Research Article

COERCIVE AND DISRUPTIVE BEHAVIORS IN PEDIATRIC OBSESSIVE–COMPULSIVE DISORDER

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Background: *This study explored the nature of disruptive and coercive behaviors in pediatric obsessive–compulsive disorder (OCD).* **Method:** *Thirty children with OCD and a disruptive behavior disorder (DBD) were compared to 30 children with DBD alone using the Child Behavior Checklist and a novel 18-item questionnaire focused on distinctive coercive and disruptive behaviors seen in pediatric OCD (CD-POC).* **Results:** *Although youth with DBD alone had higher ratings of Externalizing Behaviors on the CBCL compared to the youth with OCD+DBD, their ratings on the CB-POC scale were lower. For example, 83% of OCD+DBD parents reported that their child "Imposes rules or behaviors on others due to tactile or other sensitivity and reacts to disobedience with rage or violence (e.g. forbids certain sounds, demands specific temperature settings)" compared to 23% of the parents of youth with DBD alone. Other highly discriminating behaviors included: "Demands special 'cuddling' or ritualized contact without regard for the will of others" and "Forbids the use of objects in his/her vicinity because of feelings of fear or disgust (e.g. knives, scissors, creams)." Total scores on the CD-POC were also correlated with OCD severity (P<.01).* **Conclusion:** *The results suggest that the nature of DBD in pediatric OCD may be distinctive and worthy of further study. Depression and Anxiety 28:899–905, 2011.* © 2011 Wiley-Liss, Inc.

Key words: *anxiety disorders; coercion; child behavior disorders; disruptive behavior disorders; family relations; obsessive–compulsive disorder; treatment outcome*

INTRODUCTION

Obsessive–compulsive disorder (OCD) affects an estimated 1–3% of the pediatric population[1] and often occurs alongside comorbid psychiatric conditions.[2] The comorbidity between OCD and other internalizing disorders has been the focus of considerable attention; however, the relationship between OCD and disruptive behavior disorders (DBDs) has until recently been less extensively investigated. Recent studies have addressed the impact of comorbid DBDs on the clinical expression and typical treatment of OCD in children. The results show that relative to children with OCD only, those with a comorbid DBD displayed more severe OCD symptoms, higher levels of impairment, and greater family dysfunction,[3,4] in addition to being significantly more likely to receive atypical antipsychotic medication.[4]

One question that has not been directly addressed is to what extent are the disruptive behaviors of OCD youth different or similar to those of children without OCD. Although some cases of comorbid OCD and DBD might be "simple" cases of comorbidity, in other cases, the disruptive behaviors could be secondary to the existence of OCD. In such cases, the kinds of disruptive behaviors displayed by the child and the

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contexts in which they occur could be significantly different than for children not suffering from OCD. Although studies of comorbidity highlight the presence or absence of psychiatric conditions, they are by nature less attuned to behaviors that have not been well defined and incorporated into the measures. In a study that assessed disruptive behavior among children with OCD using a dimensional rather than categorical approach, such behaviors were found to be common.[5] The prevalence of aggressive behaviors was unexplained by DSM diagnoses, such as oppositional defiant disorder, implying a differential pattern of aggression typical of OCD youth. Such behaviors are recognized by many clinicians but have not been well defined and their relationship to DBD, more generally, has not been researched.

With these points in mind, we present a preliminary report on two small cohorts of youth (OCD+DBD versus DBD alone) to examine differences in clinical presentation. We had two main research questions. First, to assess whether youth with OCD+DBD differ from those with DBD alone on well validated parental ratings of externalizing behavior using the Child Behavior Checklist (CBCL).[6] We expected that CBCL externalizing scores would be higher in the youth with DBD alone. Second, we developed a novel 18-item parental report questionnaire (Coercive and Disruptive Behavior Scale - Pediatric OCD [CD-POC]) to examine some of the potentially distinctive features of DBD, as encountered in pediatric OCD. We expected that the total score on the CD-POC would be higher for the OCD youth and that the CD-POC total score would be associated with OCD severity (i.e. Children's Yale–Brown Obsessive–Compulsive Scale [CY-BOCS][7]). This is a finding that would be in line with earlier studies using larger cohorts of OCD youth.[4]

METHOD

PARTICIPANTS

The sample consisted of parents of children who consecutively sought treatment in one of two large clinics at Schneider Children's Hospital in Israel. One clinic is a parent-training unit for disruptive youth and the other is an anxiety disorders clinic for children and adolescents. The study was carried out with authorization from the hospital review board. Parents gave their written informed consent to participate in the study in accordance with the hospital's review board. All parents were made aware that their participation would in no way affect their eligibility for treatment. Participants were invited to request further knowledge regarding the study and were provided with the contact information for obtaining it.

