Original Article

Clinical profile of obsessive-compulsive disorder in children

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Abstract

Introduction: Most studies on obsessive-compulsive disorder (OCD) among children and adolescents pertain to adolescents and Indian data on childhood-onset OCD are scant. **Objective:** To evaluate the clinical profile of OCD among children and adolescents with onset before the age of 12 years. **Methods:** Children and adolescents who attended the outpatient clinic with a clinical diagnosis of OCD were included in the study. Children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS) was used to assess the phenomenology and severity of OCD. The diagnoses of OCD and comorbid disorders were based on DSM5 diagnostic criteria. Children with the onset of symptoms before the age of 12 years were analyzed. **Results:** Among the 46 children with OCD, 31 (16 boys and 15 girls) had onset before the age of 12 years. The youngest child was 6 years old and in 29% of children, OCD symptoms began before the age of 8 years. Family history of OCD, other mental illnesses, and tics disorder was present in 48.4%, 29%, and 12.9% of children, respectively. Comorbid tics disorder was present in 12 (38.6%) children and 1 (3%) child each had depression and conduct disorder. Common obsessions and compulsions were obsessions of contamination (77.4%) and washing and cleaning compulsions (87.1%). Miscellaneous obsessions and compulsions occurred in 25.8% and 77.4% of children, respectively. **Conclusion:** OCD is not uncommon in young children. The present study provides preliminary data on childhood-onset OCD among children and adolescents and points to the need for larger community-based studies.

Keywords: Childhood-onset, children and adolescents, obsessive-compulsive disorder

Introduction

Obsessive-compulsive disorder (OCD) is characterized by obsessions and compulsions which are time-consuming and cause significant distress or functional impairment. Obsessions are recurrent and persistent, unwanted, intrusive thoughts, urges, or images experienced by the individual, and compulsions are repetitive behaviors or mental acts that the individuals are driven to perform with the aim of reducing distress or anxiety.[1]

The reported global prevalence of OCD in children and adolescents ranges from 0.25% to 3%.[2-4] OCD has also been reported in children below the age of 5 years[5] and the prevalence was found to increase with age.[4] Indian studies had reported a prevalence rate of 0.1–0.8% among children and adolescents.[6,7]

A bimodal peak in the incidence of OCD is reported with one peak around 11 years and the other during adulthood.[8-11] In a significant proportion of cases, the symptoms of OCD begin during childhood and continue into adulthood.[3,10,12,13]

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A diagnosis of childhood-onset OCD is considered when symptoms begin before puberty.[3] There are important differences in the family history, gender distribution, symptom profile, and comorbidities between childhood-onset and adult-onset OCDs.[3,12] Early identification of symptoms of OCD during childhood and initiation of treatment is essential to prevent chronicity and functional impairment.[14,15] Primary care physicians are often the first contact for childhood illnesses and hence should be cognizant of the clinical presentations so that timely diagnosis, initiation of treatment, and appropriate referral are possible.

There are limited data on childhood-onset OCD from India and most studies pertain to adolescents. The present study aimed to evaluate the clinical profile of OCD with onset before the age of 12 years.

Methods

This is a retrospective analysis of the hospital records of children with OCD who attended the Child Development Services of the Institute of Mental Health and Neurosciences (IMHANS), Kozhikode. We collected details of children below the age of 18 years who consulted the outpatient clinics for OCD during the period of 2 years from February 2018. This period was chosen because during this period all children with OCD were assessed with CY-BOCS[16] for proper documentation of symptoms and also for the assessment of symptom severity. Children with medical illnesses or progressive neurological disorders or an organic cause were excluded. Children with the onset of symptoms of OCD before the age of 12 years (childhood-onset type) were taken up for analysis.

CY-BOCS is the standard scale to rate the severity of obsessive and compulsive symptoms in children and adolescents and is validated for the 6- to 17-year-old age group. The ratings are done based on clinical judgment by the interviewer from the child's and parent's reports. The CY-BOCS consists of a symptom checklist for obsessions and compulsions and a severity rating scale with five items each for obsessions and compulsions rated on a 5-point Likert scale. Severity is rated on five dimensions: Frequency, Interference, Distress, Resistance, and Control during the previous week and up to the time of interview.

