CHILDREN'S MENTAL HEALTH RESEARCH

Quarterly

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Helping children with obsessive-compulsive disorder

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Quarterly

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Children's Health Policy Centre

About the *Quarterly*

We summarize the best available research evidence on a variety of children's mental health topics, using systematic review and synthesis methods adapted from the *Cochrane Collaboration*. We aim to connect research and policy to improve children's mental health. The BC Ministry of Children and Family Development funds the *Quarterly.*

About the Children's Health Policy Centre

We are an interdisciplinary research group in the Faculty of Health Sciences at Simon Fraser University. We focus on improving social and emotional well-being for all children, and on the public policies needed to reach these goals. To learn more about our work, please see childhealthpolicy.ca.

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This Issue

NEXT ISSUE

Childhood mental disorders: Prevalence and service needs

We present findings from a recent systematic review and meta-analysis on the number of children affected by mental disorders. We also dig deeper into the data – looking at how many children with disorders are, or are not, receiving needed treatments, and suggesting ways to address service gaps.

How to Cite the *Quarterly*

We encourage you to share the *Quarterly* with others and we welcome its use as a reference (for example, in preparing educational materials for parents or community groups). Please cite this issue as follows:

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We celebrate the Indigenous Peoples whose traditional lands Quarterly team members live and work on.

OVERVIEW

Understanding OCD

Many children experience repetitive thoughts and behaviours. A preschooler may insist on having the same book read to her every night for several months. A middle-schooler may repeatedly express his fear of catching COVID-19 after starting a new afterschool program. But these kinds of typical behaviours differ from the more intense, enduring and impairing obsessions and compulsions that are the hallmarks of obsessive-compulsive disorder (OCD).

Obsessions involve recurrent and persistent thoughts or images that are intrusive, unwanted and time-consuming, taking more than an hour per day.[1] Compulsions, meanwhile, are repetitive behaviours or mental acts that a child feels obliged to do, typically to relieve distress associated with an obsession.[1] Young people with OCD usually experience both obsessions and compulsions.[1] Table 1 describes particularly common obsessions and compulsions that children with OCD experience.

Approximately 2,200 children in BC meet diagnostic criteria for OCD at any given time.

Table 1: Common Themes for Childhood OCD (Adapted from Krebs & Heyman, 2015)[2]

Obsessions	Compulsions
Contamination (e.g., worrying about germs causing illness or death)	Excessive washing and cleaning
Aggression/harm (e.g., disturbing thoughts/images about hurting others or harm befalling others)	Checking (e.g., repeatedly ensuring doors are locked)
Symmetry (e.g., making things "just right")	Excessive ordering and arranging
Sexual (e.g., disturbing thoughts/images of a sexual nature)	Checking (e.g., repeatedly keeping hands in places where touching cannot occur)
Religious (e.g., fear of breaking religious rules or offending God)	Excessive praying

Prevalence and development of childhood OCD

A recent meta-analysis estimated that 0.3% of children meet diagnostic criteria for OCD at any given time, which equates to about 18,500 children in Canada and 2,300 children in BC.[3–4] OCD also starts early, with nearly 25% of boys developing OCD before age 10 and with 25% of overall cases emerging by age 14.[1] This early onset makes it crucial to identify these young people and provide effective treatments quickly, so children can thrive and so OCD does not persist into adulthood.[1]

What puts children at risk?

Substantial research has explored causal factors for OCD, including the role of biological variables. More specifically, a recent meta-analysis of 113 studies confirmed that multiple polymorphisms, or genetic changes, related to the regulation of neurotransmitters (such as serotonin and catecholamines) played a significant

role in the development of OCD.[5] Yet the study's authors also found that the role of each polymorphism was modest, and suggested that causal mechanisms likely involve small, incremental contributions from multiple genes.[5]

Researchers have also examined possible links between childhood streptococcal infections and the development of OCD.[6] A recent systematic review and meta-analysis found that children with these infections did *not* have significantly higher OCD symptom rates.[6]

Rigorous research examining the role of non-biological factors in the development of childhood OCD has also been growing. In particular, a prospective study followed a representative cohort of approximately 1,000 children from birth, while also examining a host of potential risk factors (including perinatal problems, family socio-economic status, child behaviour concerns, child cognitive abilities and other child mental health issues).[7] Only anxiety, depression and substance use difficulties in earlier adolescence were significant predictors for developing OCD by age 18. Still, most youth with these conditions did not go on to develop OCD.[7]

When young people do develop OCD, quick access to effective care is paramount.

Another study retrospectively assessed the role of stressful life events in the development of OCD among more than 22,000 Swedish twins.[8] Researchers found that child maltreatment and family disruption were associated with greater OCD symptom severity.[8] Notably, these risks remained significant even after adjusting for genes and environments shared by the identical twins.[8]

Although such studies examining potential risk factors for OCD have identified both biological and environmental variables, it is important to recognize that the unique contribution of each of the identified variables was relatively small. This suggests that more research is needed to understand how OCD develops. In particular, studies identifying additional *modifiable* risk factors will be particularly helpful in informing and guiding the development of preventive interventions.