Half the sample ($n = 30$) were parents of children who met criteria for a DSM IV TR diagnosis of OCD and who also exhibited disruptive behavior. The other half of the sample ($n = 30$) presented with a child with disruptive behavior who did not have OCD and had never been diagnosed with the disorder in the past. In order to allow for the possibility of a pattern of behaviors not well detected by current diagnostic formulations, children were not required to meet the full DSM criteria for a DBD; however, all parents were recruited for the study based on their complaints of "disruptive behaviors," "violence," or "aggressive behaviors" they faced with the child. All children met at least one of the DSM-IV criteria for a DBD and the majority met full DSM criteria. Evaluations in both participating clinics are done by licensed psychologists experienced in both OCD and disruptive behaviors, and were discussed in a weekly meeting with other expert members of the clinic team. Parents recruited for the study independently listed behavioral problems as a treatment goal when asked to state their aims, without the need for specific prompting by the clinician. Only cases where the OCD diagnosis was unequivocal were included in the relevant study group.

Parents completed all measures at the time of intake assessment at the clinics. At assessment, the children were not participating in psychotherapy and the majority was not receiving any form of psychiatric medication.

MEASURES

Child behavior checklist. The CBCL is a widely used tool for screening and assessing a wide range of psychopathology, including disruptive behavior, and has been used in many populations with a wide variety of samples. The questions on the parent form of the self-report questionnaire contribute to three broad scales (internalizing, externalizing, and general problems) and to eight scales for specific kinds of difficulties. The *t*-scores obtained are based on norms that are adapted for age and sex and have been shown to be representative of the Israeli population.[8,9] *T*-scores can fall into one of three ranges: normal, borderline, or clinical.

Coercive and disruptive behavior scale - pediatric OCD. The CD-POC was initially based on a preliminary analysis of narratives of 10 parents of children with OCD (Lebowitz et al.[10]) and refined using preliminary comparisons to children with DBD without OCD[11] (see supplemental material). Eighteen items were presented as a parent-report scale that was rated on the five-point Likert scale ranging from 0 ("never typical of my child") through to 4 ("almost always typical of my child"). The internal consistency of the scale in the total sample of 60 subjects was high (Crohbach's alpha = .871). Table 2 presents the content of each of these items in detail along with the correlation of each item to the whole.

Children's Yale–Brown obsessive–compulsive scale. The CY-BOCS is a widely used clinician completed tool for assessing the existence and severity of OCD in children. The CY-BOCS is a version of the Yale–Brown Obsessive–Compulsive Scale adapted for the pediatric population and has been shown to have high validity and reliability.[7] It has also been demonstrated that CY-BOCS based on parent reports are highly concordant with children self-reports.[12] The severity ratings are composed of two main parts which assess the existence, content, and severity of obsessive thoughts and impulses and compulsive behavior. The maximum score for each part is 20, contributing to a maximum total score of 40. There is no fixed criterion for assigning severity of OCD with CY-BOCS, but an accepted standard is that a score above 8 indicates mild OCD, above 15 moderate OCD, above 23 severe OCD, and above 32 extreme OCD impairment. The ratings were performed by a qualified licensed psychologist (ERL) with experience in assessment and treatment of OCD.

STATISTICAL ANALYSES

T-tests and χ^2 were used to compare group differences on constructs of interest. *P* was set to .5 to indicate statistical significance. In accordance with the hypotheses, the primary measures of interest were the CBCL EXT, the CD-POC, and CY-BOCS scores. Individual items and total CD-POC scores were analyzed for the extent to which they discriminated between OCD+DBD and DBD

only subjects using χ^2 cross-tabulations and receiver operating characteristic (ROC) curve analysis. Point biserial correlations were used to assess the relationship between individual items on the CD-POC and the total scale. Pearson's r correlation coefficient was used to assess the relationship between the CD-POC and CY-BOCS scores.