The diagnosis of OCD was made by a consultant in psychiatry with experience in child psychiatry (R.K.R.) and confirmed by a consultant with postgraduate degrees in psychiatry and pediatrics and experience in child psychiatry (P.K.). The diagnoses of OCD and comorbid disorders were based on DSM5 diagnostic criteria. The study was approved by the Institutional Ethics Committee of the IMHANS. (No. IMHANS/IEC/S/2020/086)

Statistical analysis

The data were analyzed with SPSS V.16 (SPSS, Chicago, Illinois, USA) statistical package. The results were expressed in terms of frequency and percentages for qualitative variables and mean and standard deviation for quantitative variables.

Results

There were 46 children and adolescents with OCD who attended the outpatient department during the study period. They included 29 (63%) boys and 17 (37%) girls. Among them, 31 (67%) had onset of OCD symptoms before the age of 12 years (childhood-onset OCD) and 15 (33%) had onset after 12 years (adolescent-onset OCD). Patients with childhood-onset OCD included 16 (51.6%) boys and 15 (48.4%) girls while most patients with adolescent-onset OCD were boys (13; 87%).

Among the 31 children with childhood-onset OCD, the youngest child was aged 6 years old and the onset of symptoms was before 8 years in 9 (29%) children. The mean age at onset of symptoms of OCD was 9.5 years (SD 1.99) with the earliest presentation at the age of 5.9 years. The average duration of the illness was 19.5 months (SD 20.8).

A family history of OCD was present in 15/31 (48.4%) children. Family history of other mental illnesses and tics were present in 9/31 (29%) and 4/31 (12.9%) children, respectively. The commonest comorbid disorder in childhood-onset OCD was tics disorder (12; 38.6%) with 7/31 (22.6%) children having motor tics alone and 5/31 (16%) children having vocal tics in addition to motor tics (Tourette's syndrome). Developmental delay was a feature in 3/31 (9.7%) children and 4 (12.9%) children had below-average intelligence. Only 2 (6.5%) children had a history of infection before the onset of symptoms.

The common obsessions observed were grouped into those with features of contamination 24 (77.4%), aggression 15 (48.4%), somatization 14 (45.2%), religiosity 9 (29%), hoarding 6 (19.4), sexuality 2 (6.5%), and magic 2 (6.5%). Miscellaneous obsessions were observed in 8 (25.8%) cases [Table 1].

The common compulsions observed were categorized as those pertaining to cleaning 27 (87.1%), checking 21 (67.7%), repeating 13 (41.9%), ordering 13 (41.9), rituals involving other people 12 (38.7%), hoarding 8 (25.8%), counting 5 (16.1%), and superstitious behaviors 3 (9.7%). The obsessions were categorized as miscellaneous in 24 (77.4%) cases [Table 2].

The mean total score for obsessions and compulsions on the CY-BOCS was 21.5 (SD 10.03) with the mean scores for obsessions and compulsions of 10.03 (SD 5.93) and 11.96 (SD 5.1), respectively.

Discussion

We have studied the clinical profile of OCD in children and adolescents with onset before the age of 12 years and found that in one-third of children, the onset was before the age of 8 years, and occurred as early as 6 years. OCD in young children below 5 years has been reported in the literature.[5,17] Pediatric OCD is often under-diagnosed and hence untreated,[4] and the observations in the present sample emphasize the importance of enhancing awareness among clinicians.

Table 1: Obsessions in childhood-onset obsessive-compulsive disorder as per CY-BOCS scale

