

Obsessive Compulsive Disorder (OCD) In Childhood and Adolescence

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Abstract

Obsessive Compulsive Disorder (OCD) is an anxiety disorder, characterized by repetitive unwanted obsessions and compulsions, with a prevalence of 0.5-1% to 4% in childhood and adolescence. The exact pathogenesis of OCD remains uncertain but multiple components such as hereditary/genetic, cognitive, biological, environmental and behavioral factors have been implicated. The aim of this review is to highlight the pathogenesis of OCD in childhood and adolescence, differentiate it from adult onset OCD and outline its assessment and management.

Keywords: Childhood onset obsessive compulsive disorder

Introduction

Obsessive Compulsive Disorder (OCD) is an anxiety disorder, characterized by repetitive unwanted obsessions and compulsions, with a prevalence of 0.5-1% to 4% in childhood and adolescence [1]. Recent appraisals of OCD using the Composite International Diagnostic Interview (CIDI) and The Diagnostic and Statistical Manual (DSM)-IV criteria show more cross national variability than formerly reported. No cases have been reported in metropolitan China and rates of 12-month OCD among adults are 0.1% in Nigeria, 0.5% in The Netherlands, 0.6% in Germany, 0.6% in South Korea, 0.7% in Australia, 1% in the United States (US), and 3% in Turkey. Median prevalence in 16 European countries is 0.7% [2]. Further, in general US and European rates for OCD lie within the international range. With some exceptions, the lowest rates of anxiety disorders (including OCD) are consistently found in Asia and Africa, and are frequently replicated by lower rates of disorder among US populations of Asian and African descent [2]. Despite this cross-national variability in prevalence, the epidemiology of OCD shows substantial similarity in gender distribution, age of onset, and comorbidity [3]. In childhood onset OCD, the most common obsessions center on aggression and contamination while the most common compulsions are related to washing/cleaning, and checking [4]. About one third to one half of adults afflicted with OCD report symptoms of OCD in childhood. OCD follows a chronic course and may result in impairment of school and daily life. The persistence of symptoms of OCD into adulthood emphasizes the need for its early diagnosis and prompt Psychologic support. The aim of this mini review is to highlight the pathogenesis of OCD in childhood and adolescence, differentiate it from adult onset OCD and outline its assessment, and management. OCD has a median age at onset of 19 years, with 21% of all cases beginning by the age of 10 years [5].

Definitions and Classifications

The 2 primary classifications used for mental health diagnoses are the DSM and the International Classification of Diseases (ICD). The essential differences between these 2 systems are that ICD is the official world classification of mental disorders endorsed by the World Health Organization, while the DSM is a United States (US) based system, but followed in many other countries too. The major focus of the ICD is on clinical utility, with reduction of number of diagnoses. The ICD provides diagnostic descriptions, and guidance, but does not employ operational criteria and gives special attention to primary care and low- and middle- income countries. The DSM, on the contrary, is focused mainly on secondary psychiatric care in high income countries, tends to increase the number of diagnoses with each succeeding revision and is a diagnostic system that depends on operational criteria using a polythetic system for most conditions (i.e. combination of criteria that need not all be the same) [6]. The DSM IV TR defines obsessions

and compulsions as: Obsessions: persistent ideas, thoughts, impulses, or images that are experienced as inappropriate or intrusive and that cause anxiety and distress. The content of the obsession is often perceived as alien and not under the person's control. Compulsions are defined as repetitive behaviors or mental acts that are carried out to reduce or prevent anxiety or distress and are perceived to prevent a dreaded event or situation. The International Classification of Diseases (ICD) 10 defines obsessional thoughts as distressing ideas, images, or impulses that enter a person's mind repeatedly. Often violent, obscene, or perceived to be senseless, the person finds these ideas difficult to resist. The ICD 10 defines compulsive acts or rituals as stereotyped behaviors that are not enjoyable that are repeated over and over and are perceived to prevent an unlikely event that is in reality unlikely to occur. The person often recognizes that the behavior is ineffectual and makes attempts to resist it, but is unable to. The DSM IV – Text revision (TR) classifies OCD as an anxiety disorder. However, the DSM V has separated OCD into a new class of 'OCD and Related Disorders' along with tic disorders, trichotillomania, body dysmorphic disorder, hoarding disorder and excoriation. Conversely, the ICD 10 classifies OCD under neurotic, stress related and somatoform disorders [6,7].

