Obsessive-compulsive disorder: Evidence-based treatments and future directions for research

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Received: February 17, 2012 Revised: September 14, 2012
Accepted: September 21, 2012
Published online: December 22, 2012

Abstract

Over the past three decades, obsessive-compulsive disorder (OCD) has moved from an almost untreatable, life-long psychiatric disorder to a highly manageable one. This is a very welcome change to the 1%-3% of children and adults with this disorder as, thanks to advances in both pharmacological and psychological therapies, prognosis for those afflicted with OCD is quite good in the long term, even though most have comorbid disorders that are also problematic. We still have far to go, however, until OCD can be described as either easily treatable or the effective treatments are widely known among clinicians. This review focuses on the current state of the art in treatment for OCD and where we still are coming up short in our work as a scientific community. For example, while the impact of medications is quite strong for adults in reducing OCD symptoms, current drugs are only somewhat effective for children. In addition, there are unacceptably high relapse rates across both populations when treated with pharmacological alone. Even in the cognitive-behavioral treatments, which show higher effect sizes and lower relapse rates than drug therapies, drop-out rates are at a quarter of those who begin treatment. This means a sizable portion of the OCD population who do obtain effective treatments (which appears to be only a portion of the overall population) are not effectively treated.

Suggestions for future avenues of research are also presented. These are primarily focused on (1) increased dissemination of effective therapies; (2) augmentation of treatments for those with residual symptoms, both for psychotherapy and pharmacotherapy; and (3) the impact of comorbid disorders on treatment outcome.

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Key words: Obsessive-compulsive disorder; Evidence-based psychological practice; Cognitive-behavioral therapy; Psychopharmacology

Peer reviewer: Feryal Cam Celikel, MD, Associate Professor of Psychiatry, Gaziosmanpasa University School of Medicine, 60100 Tokat, Turkey

Lack CW. Obsessive-compulsive disorder: Evidence-based treatments and future directions for research. World J Psychiatr 2012; 2(6): 86-90 Available from: URL: http://www.wjgnet.com/2220-3206/full/v2/i6/86.htm DOI: http://dx.doi.org/10.5498/wjp.v2.i6.86

INTRODUCTION

Thirty years ago, being diagnosed with obsessive-compulsive disorder (OCD) was about the closest thing the psychiatric world had to being given a life sentence. In addition to being seen as extremely rare, prognosis for those with a diagnosis of OCD was very poor, with no effective truly pharmacological or psychological treatments available[1]. Today, however, a diagnosis of OCD does not carry this loss of hope for the future and poor treatment outcomes. Instead, clinicians now have at their disposal both pharmacological and psychological treatments that are remarkably effective for the majority of patients[2]. Still, though, there are further advances that need to be made, to continue improving treatment effectiveness and patient outcomes.
OCD is characterized by intrusive, troubling thoughts (obsessions), and repetitive, ritualistic behaviors (compulsions) which are time consuming, significantly impair functioning and/or cause distress. When an obsession occurs, it almost always corresponds with a massive increase in anxiety and distress. Subsequent compulsions serve to reduce this associated anxiety/distress. Common obsessions include contamination fears, worries about harm to self or others, the need for symmetry, exactness and order, religious/moralistic concerns, forbidden thoughts (e.g., sexual or aggressive), or a need to seek reassurance or confess. Common compulsions include: cleaning/washing, checking, counting, repeating, straightening, routinized behaviors, confessing, praying, seeking reassurance, touching, tapping or rubbing, and avoidance. Unlike in adults, children need not view their symptoms as nonsensical to meet diagnostic criteria.

In the United States, the lifetime prevalence rate of OCD is estimated at 2.3% in adults and around 1%-2.3% in children and adolescents under 18. There are also a fairly substantial number of “sub-clinical” cases of OCD (around 5% of the population), where symptoms are either not disturbing or not disruptive enough to meet full criteria and yet are still impairing to some degree. There is strong evidence that cultural differences do not play a prominent role in presence of OCD, with research showing few epidemiological differences across different countries and even between European and Asian populations.

