Effective interventions in treating the symptoms of obsessive-compulsive disorder in children and adolescents

Michael Harrington
Pacific University

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Effective interventions in treating the symptoms of obsessive-compulsive disorder in children and adolescents

Disciplines
Occupational Therapy

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Effective interventions in treating the symptoms of obsessive-compulsive disorder in children and adolescents.

Prepared by: Michael Harrington (harr9603@pacificu.edu)

Date: 10/26/11

Review date: 10/26/13

CLINICAL SCENARIO: Current numbers reflect that 1-4 in 200 children and adolescents are affected by Obsessive-Compulsive Disorder (OCD) (Ginsburg et al., 2011). Symptoms like persistent obsessions, unwanted thoughts, compulsions and actions cause this disorder to impact functioning in multiple areas. Because occupational therapists have expertise in assisting clients’ with maintaining healthy habits and routines, this profession should be considered when treating youth with OCD. Since most clinical OCD trials are done on adults, there is a large gap in evidence on what interventions are effective in children and adolescents (Ginsburg et al., 2011). The purpose of this CAT is to determine what interventions are effective in treating children and adolescents with OCD.

FOCUSED CLINICAL QUESTION: What interventions are being used for the treatment of children and adolescents diagnosed with obsessive-compulsive disorder?

SUMMARY of Search, ‘Best’ Evidence’ appraised, and Key Findings:

- A total of 5 research articles covering OCD interventions with children and adolescents where analysed by writer.
- The randomized control trial by March et al. (2004) was deemed as the “best evidence” evaluated.
- The study assessed 112 youth aged 7-17 years with a primary diagnosis of OCD as determined by the DSM-IV. The objective of the study was to evaluate the effectiveness of cognitive-behavior therapy (CBT) alone, sertraline alone or a combination of CBT and sertraline as compared to a control group. All youth where given the Children’s Yale-Brown OC Scale Self-Report Symptom Checklist (CYBOCS) as a primary outcome measure to determine changes in OCD symptoms.
- Overall the study found that CBT either alone or in combination with medication resulted in a significantly higher chance of improvement.
- Studies done by Williams et al. (2009) and Stroch et al. (2010) also focused on the effectiveness of CBT in youth. Both of these studies identified a reduction in OCD symptoms after CBT treatment as determined by the CYBOCS.
- A fourth study done by Ginsburg et al. (2011) incorporated teaching/coaching parents to facilitate exposure and response prevention (ERP) with their child and focused on the child/parent relationship. This study found that children began to show a downward trend in the severity of OCD behaviors after the initiation of treatment.
- A fifth study done by Bjorgvinsson et al. (2008) looked at OCD symptoms over the course of an inpatient treatment of 23 adolescents. This study found that 70% of patients demonstrated a clinically significant decrease in their CYBOCS measures.
**CLINICAL BOTTOM LINE:** Evidence from research indicates that CBT and pharmacological therapy are effective treatments to address symptoms of OCD in youth. Also, studies have found that educating and including parent/caregivers in therapy can have a positive impact on a youth’s success. This CAT aims to understand how an occupational therapist could combine these elements into treatment.

**Limitation of this CAT:** This critically appraised topic has not been peer-reviewed and the author is not an expert in this area. The search is not exhaustive and has been conducted by a 2nd year MOT student as part of a class assignment.

**SEARCH STRATEGY:**

Terms used to guide Search Strategy:

- **Patient/Client Group:** Youth 18 years and younger with a diagnosis of Obsessive-Compulsive Disorder
- **Intervention (or Assessment):** Cognitive-behavioral Therapy, Pharmacologic Management, etc.
- **Comparison:** None
- **Outcome(s):** Decrease in OCD symptoms and ability to participate in daily life occupations

<table>
<thead>
<tr>
<th>Databases and sites searched</th>
<th>Search Terms</th>
<th>Limits used</th>
<th>Articles Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINAHL (EBSCO host), September, 2011</td>
<td>“Pediatric OCD”</td>
<td>Linked Full text</td>
<td>20 results: 1 of interest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>March et al. (2004), <em>Journal of American Medical Association</em></td>
</tr>
</tbody>
</table>
### INCLUSION and EXCLUSION CRITERIA

**Inclusion:**
- Youth (Ages<18)
- Peer reviewed journals 2000-current
- Children and adolescents with a diagnosis of OCD as defined by the DSM-IV
- All genders, ethnicities, and nationalities
- Linked full text
- Written in English

