eMentalHealth.ca

The Hincks-Dellcrest Centre

Obsessive compulsive disorder (OCD) in Children/Adolescents: Information for Psychiatry Residents

Image credit: Adobe Stock

Summary: OCD is characterized by obsessions and compulsions causing impairment of function. Treatments include cognitive behaviour therapy (CBT). Medication options include SSRIs; otherwise clomipramine; augmentation with antipsychotic.

Case, Part 1

You are asked to see Ophelia, a 15-yo female who is refusing to attend school due to fears of contamination.

2 years ago

- Gradual onset of having to wash her hair every morning due to fears of her hair being unclean. Over time, it increased in frequency, to the point of now being several times a day.

Stressors included:

- New teacher -- “she’d yell and scream at the class, especially me”,
- Male peers who noticed she was sensitive, and would play pranks on her.

Few months ago

- Fears have worsened, to the point where:
  - At school, she is unable to remove her coat at school, unable to touch door handles, and unable to eat around others.
  - At home, she is unable to eat foods prepared by others in the family due to worries that their unclean hands have touched the food -- she will only eat processed, packaged foods.

She saw her family physician, who started her on an SSRI, however, she did not tolerate it due to nausea, and so she stopped it.

What are you going to recommend?

Epidemiology

Prevalence of pediatric OCD:

- 1-2% in USA and elsewhere (Flament, 1988; Apter, 1996)

Onset has two peaks (Geller, 1998)

- Pre-adolescent children
- Young adults ~ age 21

Unfortunately, it is estimated that only 14-56% of those with OCD will seek help.

Theories of OCD

One theory for OCD is that having just enough the symptoms of OCD are actually helpful for survival (Brune, 2006).

On one hand, it is helpful to have the ability to think about possible threats, e.g. having just enough fears of contamination and germs helps one stay clear from microbes that cause disease.

On the other hand, those with OCD appear to have an excessive ability to think about possible threats, e.g. extreme avoidance of contamination that causes impairment of function. Perhaps they are more sensitive to begin with, and/or have experienced more accumulated lifetime stresses that lead them to feel unsafe and under threat.

Clinical Presentation

OCD typically has a subclinical onset that is not recognized in the beginning. It gradually worsens until it comes to the attention of parents or teachers due to worsening anxiety or increased impact of compulsive behaviours on daily routines.

Assessment

HPI	Tell me more…
Obsessions:	Any disturbing thoughts, images or urges that keep coming back over and over again? Examples: • Worries about germs or being contaminated? • Worries about terrible things happening?
Compulsions:	Any habits or rituals that you feel you have to do over and over again? E.g. hand washing, ordering, checking? E.g. paying, counting, repeating words?
Impairment	
• Cause clinically significant distress	Do these cause problems in your life?
• Time-consuming (e.g., take more than 1 hour per day)	Do you spend at least 1-hr a day doing them?
Psychiatric review of symptoms	
• Other obsessive-compulsive and related issues	Body dysmorphic disorder: Are you worried that there is something wrong with any part of your body? Hoarding: Do you have troubles getting rid of stuff, to the point where it causes problems? Trichotillomania: Any hair pulling? Excoriation disorder: Any skin picking? Obsessive-compulsive personality disorder: Are you a perfectionist?
• Anxiety	Any problems with anxiety / worries?

• Mood	Any problems with mood?
• ADHD	Any problems with concentration? Hyperactivity? Impulsivity?
• Tics and Tourette	Any movements that you can’t control, e.g. in your face? Hands? Legs? Etc.
• ASD	Any troubles getting along with other people?
• Eating disorders	Any concerns about your weight?
• Psychosis	Hearing any things that others can’t hear? Seeing any things that others can’t see?
Stresses and triggers	Any particular stresses at home? School (teachers, peers, bullying, academics, peer pressure)? Losses, disappointments, rejections?
Medical History	PANDAS: Was the onset of OCD sudden? Around that time, any fever, sore throat? Anyone at home with strep throat?

Physical Exam

General Observations	• Fear of contamination may lead to avoidance of touching (such as shaking hands, door knobs), keeping on jackets and coats. • Need for symmetry may manifest in touching or doing things in a symmetrical fashion. • Mental compulsions can lead to distraction, e.g. counting.
Extremities	• Hands may appear red and chapped chapping from repetitive washing

Investigations

There are no unique laboratory measures for diagnosing OCD.