Can we protect children from developing OCD?

Research on protective factors for OCD is also beginning to emerge. For example, a prospective study in a representative sample of 515 adolescents identified one modifiable protective factor.[9] Specifically, having higher emotional stability was associated with having fewer OCD symptoms in adolescence.[9] (Emotional stability was defined as the ability to regulate emotions, or maintain a balanced affect over time.)

How can new research help children?

While research continues on risk and protective factors, we do not yet have definitive answers on how to prevent childhood OCD. Still, data on modifiable risk and protective factors can be helpful in suggesting approaches to reduce the likelihood of OCD. For example, young people can be provided with effective programs to prevent and treat problems associated with developing OCD, including anxiety, depression and substance misuse. Similarly, interventions can be provided that prevent child maltreatment while supporting children's healthy emotional development.

When young people do develop OCD, quick access to effective care is paramount. This is particularly important during the COVID-19 pandemic, as some data suggest OCD symptoms for children and youth have worsened since this public health crisis began.[10] The following Review article highlights effective treatments as well as ways that families can support children.

REVIEW

Ousting obsessions and cutting compulsions

Families can play an important role in a child's treatment for OCD.

Nearly a decade ago, the *Quarterly* team summarized the best available research on treatments for childhood OCD. Cognitive-behavioural therapy (CBT) emerged as having strong evidence of success, with 10 rigorous studies showing positive outcomes, including significant reductions in symptoms and substantial improvements in well-being.[11] (Please see the accompanying sidebar for more information on CBT for this disorder.) We also found evidence supporting the medications fluoxetine and sertraline. Both drugs reduced symptoms and had more favourable adverse event profiles than other effective medications, including paroxetine and clomipramine.[11] Given new research that has amassed since that issue, the *Quarterly* team conducted a new systematic review of OCD treatments.

To ensure high-quality evaluations, we required studies to use randomized controlled trial (RCT) evaluation methods. This requirement included comparing psychosocial treatments and medications to control groups (i.e., no treatment, placebo or treatments typically available in community). We also accepted head-to-head trials comparing two treatments, provided one already had established effectiveness compared to a control group. We conducted new searches covering RCTs published in the past eight years. We also required studies to be conducted in high-income countries to ensure applicability to policy and practice in Canada. (The Methods section provides details on our search strategy and inclusion criteria.)

Applying these methods, we accepted 12 RCTs from the 299 articles we screened. Four studies evaluated psychosocial treatments compared to controls: two on Family CBT,[17–18] one on Internet-based CBT;[19] and one on Positive Family Interaction Therapy as a supplement to CBT.[20] Three head-to-head studies compared two different types of CBT: Family CBT with less versus more parental involvement;[21] In-person versus Telephone-based CBT;[22] and In-person versus Internet-based CBT.[23] In addition, five studies evaluated medications compared to placebo: one on riluzole;[24] and four on medications used to supplement CBT, including three on D-cycloserine[25–27] and one on sertraline.[28]

What does cognitive-behavioural therapy for OCD involve?

CBT for OCD typically begins with practitioners presenting children and parents with information about the disorder, including explaining what the treatment will involve.[12–15] As part of this process, children are often encouraged to give the disorder a "nasty nickname" — to help them resist their symptoms and not blame themselves for having OCD.[16] Children also identify their specific obsessions, compulsions, triggers and avoidance behaviours as part of developing the treatment plan.[12–15]

To address physical OCD symptoms, children learn specific behavioural strategies such as relaxation and breathing techniques.[12, 15] Children also learn cognitive strategies such as challenging their beliefs about the likelihood of feared outcomes coming true.[16] Children then practise exposure and response prevention, the core component of CBT.[12–15] This involves children confronting their obsessions while resisting the urge to engage in compulsions.[13]

New twists on an established treatment

Both Family CBT studies focused on young children.[17–18] The first compared Family CBT to treatments available in the community (such as parent programs and individual child therapy) for children ages three to eight.[17] Family CBT consisted of 12 sessions focused on typical CBT techniques, including providing education about OCD and its treatment and practising exposure and response prevention. It also included helping parents avoid behaviours that could encourage their child's symptoms, such as altering family routines to avoid anxiety-provoking situations or assisting in OCD rituals.[17] (Please see the accompanying sidebar for more information on family accommodation of OCD symptoms.)

The second study compared Family CBT to relaxation strategies for children ages five to eight.[18] Family CBT began with two sessions for parents only, focusing on behaviour management skills such as rewarding efforts at exposure and response prevention. These were followed by 10 sessions for parents and children together using typical CBT techniques.[18]

The third psychosocial study compared Internet-based CBT to a waitlist control condition for 12- to 17-year-olds.[19] Internet-based CBT consisted of 12 online sessions providing readings, films and guidance for exposure and response prevention exercises. Internet sessions were supplemented with

Helping parents disengage from supporting compulsions

Watching a child struggle with OCD symptoms can be both agonizing and frustrating. As a result, many family members try to help by participating in or assisting with their child's OCD rituals. This can range from a mother repeatedly answering her son's questions about his well-being to reduce his distress to a father changing his work schedule to allow more time for his daughter to repeatedly check the locks when leaving home. The frequency of family members participating in children's OCD symptoms is so common that the term "family accommodation" was coined to describe it.

