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ABOUT COVER

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Retrospective Study

Phenomenology of obsessive-compulsive disorder in children and adolescents: Sample from a tertiary care center in Istanbul, Turkey

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Abstract

BACKGROUND

Obsessive-compulsive disorder (OCD) is a heterogeneous disease in many respects and exhibits this diversity in terms of phenomenology. It also displays several different characteristics in children compared to adults.

AIM

To describe the socio-demographic and phenomenological features of children with OCD and to investigate the impact of these features on response to pharmacotherapy.

METHODS

This retrospective study was carried out with 150 children and adolescents who had been diagnosed with OCD between 2014 and 2018. Data was collected by examining the files of the patients with diagnosis of OCD and similar disorders from the hospital database. Yale-Brown Obsessive-Compulsive Scale for Children was used for the assessment of obsession-compulsion subtypes. The Clinical Global Impression (CGI) scale was used to evaluate the severity of the disease (CGI-S) and global improvement (CGI-I). The predictors of treatment response were evaluated using linear regression analysis. The level of significance for all statistic tests was set as $P < 0.05$.

RESULTS

The sample was divided into prepubertal (44%) and adolescent (56%) age groups. The most prevalent obsessions were contamination and aggression obsessions, and the most frequent compulsions were washing and checking. While contamination was observed more commonly in the prepubertal age group, the religious obsession was seen more frequently in adolescents. Patients with aggression obsession presented a higher frequency of comorbid anxiety ($P = 0.022$) and mood

(P = 0.047) disorder. CGI-I scores did not differ according to phenomenological subgroups (P > 0.05). A lower CGI-I score was linked to a lower CGI-S score (95% confidence interval 0.21-0.39, P < 0.001) and the prepubertal age of admission (95% confidence interval 0.03-0.87, P = 0.020).

CONCLUSION

The phenomenology of OCD shows differences depending on the age group and the comorbid psychiatric disorders. Earlier identification and treatment of OCD may help to prevent the impairment of the mental health of children and adolescents.

Key Words: Obsessive-compulsive disorder; Phenomenology; Comorbidity; Treatment response; Serotonin reuptake inhibitors

Core Tip: We aimed to analyze the socio-demographic and phenomenological features of children and adolescents with obsessive-compulsive disorder and to investigate the impact of these features on the pharmacotherapy response. Contamination was the commonest obsession, and washing-cleaning was the most common compulsion. The type of obsession varied with the age group: Contamination was seen more frequent in prepubertal age group, whereas the religious obsessions in adolescents. Aggression obsession was associated with the comorbid anxiety disorders and depression. The treatment response deteriorated with the increase in severity of disease and the age of admission. No difference was observed between the phenomenological subgroups in case of treatment response.

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a neuropsychiatric disorder characterized by recurrent, unwanted thoughts (obsessions) and rituals to reduce anxiety (compulsions), which may lead to significant distress in a person's life[1]. The age of onset varies between the ages of 2 and 46, and symptoms usually begin around the age of 10 [2].

In contemporary psychiatric terminology, the term *phenomenology* is used to describe the symptoms and signs of diseases[3]. As a disorder with heterogeneous features in many respects, OCD also shows its variability and diversity in terms of phenomenological features, which are affected by many structural and environmental factors, and shows several different characteristics in children compared to adults. Rosario-Campos *et al*[4] stated that aggression, sexual and religious obsessions are more common in adults, whereas symmetry-ordering obsession/compulsions are more common in the pediatric age group. In addition, comorbid psychiatric disorders have been associated with some phenomenological subgroups. While mood and anxiety disorders accompany aggression obsession more frequently, it is reported that symmetry-ordering obsession and compulsions are more common in patients with tic disorders[5].

Whilst phenomenology is affected by multifactorial components, it also plays an essential role in the treatment response of OCD. However, there are contradictory results in the literature about which subgroup responds better to treatment[6]. In clinical practice, some subgroups benefit from selective serotonin reuptake inhibitors (SSRI) and clomipramine, whereas some groups need an antipsychotic augmentation in treatment[7].