Type of obsessions	*n*=31 (%)
Contamination obsessions	24 (77.4)
Concern with dirt	20 (64.5)
Concern with body secretions	10 (32.3)
Concern with environmental contaminants	2 (6.5)
Concern with household items	12 (38.7)
Concern about insects	9 (29)
Bothered by sticky substances	3 (9.7)
Concern will get ill	8 (25.8)
Concern will spread illness	1 (3.2)
No concern with consequences of contamination	2 (6.5)
Others	2 (6.5)
Aggressive obsessions	15 (48.4)
Fear might self	1 (3.2)
Fear might harm others	5 (16.1)
Fear harm will come to self	1 (3.2)
Fear harm will come to others	7 (22.6)
Violent images	7 (22.6)
Fear of blurting out obscenities	6 (19.4)
Fear of doing else embarrassing	3 (9.7)
Fear will act on unwanted impulses	0 (0)
Fear will steal things	1 (3.2)
Fear will be responsible for terrible happening	3 (9.7)
Others	0 (0)
Sexual obsessions	2 (6.5)
Forbidden sexual thoughts	2 (6.5)
Content involving homosexuality	1 (3.2)
Aggressive sexual behaviour towards others	0 (0)
Hoarding obsessions	6 (19.4)
Fear of losing things	6 (19.4)
Others	0 (0)
Magical obsessions	2 (6.5)
Lucky numbers/colours	2 (6.5)
Others	0 (0)
Somatic obsessions	14 (45.2)
Concern with illness	7 (22.6)
Concern with body parts	8 (25.8)
Others	1 (3.2)
Religious obsessions	9 (29)
Fear of offending religion	4 (12.9)
Excess concern with morality	7 (22.6)
Others	1 (3.2)
Miscellaneous Obsessions	8 (25.8)
Need to know	4 (12.9)
Fear of saying certain things	2 (6.5)
Fear of not saying right thing	2 (6.5)
Intrusive images	1 (3.2)
Intrusive sounds	1 (3.2)
Others	1 (3.2)

In our sample, among children with onset of OCD before the age of 12 years, boys and girls were equally represented, while among adolescent-onset OCD, the majority were boys with a male/female ratio of 6.5:1. Most of the hospital-based studies on children and adolescents with OCD from India had reported a male preponderance.[17-20] Jayasoorya *et al.*[7] in an epidemiological survey from Kerala found that the prevalence of OCD was 1.1% in boys and 0.5% in girls among adolescents in the 12- to 18-year-old age group. It has been observed that at puberty the gender pattern in OCD changes with more males being affected.[3] Some studies from abroad on adolescents have found male preponderance,[10-12,18] where others have found equal incidence or female predominance.[19-23] In a study on OCD in children below 8 years, the sample included 60% of girls and 40% of boys.[24] Interestingly in the present sample, when we analyzed children below 12 years, female preponderance was observed with a male–female ratio of 1:1.3. Indian data on OCD in young children is scant and the gender distribution in the prepubertal age group needs further exploration.

High familial loading is reported in childhood-onset OCD[10,11,13,24] and may be a pointer towards a genetic etiology for childhood-onset OCD. One family study of juvenile OCD from India had found that the risk of OCD among relatives of the probands was 4.96% while none of the relatives of unaffected controls had OCD.[25] Other studies on OCD in children and adolescents from India had reported a high prevalence of OCD and other psychiatric disorders in first-degree relatives of patients[17,26] In our sample around half of the children with OCD had a positive family history. One reason may be that when a family member is affected with OCD, there will be increased awareness about the symptoms resulting in early identification of the problem in young children.

Comorbid disorders in children with OCD differ from adult OCD with more prevalence of tics disorder and disruptive behavior disorders.[12,24] Comorbid disorders reported in Indian studies on children and adolescents include depression, anxiety disorders, ADHD, Oppositional defiant disorder, and conduct disorder in addition to tics disorder.[17,26,27] In the present sample of childhood-onset OCD, the commonest comorbid disorder was tics disorder, which occurred in 38.7% of children while there was only one child each with depression and conduct disorder. One reason for this low incidence of comorbid disorders other than tics disorder may be that in our sample majority of children were below the age of 12 years with only seven children above 12 years and these disorders may develop when children reach adolescence. Moreover, the diagnosis of comorbid disorders in our sample was based on DSM5 diagnostic criteria and we did not use any specific tools to rate the symptoms. It is likely that the symptom severity in this sample of young children did not reach the level to satisfy the diagnostic criteria. Indian studies have generally reported a low prevalence of comorbid disruptive behavior disorders and one recent study had found that adolescents scored in the borderline range on the depression scale.[17,28]

The nature of obsessions and compulsions in our sample of children were comparable to those reported in studies from India and abroad[12,17,24,26,27] Common obsessions in the present sample included obsessive thoughts about contamination and aggression, somatic obsessions (obsessive concerns about illness and body parts) and obsessive thoughts about religious

Table 2: Compulsions in childhood-onset obsessive-compulsive disorder as per CY-BOCS scale