RESULTS

As presented in Table 1, no significant differences between groups were found on demographic variables, such as age or gender.

BETWEEN GROUP COMPARISONS

On the CBCL (Table 2), parents of disruptive only children were significantly more likely to rate their child in the clinical range for disruptive behavior problems on the CBCL. Of note, although 22 of the DBD children without OCD were scored by their parents in the clinical or borderline ranges for aggressive behavior and 21 on the rule breaking scale, only 13 and 6 OCD children, respectively, were scored in those ranges by their parents. Apart from the disruptive behavior scales, none of the other CBCL scales significantly differentiated between groups, except the thought disorder scale, which includes items that assess symptoms of OCD (Table 3).

On the CD-POC, the mean total ratings for coercive behavior items were 27.03 and 8.07 for OCD+DBD and DBD only, respectively ($t_{58} = 8.52$, $P<.001$). ROC curve analysis for the CD-POC taken as a whole resulted in an area under the curve of .936 for the presence of OCD indicating good specificity and high sensitivity. Individual item ROC analyses resulted in areas under the curve ranging from .563 to .868, with the two items most effectively discriminating for the presence of OCD being "Forbid certain actions because of feelings of extreme disgust" and "Impose rules or behaviors on others due to tactile or other sensitivity and react to disobedience with rage or violence." χ^2 analyses support these results with 12 of the 18 items having significantly different distributions of responses between the two groups.

TABLE 1. Age, gender, medication status, and additional diagnoses for DBD+OCD and DBD only groups

	OCD+Disruptive behavior	Disruptive only
Gender of child: Boys *N* (%)	19 (63)	22 (73)
Gender of parent: Mothers *N* (%)	17 (57)	16 (56)
Age of child: Mean (*SD*)	11.4 (2.4)	11.4 (2.4)
Medication: *N* (%)		
SSRI	7 (23.3)	2 (6.6)
Atypical antipsychotic	3 (10)	4 (13.3)
Other diagnoses: *N* (%)		
Oppositional defiant disorder	14 (46.6)	19 (63.3)
Conduct disorder	1 (3.3)	11 (36.6)
ADHD	4 (13.3)	1 (3.3)
Any DBD	18 (60)	30 (100)
Depression	5 (16.6)	3 (10)
Other anxiety disorder	12 (40)	8 (26.6)
Tourette or chronic tic disorder	2 (6.7)	0 (0)

OCD, obsessive–compulsive disorder; DBD, disruptive behavior disorder; ADHD, attention deficit hyperactivity disorder.

TABLE 2. Parent ratings for CBCL by study group

	Disruptive behaviors *N*	Disruptive behaviors+OCD *N*	χ^2	*P*
Externalizing CBCL scales:				
Aggressive behaviors	17	7	6.9	.008**
Rule breaking	21	4	12.3	<.001**
Externalizing problems	25	15	7.5	.006**
Other CBCL scales:				
Anxiety/depression	8	12	1.2	.27
Withdrawn/depression	3	5	0.57	.44
Somatic complaints	1	5	2.9	.08
Social problems	3	8	2.7	.09
Thought problems	2	11	7.9	.005*
Attention problems	1	4	1.9	.16
Internalizing problems	14	18	1.0	.3
General problem index	20	17	6.3	.42

For all CBCL (Child Behavior Checklist) scales: N = number of children rated in the clinical range.
*$P<.01$; **$P<.001$.

RELATIONSHIP TO OCD SEVERITY

As hypothesized, parent ratings on the 18-item coercive/disruptive scale among parents of children with OCD were significantly and positively related to OCD symptom severity as measured by CY-BOCS. The relationship held for scores of obsessions ($r = .49$, $P<.01$), compulsions ($r = .54$, $P<.01$), and total OCD severity score ($r = .53$, $P<.01$).