In this study, we aimed to analyze the socio-demographic and phenomenological features of children and adolescents with OCD and to investigate the influence of these features on the pharmacotherapy response.

MATERIALS AND METHODS

Procedures and study group

This research was conducted in the Marmara University School of Medicine, which houses the largest child and adolescent psychiatry clinic on the Asian side of Istanbul, Turkey. The study was carried out retrospectively by examining the files of the emergency and outpatient clinics of the Child and Adolescent Psychiatry Department.

For our research, files of patients with International Classification of Diseases-10 diagnostic code F42 and refractions (OCD and similar disorders) were collected from the hospital database from a total of 88710 outpatient and 3896 emergency /consultation admissions between 2014 and 2018. There was totally 1516 applications belonging to 642 patients, and the patient files were overviewed systematically according to date of admission to the clinic. Out of the files overviewed, 153 could not be accessed due to problems in file archiving, and 101 patients were excluded since the diagnostic criteria of Diagnostic and Statistical Manual of Mental Disorders, 5th Edition for OCD were not fully met[1]. Also, the information in another 238 patient files was not taken into consideration due to lack of data. Finally, a total of 150 children and adolescents fully meeting the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition criteria were included in the study.

At least one drug treatment (SSRI, clomipramine, second generation antipsychotics) had been given to 118 (78.7%) children who had applied for at least two follow-up interviews, and seven of the children who started drug treatment discontinued the follow-up. One hundred and eleven children under medication continued their follow-up for an average of 5.5 mo. Children who had not used any psychotropic drugs received supportive psychotherapy.

Data collection tool

The data were collected through Patient Follow-Up Form from patient records. Obsession and compulsion subgroups were established based on the Yale-Brown Obsessive-Compulsive Scale for Children[8]. Obsessions such as the need to know or remember, fear of saying certain things, fear of not saying just the right thing, intrusive images and sounds were evaluated under the heading of "miscellaneous obsessions" in Yale-Brown Obsessive-Compulsive Scale for Children. Also, compulsions such as mental rituals, the need to tell, ask or confess, the need to take precautions to prevent damage to himself/herself and others, and the need to touch, tap or rub were evaluated as "miscellaneous compulsions."

Clinical Global Impression (CGI), one of the most commonly used clinician rated tools in psychiatry, measures the severity of the disease with CGI-S and the global improvement with CGI-I. The CGI-S score ranges from 1 (normal, not at all ill) to 7 (among the most extremely ill patients), and the CGI-I assesses the improvement from 1 (much improved) to 7 (much worse), which was recorded at the last interview following the treatment[9].

Statistical analysis

SPSS 20.0 for Windows (IBM, 2011, Armonk, NY, United States) was used during the statistical analyses. The Shapiro-Wilk test was used to evaluate the normality of data distribution. Parametric variables were analyzed with Pearson's χ^2 or Fisher's exact test, independent samples t test, one-way analysis of variance, and for the non-parametric variables Kruskal-Wallis and Mann-Whitney U tests were used. The predictors of treatment response were evaluated using linear regression analysis. The level of all significance for all statistical tests was set as $P < 0.05$.

Ethics

The study protocol was conducted in keeping with the code of ethics of the Declaration of Helsinki and was approved by the Marmara University School of Medicine Clinical Research Ethics Committee (Protocol No: 09.2019.360, date: April 5, 2019). Written informed consent was obtained from parents or legal guardians of the patients.

RESULTS

A total of 150 children, with a mean age of admission to the clinic of 11.90 ± 3.02 (min: 4, max: 17) and a mean age of onset of symptoms of 11.01 ± 3.36 (min: 3, max: 17), participated in our study. As the age of onset of the symptoms was in congruence with the age of admission and was prone to recall bias, we divided the study group into prepubertal/childhood (44.0%) and postpubertal/adolescent (56.0%) age groups based on the age at admission and accepted the onset of puberty as 12 years of age. The socio-demographic and clinical characteristics of the children are shown in Table 1. The socio-demographic features such as parental educational and employment status were similar in terms of sex (P > 0.05).