In fact, one study found that 99.0% of parents reported participating in at least one type of accommodating behaviour and 77.1% reported doing so daily.[29] Despite parents having the best of intentions, accommodating OCD symptoms comes with risks, including maintaining or worsening the severity of the child's symptoms and impairment.[30–31] But the good news is that parents can learn strategies that help them disengage from these behaviours, as shown in several of the CBT studies we feature in this review.

Parents can help their child to overcome symptoms of OCD by supporting them to confront their obsessions.

regular electronic messages from a practitioner plus occasional telephone calls. As well, parents participated in five online sessions focused on the family's role in accommodating symptoms, on coping strategies and on providing support during exposure and response prevention exercises.[19]

The fourth psychosocial study assessed the impact of augmenting CBT with Positive Family Interaction Therapy, compared to augmenting it with a parent education control group, for eight- to 17-year-olds.[20] To be included, families had to have two or more indicators — such as high levels of blame and criticism by parents — that have been shown to predict limited child responses to CBT. Children in both conditions received 12 individual CBT sessions, while those randomized to Positive Family Interaction Therapy received six added sessions of this particular treatment. The added sessions included monitoring emotional responses to OCD, practising emotional regulation, and learning problem-solving skills, including disengaging from accommodating OCD symptoms. Parent education consisted of 12 sessions that included receiving information about OCD and reviewing their child's CBT sessions.[20] Table 2 summarizes these four RCTs.

Table 2: Psychosocial Studies with Control Groups

Intervention	**Approach**	**Sample size**	**Child ages** (country)
Psychosocial treatments assessed independently			
Family CBT[17]	12 family CBT sessions over 6 weeks	31	3–8 yrs (United States)
Family CBT[18]	2 parent-only CBT sessions + 10 family CBT sessions over 14 weeks	127	5–8 yrs (United States)
Internet-based CBT[19]	12 child CBT sessions + 5 parent sessions both via the internet over 12 weeks	67	12–17 yrs (Sweden)
Psychosocial treatments assessed as a supplement to CBT			
Positive Family Interaction Therapy[20]	6 family therapy sessions focused on family responses to OCD over 12 weeks	62	8–17 yrs (United States)

Building on the evidence for CBT

The first Family CBT study showed multiple benefits at the end of treatment.[17] These included large reductions in OCD symptoms based on five measures assessed by blinded raters (including four showing substantial clinical impact, with Cohen's *d* ranging from 1.24 to 1.69).[17] Similarly, children's overall functioning improved, also with a large effect size (d = 1.31). Family accommodation of children's OCD symptoms — including decreases in behaviours such as families participating in the child's OCD rituals or modifying family routines — was also significantly reduced, again with a large effect size (d = 1.01).[17]

The second Family CBT study also showed benefits at the end of treatment.[18] These included significant reductions in OCD symptoms based on two measures assessed by blinded raters (d = 0.31–0.84). As well, children's functioning significantly improved based on parent ratings (d = 0.42). However, parent ratings did not show a significant improvement in children's quality of life.[18]

There is strong support for using CBT to treat childhood OCD – whether in person, by phone or online.

Internet-based CBT also had several positive outcomes at the end of treatment.[19] These included significant reductions in OCD symptoms based on three measures assessed by blinded raters (d = 0.69), parents (d = 0.59) and children (d = 0.64), all with medium effect sizes. Also, children's functioning significantly improved based on parent but not child report. Finally, family accommodation of OCD symptoms was also significantly reduced, with a medium effect size (d = 0.54). Researchers also

conducted cost-effectiveness analyses which found that Internet-based CBT produced net savings of $145 per youth (in 2016 US$).[32] Savings were predominately due to waitlist youth accruing more health care costs, such as practitioner visits.[32]

As well, Positive Family Interaction Therapy proved to be a helpful supplement to CBT.[20] At the end of treatment, participating children had significant reductions in OCD symptoms based on two measures completed by blinded raters, including one with a small effect size (ϕ = 0.28). In addition, children's overall functioning improved according to parent report, and families reduced their accommodation of OCD symptoms according to blinded rater report.[20] Table 3 summarizes outcomes from these four studies.

Table 3: Psychosocial Studies with Control Group Outcomes

Intervention	Follow-up	Outcomes
Psychosocial treatments assessed independently		
Family CBT[17]	None	↓ OCD symptoms (5 of 5) ↑ Overall functioning ↓ Family accommodation of OCD symptoms
Family CBT[18]	None	↓ OCD symptoms (2 of 2) ↑ Overall functioning NS Quality of life
Internet-based CBT[19]	None	↓ OCD symptoms (5 of 5) ↑ Overall functioning (1 of 2) ↓ Family accommodation of OCD symptoms
Psychosocial treatments assessed as a supplement to CBT		
Positive Family Interaction Therapy[20]	None	↓ OCD symptoms (2 of 2) ↑ Overall functioning ↓ Family accommodation of OCD symptoms

↓ or ↑ Statistically significant improvements for intervention group compared with control group.
NS No significant difference between intervention and control groups.