**Exclusion:**
- Adults (Ages≥18),
- Articles older than 2000

<table>
<thead>
<tr>
<th>Database</th>
<th>Search Terms</th>
<th>Results</th>
<th>Articles of Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>CINAHL (EBSCO host),</td>
<td>“Obsessive-compulsive disorder” or “children”, or “adolescents”</td>
<td>36,486 results: 1 of interest</td>
<td>Williams et al. (2011), European Child &amp; Adolescent Psychiatry</td>
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<td>September, 2011</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>“Obsessive-compulsive disorder”, or “teens”, or “adolescents”</td>
<td>8321 results: 3 of interest</td>
<td>Ginsburg et al. (2011). Child &amp; Family Behaviour Therapy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Storch et al. (2010). Journal of Clinical Child &amp; Adolescent Psychology</td>
</tr>
</tbody>
</table>
# RESULTS OF SEARCH

**Table 1:** Summary of Study Designs of Articles retrieved

<table>
<thead>
<tr>
<th>Study Design/ Methodology of Articles Retrieved</th>
<th>Level</th>
<th>Number Located</th>
<th>Author (Year)</th>
</tr>
</thead>
</table>

# BEST EVIDENCE

The following study/paper was identified as the “best” evidence for demonstrating which interventions are effective in treating children and adolescents with Obsessive-Compulsive Disorder:


Reasons for selecting this study were:

- Large sample of 112 youth ages 7-17.
- Level I evidence.
- Statistically significant evidence of the advantage of treatment compared to the control group.
- Therapists where blinded to whom received treatment versus control group.
- Accounted for confounding factors excluding those with a co-occurring condition, those taking psychiatric medication, and/or receiving treatment outside of study.

**SUMMARY OF BEST EVIDENCE**

**Table 2:** Description and appraisal of (a randomized control trial of youth with a primary diagnosis of OCD comparing multiple treatments) conducted by (March, J.S., Foa, E., Gammon, P., Chrisman, A., Curry, J., Fitzgerald, D., Sullivan, K., Franklin, M., Huppert, J., Rynn, M., Zhao, N., Zoellner, L., Leonard, H., Garcia, A., Freeman, J., & Tu, X. 2004).

**Aim/Objective of the Study/Systematic Review:** The purpose of this study was to determine the effectiveness of treating OCD symptoms in youth using CBT alone, medication therapy with a SSRI of sertaline alone, or a combined treatment as compared to a control group. Previous research had been done on the use of CBT alone and medication therapy alone with little known about the combination of the two.

**Study Design:** This study was a randomized controlled trial of youth ages 7-17 with a primary diagnosis of OCD. Therapists where blinded to whom received treatment to account for rater bias. The outcome measures were given at baseline and at weeks 4, 8 and 12 by the same evaluator.

**Setting:** Treatments were conducted at Duke University, the University of Pennsylvania and Brown University.

**Participants:** The sample consisted of a volunteer sample of 112 youth who have a primary diagnosis of OCD as identified by the DSM-IV. Youth where recruited through a clinical referral from a mental health clinician and primary care physician. Exclusion criteria included the presence of co-occurring psychiatric diagnosis, any pervasive developmental disorder, Tourette disorder, psychosis, treatment of medication outside of the study or any medical condition that was a contraindication to the study results. Mean age was 11 years old with 56 males and 56 females. Ethnicity included, 92% Caucasian, 4% African American, 3% Hispanic, and 1% Asian. 15 participants dropped out of the study with 97 available for follow-up.
**Intervention Investigated:** Treatment for each patient was provided by one child and adolescent psychiatrist throughout the study with location being at one of the three universities. In the medication and placebo only groups, patients were seen for a total of 9 visits in 12 weeks. At the start patients were seen weekly for 30 minute sessions and medication adjustment was based on a standardized escalating dose titration schedule. For the CBT only group patients were seen for 14 visits over 12 weeks. The CBT methods consisted of psychoeducation, cognitive training, mapping OCD target symptoms, and exposure and response prevention. Except for weeks 1 and 2 during which patients were seen twice weekly, therapy was conducted weekly for about 1 hour sessions. For the combined treatment group CBT and medication management began at the same time and where both included in each therapy session.

**Outcome Measures:** The primary outcome measure used in this study was the Children’s Yale-Brown OC Scale Self-Report Symptom Checklist (CYBOCS). This assessment is based on clinician rating and parent/child report. It measures obsessions and compulsions separately over 5 dimensions (time consumed, distress, interference, degree of resistance, and control). The primary outcome variable consists of the total score which indicates degree of change in symptoms. A score less than or equal to 10, corresponds with clinical remission with a higher score representing more OCD symptoms. Evaluators were trained to a reliable standard on the CYBOCS through joint interviews, videotape reviews and discussion. This assessment was administered at baseline, 4, 8, and 12 weeks during the treatment sessions.

A secondary outcome measure used was the Anxiety Disorders Interview Schedule for Children (ADIS-C). This assessment is a semi-structured interview used to determine a diagnosis among all of the DSM-IV anxiety disorders. This assessment was administered once before the start of the study to determine a child’s diagnosis of OCD.