Do you suspect PANS? If so, then consider

- Throat swab for strep
- Antistreptolysin O Titre (ASOT)

Diagnosis

DSM-5 Obsessive-Compulsive and Related Disorders include:

- OCD
- Body dysmorphic disorder
- Trichotillomania (hair pulling disorder)
- Hoarding disorder
- Excoriation (skin-picking)

DSM-5 Diagnostic Criteria for Obsessive-Compulsive Disorder

A. Presence of obsessions, compulsions, or both:

Obsessions are defined by (1) and (2):

1. Recurrent and persistent thoughts, urges, or impulses that are experienced, at some time during the disturbance, as intrusive and unwanted, and that in most individuals cause marked anxiety or distress.
2. The individual attempts to ignore or suppress such thoughts, urges, or images, or to neutralize them with some other thought or action (i.e., by performing a compulsion).

Compulsions are defined by (1) and (2):

1. Repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly.
2. The behaviors or mental acts are aimed at preventing or reducing anxiety or distress, or preventing some dreaded event or situation; however, these behaviors or mental acts are not connected in a realistic way with what they are designed to neutralize or prevent, or are clearly excessive.

Note: Young children may not be able to articulate the aims of these behaviors or mental acts.

B. The obsessions or compulsions are time-consuming (e.g., take more than 1 hour per day) or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The obsessive-compulsive symptoms are not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.

D. The disturbance is not better explained by the symptoms of another mental disorder, such as:

- Excessive worries, as in generalized anxiety disorder;
- Preoccupation with appearance, as in body dysmorphic disorder;
- Difficulty discarding or parting with possessions, as in hoarding disorder;
- Hair pulling, as in trichotillomania [hair-pulling disorder];
- Skin picking, as in excoriation [skin-picking] disorder;
- Stereotypies, as in stereotypic movement disorder;
- Ritualized eating behavior, as in eating disorders;
- Preoccupation with substances or gambling, as in substance-related and addictive disorders;
- Preoccupation with having an illness, as in illness anxiety disorder;
- Sexual urges or fantasies, as in paraphilic disorders;
- Impulses, as in disruptive, impulse-control, and conduct disorders;
- Guilty ruminations, as in major depressive disorder;
- Thought insertion or delusional preoccupations, as in schizophrenia spectrum and other psychotic disorders; or
- Repetitive patterns of behavior, as in autism spectrum disorder).

Reference: American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: Author.

Comorbid and Differential Diagnosis

Medical Differential Diagnosis

Paediatric acute-onset neurologic syndrome (PANS)	Formerly known as PANDAS, consider PANS if there is sudden onset OCD, eating disorder or tic symptoms that appear correlated with streptococcal infection. Criteria for PANS • Abrupt, dramatic onset of obsessive-compulsive disorder (OCD) **or** severely restricted food intake • Concurrent presence of additional neuropsychiatric symptoms, with similarly severe and acute onset, from at least two of the following seven categories ◦ Anxiety ◦ Emotional lability and/or depression ◦ Irritability, aggression and/or severely oppositional behaviors ◦ Behavioural (developmental) regression ◦ Deterioration in school performance ◦ Sensory or motor abnormalities ◦ Somatic signs and symptoms, including sleep disturbances, enuresis or urinary frequency • Symptoms are not better explained by a known neurologic or medical disorder, such as Sydenham chorea, systemic lupus erythematosus, Tourette disorder or others. For more information about PANS https://primarycare.ementalhealth.ca/index.php?m=fpArticle&ID=24737
Conditions that can contribute to anxiety symptoms but do not cause specific OCD symptoms	
• Gastric ulcer	
• Asthma	
• Hyperthyroidism	
• Stimulants and noradrenergic medications	E.g. stimulant medications for ADHD , noradrenergic medications (e.g. Atomoxetine [Strattera]), caffeine, diet pills, decongestants

Psychiatric Differential (and Comorbid) Diagnoses

Other obsessive-compulsive and related disorders	Body Dysmorphic Disorder: Obsessions and compulsions are limited to concerns about physical appearance. Trichotillomania: Compulsion is limited to hair pulling without obsessions. Hoarding: Is there an accumulation of items and possessions, with difficulties getting rid of them to the point where it causes problems? If so, consider hoarding disorder. Any skin picking?
Obsessive-compulsive personality disorder	Characterized by an enduring and pervasive maladaptive pattern of excessive perfectionism and rigid control. Not related to obsessions and compulsions.
Anxiety disorders	GAD: Excessive worries and recurrent thoughts are usually about real-life concerns. Social anxiety disorder: Fears limited to social interactions and behaviours focused on reducing social fear. Specific phobia: Feared objects more circumscribed. Panic disorder: Are there sudden onset episodes of anxiety?
Major depressive disorder	Ruminations in depression are usually mood-congruent; not necessarily experienced as intrusive or distressing.
Eating disorders	With eating disorders, there can be concerns about weight and food. With OCD, there may be concerns, but they are not primarily limited to concerns about weight and food.
Tourette syndrome, tics and stereotyped movements:	Are there any tics, i.e. involuntary movements? Tics are often preceded by premonitory sensory urges. Tics are not linked to obsessions.