Learning by directly comparing different versions of CBT

We accepted three head-to-head RCTs, all comparing different forms of CBT. The first study assessed differing levels of parent involvement in the 14 CBT sessions provided to their 12- to 17-year-old children.[21] In the version with less involvement, one or both parents joined the first, seventh and final sessions. These sessions covered education about OCD and its treatment, updates on therapy progress and plans for success after therapy ended. In the version with more involvement, one or both parents joined all 14 CBT sessions. Parent involvement included helping to develop the treatment plan, assisting in therapy activities such as facing feared situations, and rewarding the child's progress.[21]

The second head-to-head trial examined whether Telephone-based CBT had the same benefits as in-person delivery (i.e., a non-inferiority trial) for 11- to 18-year-olds.[22] All young people received 14 CBT sessions. The only difference was whether they met with their practitioner in person or by phone.[22]

The benefits of CBT have been shown to last at least one year after treatment ended.

The third head-to-head trial evaluated whether Internet-based CBT had the same benefits as in-person delivery for eight- to 17-year-olds.[23] All young people received 14 CBT sessions. The only difference was whether they completed the sessions with their practitioner in person or independently online. (For youth completing sessions over the internet, practitioners also sent messages and were available for telephone support if needed.) Three months after completing treatment, any child who

continued to have significant OCD symptoms — whether they received in-person or online CBT — was offered up to 12 sessions of in-person CBT.[23] Table 4 summarizes these three head-to-head RCTs.

Table 4: Psychosocial Head-to-Head Comparison Studies

Intervention	Approach*	Sample size	Child ages (country)
CBT with Less Parental Involvement	14 CBT child sessions where parent(s) participated in 1st, 7th + final sessions over 14 weeks	50	12 –17 yrs (United Kingdom)
CBT with More Parental Involvement [21]	14 CBT child sessions where parent(s) participated in all sessions over 14 weeks		
Telephone-based CBT	14 CBT child sessions by telephone over 17 weeks	72	11–18 yrs (United Kingdom)
In-person CBT [22]	14 CBT child sessions in person over 17 weeks		
Internet-based CBT	14 CBT child sessions online over 16 weeks	152	8 –17 yrs (Sweden)
In-person CBT [23]	14 CBT child sessions in person over 16 weeks		

* Unless otherwise noted, CBT sessions were delivered individually to children.

All forms of CBT led to benefits

The first head-to-head trial found that levels of parent involvement in treatment made no significant difference for child OCD outcomes at six-month follow-up.[21] In fact, both levels resulted in statistically and clinically significant reductions in OCD symptoms according to blinded raters. The effect size for both was also large at six-month follow-up (d = 1.53 for less parent involvement vs. d = 1.50 for more).[21]

Similarly, Telephone-based CBT was just as beneficial as In-person CBT by one-year follow-up.[22] Specifically, both versions resulted in substantial reductions in OCD symptoms according to youth and parent reports and a blinded rater measure. As well, overall functioning improved for both groups according to clinician ratings at one-year follow-up. Notably, 94.4% of young people reported being satisfied with their treatment, with no differences between Telephone-based or In-person CBT.[22]

Internet-based CBT was also just as beneficial as In-person CBT at final follow-up.[23] Follow-up varied, however. Nearly a third of young people (29.6%) continued to have significant symptoms three months after completing either version. For these children, final follow-up occurred just after they received 12 supplemental in-person CBT sessions. For the remaining participants, final follow-up occurred six months after treatment ended. Whether CBT was delivered in person or online, symptoms were substantially reduced on the one blinded rater measure. Most young people also reported high satisfaction with treatment, for both In-person and Internet-based CBT.[23] Table 5 summarizes outcomes from these three studies.

Table 5: Psychosocial Head-to-Head Comparison Study Outcomes

Intervention	Follow-up	Outcomes
CBT with Less vs. More Parental Involvement [21]	6 months	**For both treatments:** ↓ OCD symptoms
Telephone-based vs. In-person CBT* [22]	1 year	**For both treatments:** ↓ OCD symptoms (3 of 4) ↑ Overall functioning
Internet-based vs. In-person CBT* [23]	0 – 6 months**	**For both treatments:** ↓ OCD symptoms

↓ or ↑ Improvements for given treatment from baseline to specified follow-up period.
* Non-inferiority trial where researchers did not test for statistically significant differences over time.
** 29.6% of children who had significant symptoms after course of treatment then received 12 in-person CBT sessions resulting in no follow-up; for the remaining children, follow-up was six months.