In the year prior to the admission, 35.3% of the children had experienced a stressful life event, which included the death of one of the nuclear or extended family members (10.7%), material loss (8.0%), serious illness of themselves or family members (8.0%), moving to another place (7.3%), an accident (3.3%) and parental divorce (0.7%). Before admission to our clinic, 22.0% of the children had been admitted to a mental health professional due to OCD, and 20.0% had shown psychiatric symptoms other than OCD. Out of all participants, 35.3% of the first-degree relatives had a history of psychiatric disorder, the most prominent of these being major depressive disorder (19.3%), which was followed by OCD and panic disorder (both 7.5%).

While 96.6% of the children had an obsession and 88.0% had a compulsion, 55.3% had more than one obsession, and 47.3% had more than one compulsion. The patterns of obsessions are shown in Figure 1 and compulsions are shown in Figure 2. There was no difference in the phenomenological subgroups between females and males (P > 0.05). Contamination obsessions were observed more commonly in the prepubertal age group (χ^2 = 4.658, P = 0.031), whereas religious obsessions were more common in adolescents (χ^2 = 7.013, P = 0.008). There was no variance in compulsions and other obsessions according to age group (P > 0.05). In terms of stressful life events, aggression obsession was observed more frequently in children who had recently lost one of their family members (χ^2 = 3.684, P = 0.05), and superstitious obsession was more common in children who had recently been in or witnessed an accident (χ^2 = 12.312, P = 0.023). Ordering-arranging compulsion was found to be more common in children who had moved in the last year (χ^2 = 4.718, P = 0.03).

In respect of comorbid psychiatric disorders, patients with aggression obsession presented a higher frequency of comorbid anxiety disorders (χ^2 = 5.239, P = 0.022) and major depressive disorder (P = 0.047, Fisher's exact test). Ordering-arranging compulsion was seen less frequently in children with comorbid disruptive behavior disorders (χ^2 = 6.042, P = 0.014).

The baseline CGI-S and post-treatment CGI-I scores are shown in Table 2. A positive, moderately strong and statistically significant correlation was found between CGI-S and CGI-I scores (r = 0.443, P < 0.001). The CGI-I scores of the adolescents were higher than children (t = -2.231, P = 0.027), but there was no significant difference between CGI-S scores of age groups (t = -0.894 P = 0.373). While CGI-S scores were higher (t = 2.342, P = 0.021) in children with superstitious behaviors (mean: 4.42 ± 0.53) compared to those without (mean: 3.20 ± 1.37), CGI-I scores did not differ according to phenomenological subgroups (P > 0.05).

In the linear regression analysis, the CGI-S score and the age of admission were found to be the parameters that predicted the CGI-I score (Table 3).

DISCUSSION

To the best of our knowledge, this study is the largest from Turkey concerning the phenomenology of pediatric OCD. Also, the study data was derived from a child and adolescent psychiatry clinic in a tertiary university hospital rather than a specialized clinic for OCD and therefore should be more representative of all pediatric OCD patients. So, ranging from mild to moderate, all severity levels of OCD, including treatment-resistant patients, were represented in the sample, suggesting that the findings could be broadly applied to OCD.

In the present study, the most common obsession was contamination, followed by miscellaneous, aggression and religious obsessions, and the most common compulsions were washing/cleaning, control, the miscellaneous category and ordering-arranging. Many studies worldwide also indicated contamination as the commonest obsession and cleaning as the commonest compulsion[10-12]. However, some researchers revealed symmetry-ordering as the most prevalent phenomeno-

Table 1 Socio-demographic and clinical characteristics of children according to age group