While OCD is equally present in males and females in adulthood, the disorder is heavily male in pediatric patients. There are some differences in comorbidity as well. Among men, hoarding symptoms are mostly associated with GAD and tic disorders, but in women social anxiety, PTSD, body dysmorphic disorder, nail biting, and skin picking are more often observed.

Presentation of OCD symptoms is generally the same in children and adults. Unlike many adults, though, younger children will not be able to recognize that their obsessions and compulsions are both unnecessary (e.g., you don't really need to wash your hands) and extreme (e.g., washing hands for 15-20 s is fine, but 5 min in scalding water is too much) in nature. In young children, compulsions often occur without the patient being able to report their obsessions, while adolescents are often able to report multiple obsessions and compulsions. Children and adolescents are also more likely to include family members in their rituals and can be highly demanding of adherence to rituals and rules, leading to disruptive and oppositional behavior and even episodes of rage. As such, youth with OCD are generally more impaired than adults with the same type of symptoms.

Up to 75% of persons with OCD also present with comorbid disorders. The most common in pediatric cases are ADHD, disruptive behavior disorders, major depression, and other anxiety disorders. In adults, the most prevalent comorbid is social anxiety, major depression, and alcohol abuse. Interestingly, the presence of comorbid diagnoses predict quality of life (QoL) more than OCD severity itself in both children and adults. Different primary O/C are also associated with certain patterns of comorbidity, in both adults and youth. Primary symmetry/ordering symptoms are often seen with comorbid tics, bipolar disorder, obsessive-compulsive personality disorder, panic disorder, and agoraphobia, while those with contamination/cleaning symptoms are more likely to be diagnosed with an eating disorder. Those with hoarding cluster symptoms, on the other hand are especially likely to be diagnosed with personality disorders, particularly Cluster C disorders.

Almost all adults and children with OCD report that their obsessions cause them significant distress and anxiety and that they are more frequent as opposed to similar intrusive thoughts in persons without OCD. In terms of QoL, persons with OCD report a pervasive decrease compared to controls. Youth show problematic peer relations, academic difficulties, sleep problems, and participate in fewer recreational activities than matched peers.

Overall, there is a lower QoL in pediatric females than males, but in adults similar disruptions are reported. When compared to other anxiety disorders and unipolar mood disorders, a person with OCD is less likely to be married, more likely to be unemployed, and more likely to report impaired social and occupational functioning.

**EMPIRICALLY SUPPORTED TREATMENTS**

There are both pharmacological and psychological treatments for OCD that are supported by research evidence. Overall, pharmacology with serotonin reuptake inhibitors (SRIs) shows large effect sizes in adults (0.91), but only moderate effect sizes in youth (0.46). Unfortunately, even with effective medication, most treatment responders show residual symptoms and impairments. There is also a very high relapse rate seen across numerous studies (between 24%-89%). SRIs can be successfully supplemented with adjunctive antipsychotics, but even then only a third of patients will show improvement and there are serious health concerns with their long-term use. Metanalyses and reviews have not shown that the five selective SRIs (including fluoxetine, paroxetine, fluvoxamine, sertraline, and citalopram) or the non-selective SRI clomipramine differ among each other in terms of effectiveness in either adults or pediatric patients. Across subtypes of OCD, however, there are medication differences seen (for a review see ). For example, the presence of tics appears to decrease selective SRI effects in children, but it is unclear if it has the same effect in adults. Another known difference is that patients who have OCD with comorbid tics respond bet-
The psychological treatment of choice for OCD, in both adults and children and backed by numerous clinical trials, is cognitive-behavioral therapy (CBT), particularly exposure with response prevention (EX/RP)\[45\]. It is superior to medications alone, with effect sizes ranging from 1.16-1.75\[46,47\]. While there is a lower relapse rate than in medications (12% vs 24%-89%), it is important to note that up to 25% of patients will drop out prior to completion of treatment due to the nature of treatment\[44\]. The course of therapy generally lasts between 12-16 sessions, beginning with a thorough assessment of the triggers of the obsession, the resultant compulsions, and ratings of the distress caused by both the obsession and if they are prevented from performing the compulsion. A series of exposures are then carefully planned through collaboration between the therapist and client and implemented both in session and as homework between sessions\[49-52\].