Placebo-controlled medication studies

The riluzole study assessed effectiveness in "treatment-resistant" seven- to 17-year-olds.[24] (Treatment resistance was defined as lack of benefit from or inability to tolerate a serotonin reuptake inhibitor, medications typically used to treat OCD.)[33] Participants receiving the medication started at a dose of 10 mg daily, gradually increasing to 100 mg daily. Children were not permitted to participate in CBT or other structured psychosocial treatments during the study. Children received riluzole or placebo for 12 weeks.[24]

Internet delivery may help reduce costs because it requires less practitioner time.

The first D-cycloserine trial assessed the medication's effectiveness as a supplement to CBT for "difficult to treat" eight- to 18-year-olds.[25] (Children were deemed difficult to treat if six or more CBT sessions with adequate exposure and response prevention had limited or no benefit.) All participants received nine CBT sessions, with brief parental involvement at the beginning and end of each. D-cycloserine or placebo was given one hour before the specific sessions that included exposure and response prevention (sessions 5 through 9). This timing was chosen with the expectation that D-cycloserine could reduce fear when children were exposed to anxiety-provoking situations. Children received either 25 or 50 mg of D-cycloserine, depending on their weight.[25]

The second D-cycloserine trial also assessed its effectiveness as a supplement to CBT for seven- to 17-year-olds with OCD (without being limited to those deemed "difficult to treat").[26] All participants received 10 Family CBT sessions over eight weeks. D-cycloserine or placebo was given one hour before sessions that included exposure and response prevention (sessions 4 through 10). Once again, children received either 25 or 50 mg of D-cycloserine, depending on their weight.[26]

The third D-cycloserine trial assessed its effectiveness as a supplement to CBT with 12- to 18-year-olds.[27] All participants received 14 CBT sessions. D-cycloserine (50 mg) or placebo was given after each of the sessions that included exposure and response prevention (sessions 3 through 12).[27]

The sertraline trial assessed its effectiveness as a supplement to CBT for seven- to 17-year-olds.[28] Both fixed and flexible dosing schedules were evaluated. All intervention participants began at 25 mg daily, with possible increases to 200 mg. Flexible dosing allowed young people to reach maximum dose by five weeks, while fixed dosing enabled them to reach maximum dose by nine weeks. All young people then received either sertraline or placebo for 18 weeks. All participants also received 14 individual CBT sessions.[28] Table 6 summarizes these five medication RCTs.

Table 6: Placebo-Controlled Medication Studies

Medication	**Approach**	**Sample size**	**Child ages** (country)
Assessed alone			
Riluzole[24]	Beginning with 10 mg daily dose, with increases until 100 mg daily dose reached over 12 weeks	60	7–17 yrs (United States)
Assessed as a supplement to CBT			
D-cycloserine[25]	25 or 50 mg prior to CBT sessions 5–9	17	8–18 yrs (Australia)
D-cycloserine[26]	25 or 50 mg prior to CBT sessions 4–10	142	7–17 yrs (United States)
D-cycloserine[27]	50 after CBT sessions 3–12	27	12–18 yrs (United Kingdom)
Sertraline[28]	Beginning with 25 mg daily dose, with increases up to 200 mg daily dose over 18 weeks	56	7–17 yrs (United States)

Medications did not show benefits

Riluzole failed to produce benefits at the end of treatment.[24] Specifically, this medication did no better than placebo based on three OCD symptom measures and one overall functioning measure, according to blinded raters.[24] (Because a placebo was used in every included medication study, all outcome raters — including parents and children — were blinded. But we use the term *blinded raters* here to refer to researchers or clinicians involved in the study.)

The first D-cycloserine trial also failed to show benefits at the end of treatment.[25] D-cycloserine did no better than placebo on OCD diagnosis or symptom measures, including three completed by blinded raters and one completed by parents.[25]

The second D-cycloserine trial similarly failed to show benefits at the end of treatment. The medication did no better than placebo on OCD symptom measures, including three completed by blinded raters and one completed by parents.[26]

The final D-cycloserine trial likewise found no evidence of benefits at one-year follow-up.[27] Specifically, the medication did no better than placebo on three OCD symptom measures — all completed independently by blinded raters, parents and youth. Similarly, there were no significant benefits according to a measure of children's overall functioning, also completed by blinded raters.[27]

Sertraline also failed to produce benefits at the end of treatment.[28] Sertraline did no better than placebo on two OCD symptom measures completed by blinded raters or on two overall functioning measures completed by parents and children.[28] Table 7 summarizes outcomes from these five medication studies.

As with all treatments, CBT needs to begin with the practitioner establishing positive rapport and needs to be provided with cultural sensitivity.

Table 7: Placebo-Controlled Medication Study Outcomes

Medication	Follow-up	Outcomes
Assessed alone		
Riluzole[24]	None	NS OCD symptoms (3 of 3) NS Overall functioning
Assessed as a supplement to CBT		
D-cycloserine[25]	None	NS OCD diagnosis NS OCD symptoms (4 of 4)
D-cycloserine[26]	None	NS OCD symptoms (4 of 4)
D-cycloserine[27]	1 year*	NS OCD symptoms (3 of 3) NS Overall functioning
Sertraline[28]	None	NS OCD symptoms (2 of 2) NS Overall functioning (2 of 2)

NS No significant difference between intervention and placebo groups.
* All outcomes were also non-significant between intervention and placebo groups at post-test.