Socio-demographic characteristics	Prepubertal	Postpubertal	Overall	Statistical analysis
	n (%)	*n* (%)	*n* (%)	
Sex (male)	40 (60.6)	43 (51.2)	83 (55.3)	χ^2 = 1.326, *P* = 0.250
Educational level of mother				
Secondary school and lower	24 (32.9)	40 (54.1)	73 (49.7)	χ^2 = 6.704, *P* = 0.010[1]
High school and above	49 (67.1)	34 (45.9)	74 (50.3)	
Employment status of mother	16 (24,6)	13 (15.5)	29 (19.5)	χ^2 = 1.953, *P* = 0.162
Educational level of father				
Secondary school and lower	20 (35.1)	44 (51.2)	57 (39.9)	χ^2 = 3.583, *P* = 0.058
High school and above	37 (64.9)	42 (48.8)	86 (60.1)	
Employment status of father	63 (96.9)	67 (82.7)	130 (89.0)	χ^2 = 7.459, *P* = 0.006[1]
Parents live together	62 (93.9)	73 (86.9)	135 (90.0)	χ^2 = 2.032, *P* = 0.154
Consanguinity	13 (19.7)	21 (25.0)	34 (22.7)	χ^2 = 0.593, *P* = 0.441
Mental disorder in 1st degree relatives	24 (36.4)	29 (34.5)	53 (35.3)	χ^2 = 0.055, *P* = 0.815
Comorbid psychopathology	48 (72.7)	53 (63.1)	101 (63.3)	χ^2 = 1.559, *P* = 0.212
Anxiety disorders[a]	22 (33.3)	29 (34.5)	51 (34.0)	χ^2 = 0.023, *P* = 0.879
Disruptive behavioral disorders[b]	23 (34.8)	18 (21.4)	41 (27.3)	χ^2 = 3.351, *P* = 0.067
Neurodevelopmental disorders[c]	20 (30.3)	16 (19.0)	36 (24.0)	χ^2 = 2.567, *P* = 0.109
Mood disorders (major depressive disorder)	1 (1.5)	6 (7.1)	7 (4.7)	χ^2 = 2.631, *P* = 0.105
	mean ± SD			
Age gap between mother and father	3.34 ± 2.75	4.54 ± 4.18	4.00 ± 3.26	*t* = -1.736, *P* = 0.085
Birth order	1.69 ± 0.86	2.17 ± 1.37	1.95 ± 1.19	*t* = -2.444, *P* = 0.016[1]

[1]Indicates emphasis of significance.

[a]Generalized anxiety disorder, separation anxiety disorder, social anxiety disorder, specific phobias and panic disorder.

[b]Attention deficit/hyperactivity disorder, oppositional defiant disorder and conduct disorder.

[c]Articulation/phonation disorders, mental retardation, autism spectrum disorders, dyslexia and tic disorder.

SD: Standard deviation.

Table 2 Clinical Global Impression-Severity and Clinical Global Impression-Improvement scores of the children

CGI-S[1]			CGI-I[2]		
Score	Remark	%	Score	Remark	%
2	Borderline mentally ill	5.0	1	Very much improved	39.1
3	Mildly ill	19.3	2	Much improved	24.3
4	Moderately ill	54.3	3	Minimally improved	25.2
5	Markedly ill	19.3	4	No change	6.1
6	Severely ill	2.1	5	Minimally worsened	5.2

[1]Evaluated in the first session (baseline).

[2]Evaluated in the last session (post-treatment).

CGI-S: Clinical Global Impression-severity score; CGI-I: Clinical Global Impression-global improvement score.

logical subgroup[4,13], whereas Bryńska and Wolańczyk[14] described aggression as the most frequent obsession in adolescents. There was no sex difference between phenomenological subgroups in our study. Despite that, Tanidir *et al*[15] reported more contamination and somatic obsessions in males by using another diagnostic tool

Table 3 Regression model indicating variables affecting response to treatment in children with obsessive-compulsive disorder

Independent variables	Non-standardized coefficients		Standardized coefficients	P	Confidence interval 95%	t
	β	Standard error	β			
CGI-S	0.259	0.070	0.289	< 0.001	(0.121)-(0.397)	3.719
Age of admission[1]	0.507	0.238	0.165	0.035	(0.036)-(0.878)	2.127
R = 0.336; *F* = 9.347; *P* < 0.001; Durbin-Watson = 1.925						