As in the medication research, differences in response to CBT have been found across populations. For instance, it has been seen that those with hoarding cluster symptoms respond less well to CBT, in part due to reluctance to engage in exposures and poor insight\[53\]. Accommodation by family members in pediatric clients has been found to be predictive of poorer treatment response as well\[54\]. Intriguingly, group therapy that uses CBT and EX/RP has been shown to be equally as effective as individual therapy in some studies\[55\] but less effective in others\[56,57\]. For persons with mild OCD, computer-assisted self-treatment has been shown to be very effective (see for a review\[57,58\]).

**FUTURE DIRECTIONS FOR RESEARCH**

Although the treatment of OCD is remarkably advanced compared to 30 years ago, there are a number of areas where improvements can be made. First, treatment dissemination, particularly for CBT and EX/RP, remains an issue\[59\]. While reasons for this are many, certain steps can and should be undertaken to improve dissemination. For instance, efforts have been made to incorporate technology into the treatment of adult OCD with a number of successes (for a review see\[57\]), and there are increasing efforts to extend these findings into the realm of pediatric OCD. As educational efforts aimed at training new mental health practitioners alone are not sufficient, dissemination of both the safety and effectiveness of exposure-based therapies to both the general public and existing, already licensed mental health clinicians (psychiatrists, psychologists, counselors, and social workers) must be made a priority.

Second, although many patients respond to first-line interventions to some degree, partial response is frequent with many continuing to exhibit residual OCD symptoms, particularly to medication monotherapy. Pharmacological treatment augmentation options remain limited and under-researched. One promising approach involves targeting the extinction learning core to EX/RP with d-cycloserine\[60\], a partial agonist at the NMDA receptor in the amygdala. Preliminary results in adults\[61,62\] and youth with OCD\[63\] show promising results and suggest the need for further trials and refinement of methodology and dosage. In terms of psychotherapy augmentation, the primary issue in need of addressing would be the high drop-out rate. Therapy may need to be augmented with some sort of motivational enhancement module for those unwilling or too distressed to engage in exposures\[64\], or new strategies for exposure-reluctant patients may need to be developed.

Third, given the high comorbidity rates seen in persons with OCD, it is important to examine what impact that has on treatment\[64,65\]. Although a substantial body of literature has shown that for most anxiety disorders comorbidity does not diminish the impact of treatment (see for a review\[65\]), research on OCD is mixed. Having primary OCD with comorbid PTSD has been found to decrease response rate\[68\], while OCD and comorbid GAD was shown to increase dropout rates and decrease treatment response\[69\]. In contrast, others studies have shown no negative impact on OCD treatment from comorbid anxiety problems in adults\[63,64\] or children\[66,69\]. As such, both more research on how certain comorbidity patterns impact treatment and the most optimal therapeutic methods to address the differential patterns should be conducted\[70\]. Such methods could include novel combinations of pre-existing treatments (e.g., combining parent management training with CBT for youth with OCD and disruptive behavior\[71\]) or the use of motivational enhancement techniques\[72,74\].

**CONCLUSION**

Although this may sound trite, there is truly not a better time in history to have OCD than the present, given the multiple effective pharmacological agents, the presence of a very effective psychological therapy, and an ever-increasing understanding of the disorder itself. This is not, however, the time to sit back and pat our collective backs in triumph. Instead, we must continue to advance treatment for OCD in both adults and youth. Above, I have outlined several potential avenues of research and how they will benefit those who continue to suffer from OCD despite the advances of the last 30 years. With the continued efforts of clinicians and researchers the world over, the next 30 years should see a further explosion in our ability to decrease symptomatology and increase the QoL of those with this fascinating disorder.

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S-Editor Wang JL, L-Editor A E-Editor Zheng XM