psy/cpsd/anxiety/index.html>

VCU Medical Center
Virginia Treatment Center for Children
<http://www.vcuhealth.org/vtcc>

Virginia Polytechnic Institute and State University (VA Tech)

Psychological Services Center
<http://www.psyc.vt.edu/centers/psc>

Child Study Center
<http://www.psyc.vt.edu/centers/csc>

Virginia Department of Behavioral Health and Developmental Services (DBHDS)

<http://www.dbhds.virginia.gov>

Virginia Federation of Families (formerly Parents and Children Coping Together [PACCT])

<http://www.mhav.org/virginia-federation-of-families.php>

Virginia Polytechnic Institute and State University (VA Tech)

Child Study Center, Intensive Pediatric OCD Program
460 Turner Street, Suite 207 – Blacksburg, VA 24061

Psychological Services Center
3110 Prices Fork Road – Blacksburg, VA 24061