**Main Findings:** In order to examine the change OCD symptoms over the course of the treatment, the total scores for the CYBOCS where used at baseline, 4, 8, and 12 weeks (Table 3. was adapted to highlight baseline and week 12). A random-coefficient of the scores suggest a statistically significant linear trend with time (P<.001), as well as time x treatment interaction (P<.001). Overall combined treatment was superior to CBT, to sertaline and to placebo (P<.001). Both CBT alone (P=.003) and sertaline (P=.007) proved statistically superior to placebo.

Table 3. Mean CYBOCS Scores and standard deviation (SD) by Treatment Group at Baseline and Week 12

<table>
<thead>
<tr>
<th>Week</th>
<th>Cognitive - Behavioral Therapy</th>
<th>Sertaline</th>
<th>Combined Treatment</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>Mean=26 SD=4.6</td>
<td>Mean=23.5 SD=4.7</td>
<td>Mean=23.8 SD=3.0</td>
<td>Mean=25.2 SD=3.3</td>
</tr>
<tr>
<td>Week</td>
<td>Cognitive - Behavioral Therapy</td>
<td>Sertaline</td>
<td>Combined Treatment</td>
<td>Placebo</td>
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<tr>
<td>12</td>
<td>Mean=14.0 SD=9.5</td>
<td>Mean=16.5 SD=9.1</td>
<td>Mean=11.2 SD=8.60</td>
<td>Mean=21.5 SD=5.4</td>
</tr>
</tbody>
</table>


**Original Authors’ Conclusions**: CBT either alone or in combination with medication resulted in a significantly higher chance of improvement. Also, the use of sertaline alone proved superior to placebo, showing the effectiveness of medication to treat OCD in youth. Thus the authors conclude that youth with OCD should start treatment with CBT alone or with CBT combined with a SSRI medication.

**Critical Appraisal**: The main limitation of the study was the lack of a diverse ethnic sample with a majority being 92% Caucasian. Gender was evenly split at 50/50. Another limitation is that the study was split between three different clinics allowing for inconstancy in the style and delivery of treatment. It is noted by the authors that the amount of expertise and experience in CBT differed between therapists. Overall the large sample size indicates that the results can be applied to the general population of youth with OCD.

**Validity**: There was no between treatment group differences at baseline. Confounding factors (i.e. co-occurring disorders or outside medication) where considered before enrolling a youth in the study. No evidence of selection bias was found by the authors. Participants whom where assigned to treatment or placebo where randomized and generated by a computer. Reliability of evaluators using the CYBOCS and ADIS-C was maintained using within-site and trial-wide supervision.

**Interpretation of Results**: The scores of the CYBOCS among the participants reflect the importance of including CBT while treating a youth with OCD. Combining a SSRI medication with CBT proved to be the most effective in treating OCD symptoms. This evidence suggests that a family should be offered both CBT and medication treatments.

**Summary/Conclusion**: Results of this study may contribute to the knowledge of mental health clinicians regarding the strengths and limitations of pharmacological treatments and the use of evidence based psychosocial treatments like CBT. The treatments provided in this study are both appropriate and practical to use in every day clinical practice. Because of the availability and
number of trained CBT therapists, many youth may not have the option to receive this type of treatment. To meet this need, practicing health care professionals beyond psychiatrists, like occupational therapists could be trained and certified in CBT. This study shows that further collaboration is needed between disciplines when treating youth with OCD.

### Table x: Characteristics of included studies

<table>
<thead>
<tr>
<th>Study; Author and year</th>
<th>Summary of the Research Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williams, T. I., Salkovskis, P. M., Forrester, L., Turner, S., White, H., Allsopp, M. A. (2009).</td>
<td><strong>Intervention Investigated:</strong> The purpose of the study was to determine the effectiveness of CBT that focused on cognitions for youth with OCD.</td>
</tr>
<tr>
<td></td>
<td><strong>Comparison Intervention:</strong> The wait-list group was compared to determine whether CBT was effective vs. no treatment.</td>
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<td></td>
<td><strong>Outcomes Used:</strong> CYBOCS and ADIS-C</td>
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<td></td>
<td><strong>Findings:</strong> The results at 3 months showed a significant group effect [p=0.016] due to a much improved CYBOCS score for the group treated with CBT first. The group on the wait-list for intervention showed little or no improvement within this same period. At 6 months when both groups were receiving treatment they both showed improved CYBOCS scores indicating the effectiveness of CBT. Analysis of secondary measures showed improvement at 3 and 6 months.</td>
</tr>
<tr>
<td>Study; Author and year</td>
<td>Summary of the Research Study</td>
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</tbody>
</table>
| Ginsburg, G.S., Burstein, M., Becker, K.D., Drake, K.L. (2011). | **Intervention Investigated:** The purpose of this study was to describe a framework that guided the development of a treatment for OCD in younger children. This study focused on teaching/coaching parents to facilitate ERP with their child and focuses on the child/parent relationship.  