[1]Age of admission was divided into two groups as prepubertal and postpubertal and categorically included in the analysis. CGI-S: Clinical Global Impression-severity score.
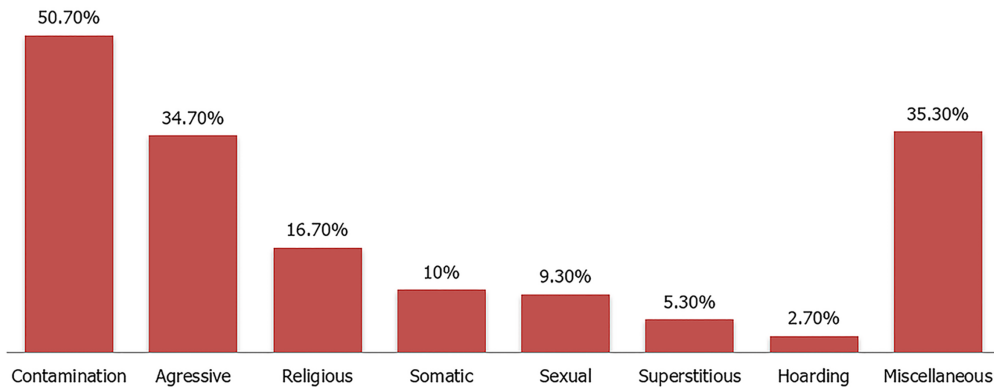
Figure 1 Pattern of obsessive symptoms among participants.
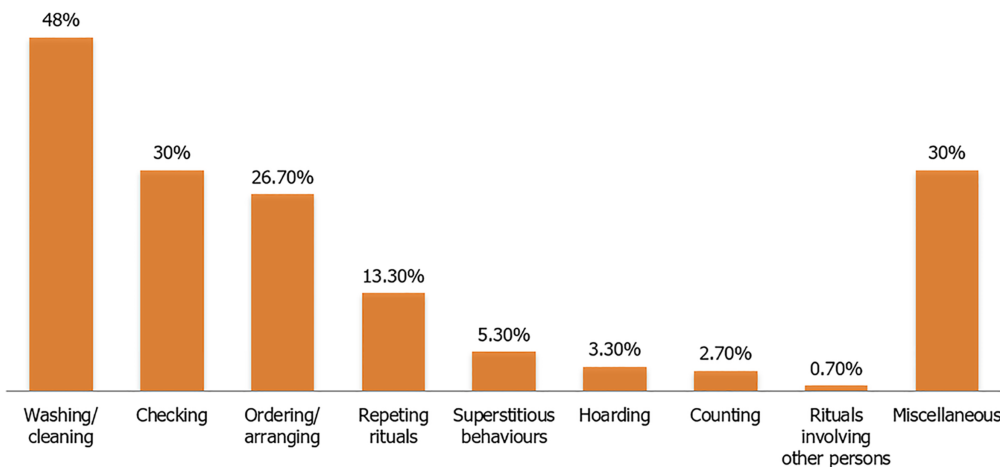
Figure 2 Pattern of compulsive symptoms among children.

(K-SADS-PL) on 110 children and adolescents in Istanbul. Mataix-Cols *et al*[16] found in their study in the United States that hoarding was common in girls, while sexual obsessions were more common in boys. The variance in results of such studies may be due to the wide range of age and methodologies and the cultural differences.

Regarding age group, contamination obsessions were related to prepubertal age group, whereas religious obsessions to adolescent age group. Consistent with our findings, studies conducted with children and adults asserted that contamination obsessions were seen in earlier ages[17], and religious obsessions were more apparent in older ages[15,18-19]. Exceptionally, Albert *et al*[20] related religious obsessions in adult OCD patients with the disease onset before the age of ten. Considering that the concepts of abstract thought and religion in children become more elaborated during adolescence, it is expected that religious obsessions would be seen more frequently in this period.