Implications for practice and policy

The findings from this systematic review, coupled with findings from previous *Quarterly* issues, offer significant hope for children with OCD and their families. Specifically, there is strong support for using CBT to treat childhood OCD — whether in person, by phone or online. Family CBT is also effective for children as young as age three years. And CBT has been successful when young people have concurrent mental health diagnoses.[17–18, 20–22] As well, the benefits of CBT have been shown to last at least one year after treatment ended.[22]

When CBT alone does not resolve OCD symptoms, there are other treatment options. Positive Family Interaction Therapy can be helpful when families experience challenges such as parents expressing high levels of criticism towards their child. In addition, as detailed in our previous *Quarterly* issue, the medications fluoxetine and sertraline can be useful supplements when CBT does not fully resolve the symptoms.[11] (While the sertraline trial featured in the current review did not show effectiveness, two previous RCTs did show success, including significant symptom reductions with moderate effect sizes. Fluoxetine similarly showed significant symptom reductions with moderate effect sizes based on three RCTs.)[11] On balance, these findings suggest five implications for practice and policy.

- *Start with CBT for childhood OCD.* A strong body of evidence supports CBT — showing that it produces clinically meaningful reductions in both symptoms and diagnoses.[13] It is also effective for children ranging from ages three to 18 years. CBT should therefore be the starting point for treatment.
- *Build CBT capacity.* Despite the strong evidence for CBT's effectiveness in treating OCD, many young people have difficulties finding a practitioner to provide this intervention.[22] In fact, in most countries, young people with OCD have limited access to CBT.[23] Canadian policy-makers therefore may need to invest in training so that more practitioners can provide this highly effective treatment in public settings — and so that all children with OCD can receive timely treatment, with no out-of-pocket costs.
- *Support family involvement.* CBT for OCD often incorporates families into the treatment. The roles for families can be extensive, ranging from helping to develop treatment goals to encouraging children to practise exposure and response prevention. For younger children, family involvement is particularly critical, as Family CBT is the form of CBT that has shown efficacy with children younger than age eight. For older children, family involvement should also be encouraged where feasible. As well, when family issues impede CBT's effectiveness, Positive Family Interaction Therapy may be a helpful addition.
- *Reach more children in need by expanding delivery options.* Many children can benefit from CBT without ever entering a practitioner's office. Studies show the effectiveness of telephone- and internet-based CBT equals that of in-person delivery for many children. These delivery modalities also make it possible to reach more children, including those in more remote communities — particularly helpful during the COVID-19 pandemic as well as beyond. Internet delivery may also help reduce costs because it requires less practitioner time.
- *Consider medications when CBT does not succeed.* Some children continue to experience impairing symptoms, even after an adequate course of CBT. For these children, medications should be considered — particularly fluoxetine and sertraline, given their efficacy and more favourable adverse event profile. Still, children taking either medication need to be carefully monitored to assess both its effectiveness and potential adverse events.

Ensuring timely and barrier-free access to effective OCD treatments is the best way to help children with this condition.

All children diagnosed with OCD need rapid access to CBT. By providing this treatment early in the course of the disorder, associated distress and impairment for children and their families can be greatly contained. As with all treatments, CBT needs to begin with the practitioner establishing positive rapport and needs to be provided with cultural sensitivity. For some children, medications such as fluoxetine and sertraline may also be needed. Ensuring timely and barrier-free access to effective OCD treatments is the best way to help children with this condition — to support them to flourish and to mitigate ongoing problems.

METHODS

We use systematic review methods adapted from the *Cochrane Collaboration*.[34] We build quality assessment into our inclusion criteria to ensure that we report on the best available research evidence, requiring that intervention studies use randomized controlled trial (RCT) evaluation methods and meet additional quality indicators. For this review, we searched for RCTs on interventions aimed to treat childhood OCD. Table 8 outlines our database search strategy.

Table 8: Search Strategy

Sources	• Campbell Systematic Reviews, Cochrane Database of Systematic Reviews, CINAHL, ERIC, Medline and PsycINFO
Search Terms	• Obsessive-compulsive disorder or OCD *and* intervention, prevention or treatment
Limits	• Peer-reviewed articles published in English from 2013 to 2021 • Pertaining to children aged 18 years or younger • Systematic review, meta-analysis or RCT methods used

To identify additional RCTs, we also hand-searched the reference lists from relevant systematic reviews and previous issues of the *Quarterly*. Using this approach, we identified 70 articles describing 35 studies. Two team members then independently assessed each article, applying the inclusion criteria outlined in Table 9.