Psychotic disorders	OCD may have delusional beliefs or poor insight, however OCD is not associated with hallucinations or formal thought disorders.

Course of Illness

Prognosis

- The long-term prognosis for pediatric OCD is better than previously thought; many children become clinically subthreshold over time and may achieve remission.
- Negative prognostic factors
  - Younger age of onset
  - Increased duration of symptoms
  - Severe symptoms, e.g. requiring inpatient treatment.
  - Comorbid psychiatric illness
  - Poor response to initial treatment

Morbidity

- Psychosocial function can often be impaired with increased difficulty forming relationships with peers and finding or sustaining employment.

Algorithm for OCD Treatment

Are symptoms mild to moderate, or comorbid tics?	→ If YES	CBT alone (without medications) • Reassess after adequate trial of CBT • Is there a lack of response? ∘ If YES → Add SSRI
Are symptoms moderate to severe?	→ If YES	CBT plus SSRI

Treatment: Non-medication

Psychoeducation:

- Validate parents' frustration with OCD
  - Accept and validate with parents how challenging it is to be coping with OCD. OCD symptoms cause frustration to the child, as well as to parents. Obsessions/compulsions are not logical, which leads parents to feel frustrated that the child can't stop doing them.
- Destigmatize
  - People with OCD often think "I'm crazy", or they get labelled as being "crazy" by friends and family.
  - Destigmatizing is about helping them accept themselves, and others accept them.
  - It thus helps to explain OCD as a brain disorder; explain the positives of OCD, e.g. its good to want to keep your hands clean, especially if you are a surgeon.
- Externalize symptoms as OCD
  - Re-frame the child's symptoms not as being internal to the child, but rather due to the OCD, which is external.
  - Clinician: "You have an urge to wash your hands over and over again. This is not you and not your fault. It is due to something called OCD. OCD is because part of your brain is acting a bit like a CD that skips a track (or whatever modern equivalent works)."
  - Younger kids might give it a name such as "germy", but adolescents are generally okay with simply calling it "OCD".

- Link to information about OCD
    - PENDING

Family support groups:

- High expressed emotion families may exacerbate symptoms in an effort to avoid blow ups and outbursts.
- Educate and support behavioural interventions

Psychotherapy:

- First line approaches
    - Cognitive behaviour therapy (CBT)
        - There is a large body of evidence for CBT for mild to moderate obsessive compulsive disorder.
        - Cognitive interventions: Identifying cognitive distortions and restructuring them.
        - Behaviour interventions: Exposure and response prevention (E/RP), i.e. gradually exposing patients to their fear, and preventing the compulsion.
    - Advantages of CBT
        - Good for mild to moderate OCD; better duration of benefit prolonged compared to medications only.
    - Disadvantages of CBT
        - CBT is more challenging in OCD with primarily obsessions as there is no compulsive behaviour to reduce.
- Second line
    - When first line treatments (such as CBT) are ineffective, consider:
        - Subcortical treatments such as EMDR.
        - Are there significant family conflicts? Consider family therapy.
        - Are there significant Interpersonal issues? Consider interpersonal psychotherapy (IPT).

Treatment: Medications

Indications

- Have non-medication strategies been tried without success?
- Is OCD so severe that the patient is unable to benefit from psychotherapy?

If so, consider medications.

First-line Medications

- SSRIs are first line as they are reasonably well tolerated
- Side effects typically insomnia, nausea, agitation, tremor, fatigue; may cause agitation in first 10 days or so
- How long to trial?
- Trial of 10-12 weeks at an adequate dosage.
- Time to response?
- Many OCD symptoms do not show improvement until 6 to 10 weeks

Medication	Dose Range	Comments
Sertraline	6-12 years: 25-200 mg/day; 13-17 years: 50-200 mg/day	FDA Approved for OCD treatment in adults and children 6-17 years)
Fluoxetine	6-12 years: 20-30 mg/day; 13-17 years: 20-60 mg/day	FDA Approved for OCD treatment in adults and children 7-17 years.)

