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Severe pediatric obsessive compulsive disorder and co-morbid autistic symptoms: Effectiveness of cognitive behavioral therapy

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ABSTRACT

Clinical consensus exists on the recommendation to add medication to cognitive behavioral therapy (CBT) for children with moderate to severe obsessive compulsive disorder (OCD). However, it has never been examined if CBT monotherapy indeed is less effective for this subgroup. In addition, CBT is often expected to be less suitable in case of an autism spectrum disorder. The aim of the present study was to examine if CBT monotherapy is an effective treatment for children with severe OCD and for children with co-morbid autistic symptoms.

Methods: Participants were 58 children (8–18 years) with OCD. They were randomized over two conditions: a waitlist followed by CBT, and directly starting CBT. After CBT, participants were followed during a one-year period. Linear mixed model analyses were performed to examine if severity and autistic symptoms were predictors of treatment effect.

Results: Results showed that neither baseline severity, $F(2, 196.52)=.29$, $p=.75$, nor autistic symptoms, $F(1, 182.72)=2.09$, $p=.15$, were predictive of treatment effect.

Conclusion: Results suggest that the majority of children with OCD, including children with severe OCD and with autistic symptoms, can be treated effectively with CBT. Therefore, the recommendation to combine CBT and medication for children with moderate to severe OCD may need refinement.

1. Introduction

Cognitive behavioral therapy (CBT) is an effective treatment for pediatric obsessive-compulsive disorder (OCD) (Sanchez-Meca, Rosa-Alcazar, Iniesta-Sepulveda, & Rosa-Alcazar, 2014; Watson & Rees, 2008), and is recommended as the first line treatment (Geller et al., 2012; National Institute for Health and Care Excellence, 2005). However, large differences in treatment effect have been found across individuals, and for some patients CBT is not sufficiently effective (e.g., The POTS Team, 2004). Research on predictors of treatment effect for pediatric OCD is scarce and fragmented. Whereas children's age, sex, and duration of illness/age at onset did not seem to affect treatment outcome (Ginsburg, Kingery, Drake, & Grados, 2008), severity, poor insight, family dysfunction, family, accommodation, externalizing symptoms, and a positive family history of OCD were found to be predictive of poorer treatment effects (Farrell, Waters, Milliner, & Ollendick, 2012; Garcia et al., 2010; Ginsburg et al., 2008; Storch et al., 2008). However, most predictor variables were investigated in no more than one or two studies, and results are not always equivocal. At present, it is unclear for whom CBT is effective and for whom additional treatments (e.g., pharmacotherapy) are needed. As long as there is no empirical evidence available, decisions on individual treatment trajectories are based on clinical expertise and consensus.

For children with severe OCD and children with co-morbid autism it has been suggested that CBT monotherapy is less effective or less suitable (Arildskov et al., 2015; Geller et al., 2012; Murray, Jassi, Mataix-Cols, Barrow, & Krebs, 2015). In the practice parameter for the treatment of pediatric OCD of the American Academy of Child and Adolescent Psychiatry (AACAP), the combination of CBT and a selective serotonin reuptake inhibitor (SSRI) is recommended for children with moderate to severe OCD (Geller et al., 2012). This recommendation is based on strong clinical

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consensus of leading experts in the field, and follows a logical line of reasoning: in case of more severe complaints, more treatment modalities should be applied. However, it has never been examined if the combination of CBT and medication is actually more effective for these patients. Indeed, results of the Pediatric OCD Treatment Study (POTS) with 112 patients (7–17 years) showed that higher levels of OCD severity predicted poorer treatment outcome. However, this was found across all conditions, that is, for CBT monotherapy, for SSRI monotherapy, *and* for the combination of CBT + SSRI (Garcia et al., 2010). Furthermore, when looking at effect sizes instead of treatment outcome, the results of the meta-analysis by Olatunji, Davis, Powers, and Smits (2013), who investigated CBT treatment outcome for children and adults with OCD, showed that more severe OCD at baseline was not associated with a smaller effect size for CBT. Given these mixed findings, it is not clear whether combined treatment should be favored over CBT monotherapy for children with severe complaints. Moreover, the decision to add medication should be well-founded, especially in children, because of the risks of adverse side-effects and relapse by discontinuation, and unknown long-term effects (Geller et al., 2012; Storch et al., 2010).