Table 9: Inclusion Criteria for RCTs

- Study authors provided clear descriptions of participant characteristics, settings and interventions
- Interventions aimed to reduce OCD symptoms
- Interventions were evaluated in settings comparable to Canada
- Attrition rates were 20% or less at final assessment and/or intention-to-treat analysis was used
- Child outcome indicators included OCD symptoms, assessed using two or more informant sources
- Reliability and validity were documented for primary outcome measures
- Statistical significance was reported for primary outcome measures
- Studies were excluded when authors stated there was insufficient power to detect differences between groups or did not correct for multiple comparisons

Psychosocial Intervention Studies

- Participants were randomly assigned to intervention and comparison groups (i.e., no-treatment, treatment-as-usual or active control) at study outset
- Head-to-head comparison trials were only accepted if at least one intervention was already established as being effective in an RCT
- At least one outcome rater was blinded to participants' group assignment

Medication Studies

- Participants were randomly assigned to intervention and placebo control groups at study outset
- All outcome raters and participants were blinded to participants' group assignment

Twelve RCTs met all the inclusion criteria. Figure 1 depicts our search process, adapted from Preferred Reporting Items for Systematic Reviews and Meta-Analyses.[35] Data from these studies were then extracted, summarized and verified by two or more team members. Throughout our process, any differences among team members were resolved by consensus.

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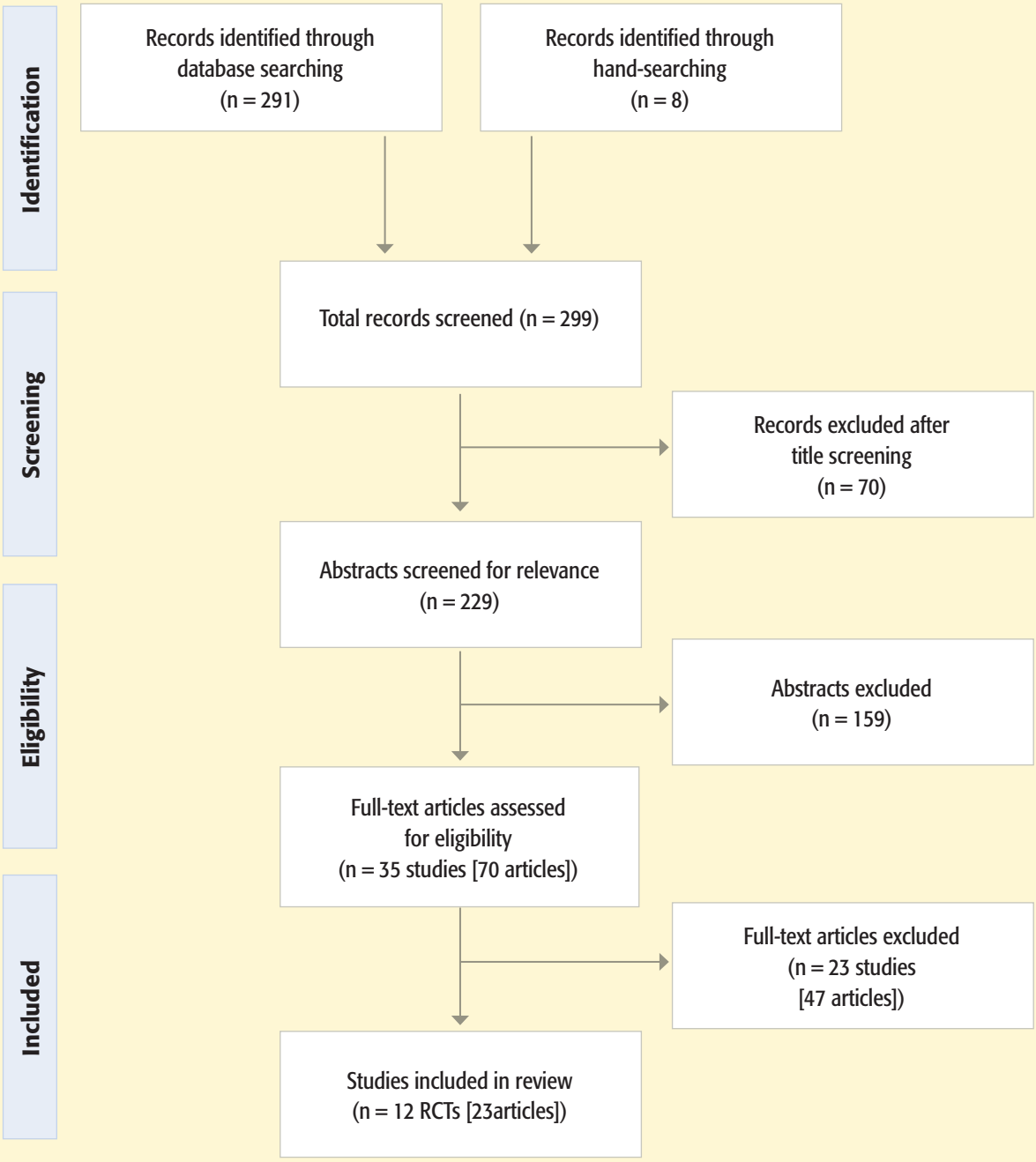
Figure 1: Search Process for RCTs



RESEARCH TERMS EXPLAINED

Practitioners and policy-makers need good evidence about whether a given intervention works to best help children. **Randomized controlled trials** (RCTs) are the gold standard for assessing whether an intervention is effective. In RCTs, children or families are randomly assigned to the intervention group or to a control group. By randomizing participants — that is, by giving every young person an equal likelihood of being assigned to a given group — researchers can help ensure the only difference between the groups is the intervention. This process provides confidence that any benefits found are due to the intervention rather than to chance or other factors.