Fluvoxamine	6-12 years: 50-200 mg/day; 13-17 years: 50-300 mg/day	FDA Approved for OCD treatment in adults and children 7-17 years)

Reference: Geller, 2012; Vitiello B, Psych Annals 2010; drug dosage information from various sources

2nd line

- Alternative SSRI or
- Clomipramine
  - Felt to be more effective than SSRIs, however has more side effects and hence is reserved after SSRIs have already been tried.
  - Some suggest that Clomipramine can be the second medication tried after trying one SSRI, however Dr. P. Arnold recommends starting Clomipramine after TWO SSRIs have been already tried, given the side effect profile of Clomipramine (CACAP, 2020).

Name	Dosage	Comments
Clomipramine	6 - 12 years: Starting dose 6.25 to 25mg up to a maximum of 3 mg/kg/day or 200 mg/day (whichever is less) 13 - 17 years: Starting dose of 25mg up to a maximum of 3 mg/kg/day or 200 mg/day (whichever is less)	FDA Approved for OCD treatment in adults and children 10-17 years. Clomipramine is felt to be effective, but is not first-line due to increased side effects compared to SSRIs

Baseline medical evaluation prior to TCA:

- History:
  - Any family history of heart disease?
  - Any personal history of non-febrile seizures?
- Physical:
  - Vitals: Blood pressure and HR,
  - Cardiovascular exam
- Investigations:
  - Baseline ECG.
- Contraindications:
- Are there any of the following?
  - PR interval > 200ms, QRS more than 30% increased over baseline or longer than 120ms, QTc>450ms, SBP > 140 or DBP >90, HR>130 at rest.
  - **If so, then DO NOT START** or **HOLD** current dosage and seek consultation.

Reference: Geller, 2012.

3rd line (Treatment Resistant OCD)

Is there treatment resistance, as defined by:

- Lack of response despite adequate trials of at least:
  - Two SSRIs, or
  - One SSRI and clomipramine trial (at least 10-weeks for each SSRI up to a recommended dosage for at least 3-weeks)
  - Failure of adequately delivered CBT

Options for Augmentation

Are you seeing a partial response to SSRI or clomipramine?

- If so
  - Add CBT if not already implemented

- Atypical antipsychotics (RCT evidence in adults, only open trials in children)
  - Regular weight and adverse event monitoring
  - May be particularly helpful if comorbid tics
  - Options

Medication	Dosage	Comments
Risperidone	Start at 0.25 mg daily (if <20 kg) or 0.5 mg daily (if > 20 kg) Increase to 0.5 mg daily (if <20 kg) or 1 mg daily (if >20 kg) Maximum 0.5-3 mg daily	**Off-label for OCD:** Use lower dosages than with monotherapy Adults: FDA approved for schizophrenia. Children/youth: FDA approved for “irritability associated with autistic disorder”.
Aripiprazole		**Off-label for OCD:** Use lower dosages than with monotherapy
Quetiapine		**Off-label for OCD:** Use lower dosages than with monotherapy; less effective than Risperidone, Aripiprazole.
Olanzapine		**Off-label for OCD:** Use lower dosages than with monotherapy; less effective than Risperidone, Aripiprazole.

- SSRI + Clomipramine combo
  - Anecdotally it has been noted that when patients are not responding to an SSRI trial, that as the SSRI is being tapered down and a Clomipramine is being started, that parents appear to do better while on both medications.
  - As a result, sometimes patients are simply continued on both SSRI and the Clomipramine.

- Glutamate agents
  - Memantine
    - Open label studies in adults/adolescents was promising (Evelyn Stewart et al., 2010)
    - Dosage
      - Start at 5 mg daily, increase to 5 mg bid (Stewart, 2010)
  - N-Acetylcysteine (NAC)
    - Dosage
      - Adults: Start 1000 mg twice daily x 1-week, then increase to 1500 mg twice daily (Couto, 2018)
      - Adolescents: Start 600 mg twice daily, titrate up to 1200 mg twice daily (Arnold, 2020)
  - Riluzole
    - Small RCT in pediatrics was negative (Grant et al., 2013)

Other Medications

Venlafaxine XR	6-12 years: Start at 37.5 mg, increase to 75 mg initial target; max 150 mg daily 13-17 years: Start at 37.5-75 mg daily, increase to 150 mg daily initial target; maximum 225-300 mg daily	Approved in adults for MDD, GAD and social anxiety Not FDA nor Health Canada approved for any indications in children/youth; nonetheless, has been used clinically for depression, anxiety and ADHD