CBT is also assumed to be less suitable for children with an autism spectrum disorder (ASD), because of their poor understanding of emotions and cognitive rigidity (Krebs & Heyman, 2010). Clinicians often hesitate to start CBT with these patients (e.g., Krebs & Heyman, 2010; Murray et al., 2015), and researchers seem to share their reluctance since patients with ASD are often excluded from randomized controlled trials (e.g., The POTS team, 2004). As a result, little is known about effective treatment strategies for these patients. This is problematic since autistic symptoms are a common co-morbid condition in pediatric OCD (Arildskov et al., 2015; Ivarsson & Melin, 2008; Weidle, Melin, Drotz, Jozefiak, & Ivarsson, 2012), and elevated prevalence of OCD has been reported in ASD populations (e.g., Murray et al., 2015). It is questionable whether the reluctance to deliver CBT to children with OCD and ASD is justified. Despite the unifying feature of repetitive behavior in both OCD and ASD, this behavior has a different function in OCD and can be distinguished from autistic repetitive behavior. Repetitive behavior in OCD is aimed at regulating anxiety and overall is experienced as distressing and ego-dystonic. This is similar for OCD patients with and without ASD (e.g., Murray et al., 2015; Weidle et al., 2012). As such, it can be expected that CBT is an effective treatment for children with ASD and OCD, although it is suggested that patients with co-morbid ASD are difficult to treat (Murray et al., 2015). Results from a small number of uncontrolled (case) studies (Elliott & Fitzsimons, 2014; Farrell et al., 2012; Lehmkuhl, Storch, Bodfish, & Geffken, 2008; Nadeau, Arnold, Storch, & Lewin, 2014; Reaven & Hepburn, 2003), and two controlled studies (Murray et al., 2015; Russell et al., 2013) showed that CBT can be effective for youth with OCD and high-functioning ASD, although some modifications may be needed (Murray et al., 2015). In addition, results from studies examining CBT for children with ASD and anxiety disorders also suggest that CBT is an effective treatment for these patients (e.g., Reaven, Blakeley-Smith, Culhane-Shelburne, & Hepburn, 2012; Sofronoff, Attwood, & Hinton, 2005; Storch et al., 2013; Storch et al., 2015; Wood et al., 2009). However, due to the limited number of (mainly uncontrolled) studies and the small samples, there is insufficient knowledge concerning the suitability of CBT for children with OCD and ASD, leaving clinicians uncertain about the best treatment strategy for these patients.

In the present study, we examined if CBT monotherapy is an effective treatment for children with severe OCD, and for children with co-morbid ASD symptoms. Our research questions were: 1) Is OCD severity a predictor of CBT efficacy?; and 2) Are ASD symptoms predictive of CBT efficacy? Based on the strong clinical consensus regarding treatment guidelines for children with moderate to severe OCD, and because of the current scientific and clinical practice with respect to co-morbid ASD, we expected CBT monotherapy to be less effective for children with more severe OCD than for children with less severe OCD, and for children with more ASD symptoms than for children with less ASD symptoms.

2. Methods

2.1. Design and procedure

The present study was part of a trial that aimed at studying psychological and neurobiological processes, non-response, and mediators of treatment outcome in childhood OCD. The trial was approved by the Medical Ethics Committee of the Academic Medical Center (MEC 06/053).[1] Participants were children (8–18 years; mean age 12.8 years; 41% boys) who were referred for treatment for OCD to an academic center for child and adolescent psychiatry (the Bascule, Amsterdam, $n=50$; Curium, Leiden, $n=3$; Accare, Groningen, $n=5$), or to a mental health care agency (Altrecht, Utrecht, $n=3$) in the Netherlands. Inclusion criteria were a primary diagnosis of OCD according to *The Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; DSM-IV-TR) criteria, complaints for at least six months, and a score of 16 or higher on the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS). Exclusion criteria were medication for OCD (SSRI, tricylic antidepressants, or antipsychotic medication), CBT for OCD during the past six months, IQ below 80, and psychosis. During intake, obsessive-compulsive complaints and other psychiatric symptoms were evaluated by senior clinicians. A semi-structured interview (Anxiety Disorder Interview Schedule for DSM-IV - Child and Parent Version (ADIS-C/P)) was administered to the child and parent(s) independently by trained clinicians. IQ above 79 was indicated by a minimum mean standard score of 6 on the subtests Block design and Vocabulary of the Wechsler Intelligence Scale for Children (WISC-III; Kort et al., 2005), or – when available – by total IQ score. After informed consent was obtained, participants were randomized over two conditions: manualized individual CBT (16 weekly sessions), and an eight-week waitlist followed by CBT. Randomization (50% CBT, 50% waitlist) was accomplished using a computer program with site, age (8–11 vs. 12–18 years), and gender as stratification factors. Children and their parents were directly informed about the outcome of the randomization. After completion of the CBT protocol, participants were followed during a one-year period (follow-up assessments 16-week and one-year post-treatment). This was a naturalistic follow-up period. The clinician, in agreement with the child and the parents, decided whether a) CBT was terminated; b) CBT was continued; c) CBT was continued combined with medication (SSRI); or d) more intensive (inpatient) treatment was indicated. This was a clinical decision. Arguments for adding medication to CBT or for referring a child to inpatient treatment were no or only small improvement despite good quality CBT, and/or an untenable situation for the patient or the family.

2.2. Assessments

In the waitlist condition, children were assessed pre-waitlist (T0), post-waitlist/pre-treatment (T1), mid-treatment (T2; after eight sessions CBT), post-treatment (T3; after 16 sessions CBT), at

[1] Clinical trial registration information: Information processing, neuropsychological, and neurobiological processes in pediatric obsessive-compulsive disorder; http://www.controlled-trials.com/ISRCTN07851536;NTR 717, ISRCTN07851536.