**Comparison Intervention:** Results gathered from 7 participants where compared among each other.  

**Outcomes Used:** ADIS-C, FAS-PR-R, and CYBOCS  

**Findings:** All children began to show a steady downward trend in the severity of OCD behaviors after the initiation of treatment. At 1-month follow up further reductions in the severity of OCD symptoms were maintained for majority of children. Parents begin showing a steady downward trend in the frequency of accommodation behaviors following introduction of treatment. |
<table>
<thead>
<tr>
<th>Study; Author and year</th>
<th>Summary of the Research Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bjorgivinsson, T., Wetterneck, C., Powell, D., Chasson, G., Webb, S., Hart, J.,</td>
<td><strong>Intervention Investigated:</strong> To measure if there was a significant decrease in OCD symptoms over the course of inpatient treatment of adolescents.</td>
</tr>
<tr>
<td>Heffelfinger, S., Azzouz, R., Entricht, T., Davidson, J., Stanley, M. (2008).</td>
<td><strong>Comparison Intervention:</strong> Results gathered from all 23 participants in the study where compared among each other.</td>
</tr>
<tr>
<td></td>
<td><strong>Outcomes Used:</strong> CYBOCS, State Trait Anxiety Inventory (STAI), the Reynolds Adolescent Depression Scale, 2nd edition (RADS-2), the Thought Action Fusion Scale-Revised (TAF-R), the Obsessive Belief Questionnaire (OBQ-44), and the Intolerance of Uncertainty Scale (IUS-12).</td>
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<tr>
<td></td>
<td><strong>Findings:</strong> 70% of patients demonstrated a clinically significant decrease in their CYBOCS measures with moderate improvement on other measures. Length of stay may not be related to change in OCD severity but further investigation is needed with a larger sample size. Results suggest that higher levels of OCD severity at admission might be related with larger decreases in OCD and depression severity over the course of treatment.</td>
</tr>
</tbody>
</table>
Study; Author and year | Summary of the Research Study
--- | ---
Storch, E.A., Lehmkuhl, H.D., Ricketts, E., Geffken, G.R., Marien, W., Murphy, T.K., (2010). | **Intervention Investigated:** To examine whether intensive family-based CBT for youth whom were partial responders to at least 2 medications trials would have decreased OCD symptoms if receiving CBT (looking at functional impairment, family accommodation, anxiety, depressive, and externalizing symptoms).

**Comparison Intervention:** Results gathered from all 30 participants in the study where compared among each other.

**Outcomes Used:** Unstructured clinical interview, ADIS-IV-P, CYBOCS, CGI-S, MASC, CBCL, CDI, and Family Accommodation Scale.

**Findings:** Shows that those whom haven’t had results with medication show an average of 54% reduction pre/post and at 3 months. Targeting OCD symptoms may inversely impact a reduction in depressive symptoms. Reduced amount of family accommodation also a maker of reduced OCD in family functioning.

**IMPLICATIONS FOR PRACTICE, EDUCATION and FUTURE RESEARCH**

**Practice:** Given the limited research involving occupational therapy and youth with OCD, it’s difficult to provide evidence based facts on the implications for practice. Occupational therapists who work with youth in schools and/or private clinics certainly assist client’s with OCD. Considering the evidence of the effectiveness of CBT it would be valuable to have occupational therapists trained and/or specialize in this type of therapy. An OT could combine CBT with an approach that focuses on habituation and modifying an environment to meet a youth’s specific needs. In addition involving parent/caregivers in therapy is something OTs currently do and the evidence suggests that family-based therapy is effective.

**Education:** The amount of time spent in occupational therapy programs focusing on youth with OCD is limited with only a brief overview of anxiety disorders. It would benefit students to learn how to implement and practice different psychosocial approaches like CBT with this population. By using a team approach OT students could collaborate with the psychology department and create this type of learning opportunity.
Future Research: Future research in this area is needed on the effectiveness of interventions used to treat youth with OCD. Considering that there appears to be a bias regarding ethnicity in the current research, more diversity is needed to address external validity. More research is needed on what interventions are effective when treating a youth with OCD whom has co-occurring conditions like ADHD or bipolar disorder. Also, looking at how parents’ actions and/or conditions impact a youth’s functioning with OCD needs further exploration. It’s unlikely that a single intervention will work equally well for all youth with OCD, due to the variation in each individual, but the importance of treating youth during critical stages of their development may prevent the prevalence of OCD in the adult population.

REFERENCES