During our follow-up, approximately two-thirds of the children were diagnosed with a psychiatric disorder other than OCD, and the most common comorbid disorder was anxiety disorders (34.0%). Similar pediatric OCD studies also reported high rates of comorbidity, and the commonest comorbid mental disorders were defined as anxiety disorders, attention deficit/hyperactivity disorder, and tic disorder[14,16,21]. Among the phenomenological subgroups, variations in terms of comorbidities were observed, and the aggressive obsession was more frequently seen in children with anxiety and mood disorders. Studies conducted in Western and Asian countries have related anxiety disorder with aggressive symptomatology of OCD[5,22-23]. Also, Storch *et al*[24] observed daily functional impairment in the presence of either comorbid anxiety disorder or aggressive obsessions in children with OCD. Additionally, we observed nearly one-third of the children had a history of psychiatric disorder in their first-degree relatives. In other studies, the rate of psychiatric family history in childhood-onset OCD cases varied from 35%-45%[13,25], and the earlier age of onset of symptoms has been strongly associated with the familiality of the disorder [26].

In the light of our results, the treatment response deteriorated with the increase in severity of disease and the age of admission. Congruent with our results, Masi *et al*[27] highlighted that a better response to SSRIs is related to less severe illness in pediatric OCD. In a systematic review, early pharmacotherapeutic intervention was found to be the most remarkable indicator of treatment response in pediatric OCD[28]. Notwithstanding, some researchers did not find a significant relationship between age of onset/admission and response to pharmacotherapy in children with OCD[29,30]. Furthermore, in our study group maternal educational level and paternal employment level were found significantly higher in the prepubertal age group, which are supposed to be critical protective factors for a child's mental health and might be associated with better therapy outcomes.

Between the phenomenological subgroups, no difference was observed in case of treatment response. Results of the studies concerning which single subgroup responds better to SSRIs are controversial[29,31], and this may be due to the heterogeneous nature of the disorder. Therefore, in future studies, response to pharmacotherapy of OCD symptoms in children and adolescents should be examined in homogeneous subgroups with a dimensional approach rather than in single phenomenological groups.

There are also some limitations to the study. First, some of the children were excluded from the study due to lack of data, failure to meet the diagnostic criteria and problems in file archiving, all of which limited the number of participants. Second, retrospective data collection from the files might cause reporting bias. Third, due to its nature, the sample might have some ascertainment biases such as medication discontinuation due to fear of stigmatization, type of responders to SSRIs in terms of OCD phenomenology, family characteristics, and underlying neuropathology, *etc*. Lastly, data concerning the children who dropped-out would provide a comparison of the results with the follow-up group and could strengthen our results.

CONCLUSION

In the present study, it has been shown that obsessive-compulsive disorder in children and adolescents show their heterogeneity in terms of phenomenology. There are variations in the phenomenology of obsessions depending on the age group and comorbid mental disorders. During the follow-up of pediatric OCD patients, comorbid psychiatric disorders associated with certain phenomenological subgroups should be considered. The response to pharmacotherapy was associated with a younger age of admission and lower severity of disorder, which emphasizes the value of therapeutic interventions in the early stages of the disease in order to limit the impairment of social functioning and prevent the development of secondary mental disorders in adulthood.

ARTICLE HIGHLIGHTS

Research background

As a disease with heterogeneous features in many respects, obsessive-compulsive disorder (OCD) shows variability in terms of phenomenology.

Research motivation

Phenomenology of obsessions and compulsions are affected by many structural and environmental factors and shows several different characteristics in children compared to adults.

Research objectives

To identify the most common phenomenological subgroups of pediatric OCD and to determine the relationship of these subgroups with familial and clinical characteristics of children and the treatment response.

Research methods

Data of 150 children and adolescents, who had been diagnosed with OCD between 2014 and 2018, were examined retrospectively.

Research results

Contamination obsession was observed more frequently in the prepubertal age group, whereas religious obsessions were more frequent in adolescents. The treatment response deteriorated with the increase in severity of disease and the age of admission.

Research conclusions

Variations in phenomenology of obsessions are found in terms of age groups. The response to pharmacotherapy was found to be better in patients in the prepubertal age group and with lower severity of disease.

Research perspectives

Earlier diagnosis and therapeutic interventions in OCD may limit the impairment of mental health of children and adolescents.

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