Pathogenesis

The exact pathogenesis of OCD remains uncertain but multiple components such as hereditary/genetic, cognitive, biological, environmental, and behavioral factors have been implicated. The heritability for obsessive-compulsive symptoms ranges from 0.45 to 0.65 in children and from 0.27 to 0.47 in adults [8]. Early onset OCD shows high familiarity and the rate of OCD may be approximately twice as high among the relatives of the patients with early-onset OCD as compared with the relatives of patients with late-onset OCD [9]. Though limited evidence is available, the cognitive mechanisms operating in adult and pediatric OCD are considered similar. Further, maternal cognitive biases are more consistently related to greater OCD severity in younger children, while personal cognitive biases are associated with greater OCD symptoms in adolescents [10]. Neurobiological factors such as dysregulation of serotonin in the brain and dysfunction of the cortical-striatal-thalamic circuits have also been implicated in the etiopathology of pediatric OCD. Alterations

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to fronto-striatal circuitry, i.e., hyper activation of the orbito-frontal cortex has been proposed to mediate persistent thoughts about threat and harm (i.e., obsessions), which in turn lead to attempts to neutralize the perceived threat (i.e. Compulsions). Evidence for this is derived from functional neuroimaging studies of increased activation in the lateral and medial orbitofrontal cortex in both children and adults with OCD [11]. Further, a subset of patients with OCD and tic disorders develop a sudden onset of OCD symptoms and/or motor tics due to basal ganglia dysfunction following group A β -hemolytic streptococcal (GAS) infection. This sub cluster of pediatric patients with OCD or tic disorders has been classified as pediatric autoimmune neuropsychiatric disorders associated with streptococcus (PANDAS) [12]. Bernstein et al have suggested that differentiation of OCD with PANDAS or without PANDAS is not possible based upon the types of obsessions and compulsions or overall severity of OCD, but may be based upon the presence of associated PANDAS symptoms including urinary urgency, hyperactivity, impulsivity, abnormal hand and finger movements, and decline in handwriting [13]. OCD shows comorbidity with several disorders such as bipolar disorder, major depressive disorder, psychosis, attention deficit hyperactivity disorder (ADHD), panic disorder, social phobia, post-traumatic stress disorder (PTSD), epilepsy and stroke.

Childhood vs. Adult OCD

The diagnosis of OCD in young people is broadly similar to adults (as per Diagnostic and Statistical Manual of Mental Disorders (DSM) IV TR and the International Classification of Diseases (ICD) diagnostic criteria). However, children are less likely to have insight into the illogicality of their obsessions and compulsions and may also conceal the compulsions from parents/adults, thus avoiding detection. Further, the DSM V separates hoarding compulsions into a new disorder, i.e., the 'Hoarding Disorder'. Some authors [4,9,14-16] have distinguished between childhood-onset and adult-onset OCD. These authors suggest that childhood onset OCD signifies a phenomenologically and etiologically distinct subtype of OCD, bearing a close genetic connection to tic-disorders and probably sharing an analogous pathogenesis. Childhood onset OCD may also be distinguished from adult onset OCD by a longer duration of illness, OCD symptoms centering around repeating and ordering/arranging, male preponderance, high rates of comorbidity with disruptive behavior disorders, Attention Deficit Hyperactivity Disorder (ADHD) and Tourette's syndrome (TS). However, it is yet unresolved if the varying manifestations of child and adult onset OCD characterize a developmental subtype of OCD or developmentally variable expressions of OCD across the life cycle [4]. In general, OCD in childhood or adolescence may be distinguished from normal development in the sense that normative behaviors rarely hinder the social and personal functioning of a child or adolescent. The nature of obsessions may also differ based on the developmental stage of the affected child or adolescent [17].

Assessment and Diagnosis

The assessment and diagnosis of pediatric OCD is challenging due to considerable symptom overlap between OCD and other psychologic disorders such as Generalized Anxiety Disorder (GAD), Autism-Spectrum Disorders (ASD), and Tourette's Disorder [18]. One of the most widely used clinician administered assessment tool available for pediatric OCD is the Children's Yale-Brown Obsessive Compulsive Scale (CY-BOCS) [19] consisting of 2 subscales- Obsessions Severity (5 items) and Compulsions Severity (5 items) which are combined to create a Total Score. The CY-BOCS is the most commonly used measure of pediatric OCD severity, and is often referred to as the 'gold standard' measure in this area [18]. Child or parent reported inventories

for pediatric OCD are also available such as the Children's Florida Obsessive Compulsive Inventory (C-FOCI) [20] with 17 self-report items and the 44 items, Leyton Obsessional Inventory-Child Version [21]. Alternatively, clinician-administered, structured diagnostic interviews such as the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Version (ADIS-C/P) [22] may also be used for pediatric OCD assessment.

Management

First line treatment for mild to moderate pediatric OCD is Cognitive Behavioral Therapy (CBT) and a combined CBT and medication with Selective Serotonin Reuptake Inhibitors (SSRIs) approach is the intervention of choice in youth with moderate to severe OCD [23]. CBT may be carried out on an individual or family basis and contains numerous elements, such as psychoeducation, hierarchy building, exposure with response prevention (EX/RP), cognitive strategies, reward programs, family/parent training, and relapse prevention [24]. Psychologic disorders of childhood and adolescence such as OCD largely remain undiagnosed until significant problems occur later in life related to impaired school or social functioning and early careers [25].

Conclusion

Early diagnosis and intervention of psychologic disorders of childhood and adolescence such as OCD may prevent or reduce the lifelong impairment of social and daily life of affected persons. Education and screening programs among parents, schoolteachers and caregivers as well as medical professionals such as pediatricians, pediatric dentists and allied medical/health professionals may go a long way in early diagnosis of OCD and prevention of its adult sequel.

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