Type of compulsions	*n*=31 (%)
Cleaning compulsions	27 (87.1)
Excessive handwashing	17 (54.8)
Excessive bathing, grooming, brushing, toilet routine	25 (80.6)
Excessive cleaning of items	14 (45.2)
Other measures to prevent contaminants	9 (29)
Others	5 (16.1)
Checking compulsions	21 (67.7)
Checking toys, school books	9 (29)
Checking with getting washed, dressed or undressed	12 (38.7)
Checking did not/will not harm others	5 (16.1)
Checking did not/will not harm self	1 (3.2)
Checking that nothing terrible will happen	5 (16.1)
Checking that did not make mistake	4 (12.9)
Checking tied to somatic obsessions	5 (16.1)
Others	0 (0)
Repeating compulsions	13 (41.9)
Rereading, erasing or rewriting	13 (41.9)
Need to repeat routine activities	4 (12.9)
Others	1 (3.2)
Counting compulsions	5 (16.1)
Counting objects, words	5 (16.1)
Ordering compulsions	13 (41.9)
Need for symmetry	12 (38.7)
Others	1 (3.2)
Hoarding compulsions	
Difficulty throwing things away	8 (25.8)
Others	0 (0)
Superstitious behaviours	3 (9.7)
Rituals involving other people	12 (38.7)
Miscellaneous compulsions	24 (77.4)
Mental rituals	2 (6.5)
Need to ask, tell or confess	19 (61.3)
Measures to prevent harm to others	1 (3.2)
Ritualised eating behavior	7 (22.6)
Excessive list making	0 (0)
Need to touch, tap, rub	5 (16.1)
Need to do things until it feels right	4 (12.9)
Rituals involving blinking, staring	2 (6.5)
Trichotillomania	1 (3.2)
Other self damaging behaviour	1 (3.2)
Others	2 (6.5)

matters. As reported in previous studies, multiple obsessions were common[24] Cleaning and washing compulsions were the commonest, followed by checking compulsions and compulsion for repetition and to maintain order and symmetry.

Miscellaneous compulsions formed the second commonest type of compulsions and occurred in one-fourth of children. Miscellaneous obsessions included the need to know, fear of saying certain things, and fear of not saying the right things. Miscellaneous compulsions included the need to ask, tell or confess and ritualistic eating behaviors. Rituals involving blinking, straining, and repeating things until they felt right were also seen as part of the miscellaneous compulsions. These types of obsessions and compulsions in young children are likely to be mistaken for normal age-related behavior and hence parents may not seek professional help resulting in delayed diagnosis and treatment.[17]

Although OCD in the adolescent age group is well documented, the occurrence of the disorder in young children is not well recognized. The majority of the Indian studies on OCD in children and adolescents are from a single center and pertain to adolescents. There is limited data on the clinical features of OCD in young children and of childhood-onset OCD. Recent studies on the impact of the COVID 19 pandemic on OCD in children had reported an increase in the symptoms with more contamination obsessions and cleaning/washing compulsions.[29,30] Despite the inherent limitations of a hospital-based sample and small sample size, our findings provide preliminary data on childhood-onset OCD among children and adolescents and point to the need for larger community-based studies, especially because of the potential impact of the COVID 19 pandemic on OCD.

Summary

OCD can occur in young children and is characterized by high family history and comorbid tics disorder. The type of obsessions and compulsions in childhood-onset OCD are comparable to those in adolescents with contamination obsessions and washing and cleaning compulsions being the commonest.

Miscellaneous obsessions (e.g., repeatedly asking the same questions to know something, fear of saying certain things or not saying the right things) and compulsions (repetitions of questions or comments or confessions, ritualistic eating behaviors and rituals involving blinking, straining, and repeating things until it felt right) are common in children with OCD. These may be mistaken for normal age-related behavior resulting in a delay in diagnosis. Primary care physicians are the first contact for childhood illnesses and family physicians should be aware of the different clinical presentations of OCD in children so that delays in diagnosis and treatment are avoided.

Ethics approval

Institutional Ethics Committee, IMHANS, Kozhikode, Kerala. No. IMHANS/IEC/S/2020/086.

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Conflicts of interest

There are no conflicts of interest.

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