Our review included a different kind of RCT, namely a **non-inferiority trial.** RCTs are typically designed to determine whether a treatment is superior to a control condition. In contrast, non-inferiority trials aim to show that a treatment is not *less* effective than a proven treatment.

To determine whether the intervention provides benefits, researchers analyze relevant outcomes. If an outcome is found to be **statistically significant,** it helps provide certainty the intervention was effective rather than results appearing that way due to chance. In the studies we reviewed, researchers used the typical convention of having at least 95% confidence that the observed results reflected the treatment's real impact.

Beyond determining whether the outcomes were statistically significant, some studies also evaluated the degree of difference the intervention made in the young person's life. This was achieved by calculating the **effect sizes** of outcomes, which provide a quantitative measure of the strength of the relationship between the treatment and the outcome. The interventions reported on **Cohen's *d,*** which can range from 0 to 2. Standard interpretations are 0.2 = small effect; 0.5 = medium effect; and 0.8 = large effect. Phi coefficient, ϕ, was also reported in one study, which can range from 0 to 1. Standard interpretations are 0.2 = small effect; 0.3 = medium effect; and 0.4 = large effect.

Non-inferiority studies aim to show that a new treatment is not less effective than a treatment already shown to be beneficial.

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BC government staff can access original articles from BC's Health and Human Services Library. Articles marked with an asterisk (*) include randomized controlled trial data that was featured in our Review article.

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LINKS TO PAST ISSUES

The *Children's Mental Health Research Quarterly* Subject Index provides a detailed listing of topics covered in past issues, including links to information on specific programs.

2021 / Volume 15
4 – Childhood bullying: Time to stop
3 – Fighting racism
2 – Treating posttraumatic stress disorder in children
1 – Helping children cope with trauma

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3 – Psychosis: Is prevention possible?
2 – Mental health treatment: Reaching more kids
1 – Prevention: Reaching more kids

2019 / Volume 13
4 – Preventing problematic substance use among youth
3 – Helping youth who self-harm
2 – Celebrating children's mental health: 50 lessons learned
1 – Helping youth with bipolar disorder

2018 / Volume 12
4 – Helping children who have been maltreated
3 – Preventing child maltreatment
2 – Treating substance misuse in young people
1 – Preventing youth substance misuse: Programs that work in schools

2017 / Volume 11
4 – Helping children with depression
3 – Preventing childhood depression
2 – Supporting LGBTQ+ youth
1 – Helping children with ADHD

2016 / Volume 10
4 – Promoting self-regulation and preventing ADHD symptoms
3 – Helping children with anxiety
2 – Preventing anxiety for children
1 – Helping children with behaviour problems

2015 / Volume 9
4 – Promoting positive behaviour in children
3 – Intervening for young people with eating disorders
2 – Promoting healthy eating and preventing eating disorders in children
1 – Parenting without physical punishment

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2014 / Volume 8
4 – Enhancing mental health in schools
3 – Kinship foster care
2 – Treating childhood obsessive-compulsive disorder
1 – Addressing parental substance misuse

2013 / Volume 7
4 – Troubling trends in prescribing for children
3 – Addressing acute mental health crises
2 – Re-examining attention problems in children
1 – Promoting healthy dating relationships

2012 / Volume 6
4 – Intervening after intimate partner violence
3 – How can foster care help vulnerable children?
2 – Treating anxiety disorders
1 – Preventing problematic anxiety

2011 / Volume 5
4 – Early child development and mental health
3 – Helping children overcome trauma
2 – Preventing prenatal alcohol exposure
1 – Nurse-Family Partnership and children's mental health

2010 / Volume 4
4 – Addressing parental depression
3 – Treating substance abuse in children and youth
2 – Preventing substance abuse in children and youth
1 – The mental health implications of childhood obesity

2009 / Volume 3
4 – Preventing suicide in children and youth
3 – Understanding and treating psychosis in young people
2 – Preventing and treating child maltreatment
1 – The economics of children's mental health

2008 / Volume 2
4 – Addressing bullying behaviour in children
3 – Diagnosing and treating childhood bipolar disorder
2 – Preventing and treating childhood depression
1 – Building children's resilience

2007 / Volume 1
4 – Addressing attention problems in children
3 – Children's emotional wellbeing
2 – Children's behavioural wellbeing
1 – Prevention of mental disorders

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