Citalopram	6-12 years: Start at 5-10 mg daily; initial target 10 mg daily; maximum 20 mg daily 13-17 years; start at 10 mg daily; increase up to 20 mg daily initial target; maximum 40 mg daily	Off-label for OCD Watch for increased QT prolongation risk, which is why it is recommended to not exceed 40 mg daily
Mirtazapine	6-12 years: Safety not established 13-17 years: Start at 15 mg qhs, increase to 30 mg initial target (dosage information from Haapasalo-Pesu, 2004)	Adults: Approved by FDA/Health Canada for depression Children/youth: No approved indications by FDA / Health Canada Clinically used mood/anxiety and increasing appetite

Reference: Geller, 2012; Vitiello B, Psych Annals 2010; drug dosage information from various sources

Case, Part 2

You are asked to see Ophelia, a 15-yo female who is refusing to attend school due to fears of contamination. She has tried a trial of SSRI, but did not tolerate it.

What are you going to recommend?

Step 1:

- Trial of psychotherapy, such as CBT. Exposure/response prevention could be helpful for the cleanliness compulsions.

Step 2

- If CBT is insufficient, next steps for medication could be
  - An alternate SSRI, in the hope that it might be better tolerated

Step 3

- Clomipramine

Quiz

You are seeing a 15-yo patient who presents with obsessions/compulsions. You diagnose mild OCD. What do you recommend starting with for treatment?

1. SSRI
2. **Cognitive behaviour therapy with exposure/response prevention -- CORRECT**
3. Clomipramine
4. Venlafaxine XR

Your patient does not respond to cognitive behaviour therapy. What do you recommend next?

1. **SSRI -- CORRECT**
2. Clomipramine
3. Risperidone
4. Bloodwork to rule out PANS.

References

Apter A, Fallon TJ Jr, King RA, et al. Obsessive-compulsive characteristics: from symptoms to syndrome. J Am Acad Child Adolesc Psychiatry. 1996;35:907-912.

Biederman, J. Sudden death in children treated with a tricyclic antidepressant: a commentary. J Am Acad Child

Adolesc Psychiatry. 1991; 30: 495–497.

Brune M: The evolutionary psychology of obsessive-compulsive disorder: the role of cognitive metarepresentation. Perspect Biol Med. 2006 Summer;49(3):317-29.
https://www.ncbi.nlm.nih.gov/pubmed/16960303

Flament M, Whitaker A, Rapoport J, et al. Obsessive compulsive disorder in adolescence: An epidemiological study. J Am Acad Child Adolesc Psychiatry. 1988;27:764-771.

Geller D, Biederman J, Jones J, et al. Is juvenile obsessive compul- sive disorder a developmental subtype of the disorder? A review of the pediatric literature. J Am Acad Child Adolesc Psychiatry. 1998;37:420-427.

Practice Guidelines

Geller, Daniel A. et al. Practice Parameter for the Assessment and Treatment of Children and Adolescents With Obsessive-Compulsive Disorder. Journal of the American Academy of Child & Adolescent Psychiatry, Jan 2012. 51(1): 98 - 113.
https://www.jaacap.org/article/S0890-8567(11)00882-3/abstract

About the Authors

Chris Taplin, Psychiatry Resident, uOttawa Class of 2024. No conflicts of interest to declare.

Michael Cheng, Staff Psychiatrist, CHEO. Has received unrestricted educational grant from Lundbeck/Otsuka in the past for web development for eMentalHealth.ca/PrimaryCare. Any potential conflicts are mitigated by ensuring that all recommendations are consistent with best practices.

Dhiraj Aggarwal, Staff Psychiatrist, CHEO. No conflicts of interest to declare.

Olivia Macleod, Staff Psychiatrist, CHEO. No conflicts of interest to declare.

Disclaimer

This information is offered ‘as is' and is meant only to provide general information that supplements, but does not replace the information from a qualified expert or health professional. Always contact a qualified expert or health professional for further information in your specific situation or circumstance.

Creative Commons License

You are free to copy and distribute this material in its entirety as long as 1) this material is not used in any way that suggests we endorse you or your use of the material, 2) this material is not used for commercial purposes (non-commercial), 3) this material is not altered in any way (no derivative works). View full license at
https://creativecommons.org/licenses/by-nc-nd/4.0/