DISCUSSION

We report on disruptive behaviors of children with and without OCD, based on parental reports. As expected, the two groups of children showed diverse patterns of disruptive behaviors which, although overlapping to some extent, differentiated between them. The children not suffering from OCD were rated higher than the OCD children on CBCL measures of aggression, rule breaking, and general externalizing problems. Significantly more of them were identified, based on the CBCL, as likely to have a DBD. Conversely, children suffering from OCD were scored significantly higher on items designed to address coercive and disruptive behaviors in OCD, and these items effectively discriminated between OCD and non-OCD subjects. This suggests that, among the disruptive behaviors exhibited by children suffering from OCD, there may be some which are specific to the obsessive–compulsive disorder and different from more classical aggressive symptoms. Although all 18 items of

TABLE 3. Parent ratings of CD-POC items by study group, inferential values for between group differences, and correlation of specific items to the total scale

Item		DBD+OCD		DBD only				
		N	%	*N*	%	$P\ \chi^2$	R_{PBIS}	ROC
Forbids certain actions because of feelings of extreme disgust (e.g. forbids coughing at the table)?	Not at all	4	13.3	18	60	.001	.582	.801
	Rarely	2	6.7	5	16.7			
	Sometimes	8	26.7	3	10			
	Often	8	26.7	2	6.7			
	Almost all the time	8	26.7	2	6.7			
Imposes physical closeness or exaggerated clinginess (e.g. won't keep a normal distance, asks never-ending questions)?	Not at all	6	20	15	50	.065	.546	.667
	Rarely	6	20	4	13.3			
	Sometimes	9	30	6	20			
	Often	5	16.7	5	16.7			
	Almost all the time	4	13.3	0	0			
Imposes strict rules of cleanliness or order on other household members (e.g. demands repetitive cleaning or a special laundry schedule)?	Not at all	13	43.3	27	90	.002	.549	.764
	Rarely	5	16.7	3	10			
	Sometimes	4	13.3	0	0			
	Often	5	16.7	0	0			
	Almost all the time	3	10	0	0			
Neglects his/her personal hygiene in a manner that is offensive to others (e.g. refuses to shower and smells bad)?	Not at all	15	50	21	70	.391	.218	.598
	Rarely	4	13.3	4	13.3			
	Sometimes	7	23.3	2	6.7			
	Often	2	6.7	2	6.7			
	Almost all the time	2	6.7	1	3.3			
Forces you to behave in certain ways or forbids you to do certain things because of extreme pickiness (e.g. forbids certain foods in the home, demands specific clothes always be ready)?	Not at all	13	43.3	20	66.7	.097	.358	.651
	Rarely	3	10	1	3.3			
	Sometimes	2	6.7	5	16.7			
	Often	8	26.7	3	10			
	Almost all the time	4	13.3	1	3.3			
Forbids the use of objects in his/her vicinity because of feelings of fear or disgust (e.g. knives, scissors, creams)?	Not at all	10	33.3	24	80	.001	.506	.766
	Rarely	8	26.7	6	20			
	Sometimes	5	16.7	0	0			
	Often	4	13.3	0	0			
	Almost all the time	3	10	0	0			
Forbids making changes in the household or react with rage or violence to changes made (e.g. moving furniture, new car)?	Not at all	12	40	26	86.7	.005	.538	.736
	Rarely	5	16.7	2	6.7			
	Sometimes	6	20	1	3.3			
	Often	4	13.3	1	3.3			
	Almost all the time	3	10	0	0			
Forbids the performance of certain normal actions and activities or react with violence or rage if they are performed (e.g. forbids opening windows or watching TV)?	Not at all	8	26.7	20	66.7	.004	.529	.770
	Rarely	5	16.7	7	23.3			
	Sometimes	7	23.3	1	3.3			
	Often	5	16.7	1	3.3			
	Almost all the time	5	16.7	1	3.3			
Forces others to make decisions for him/her or demands endless reassurance to their own decisions?	Not at all	10	33.3	22	73.3	.011	.548	.737
	Rarely	7	23.3	6	20			
	Sometimes	4	13.3	1	3.3			
	Often	5	16.7	1	3.3			
	Almost all the time	4	13.3	0	0			
Cause damage to the surroundings (e.g. ruins items by repetitive cleaning, splashes water over the floors)?	Not at all	18	60	22	73.3	.640	.327	.563
	Rarely	4	13.3	3	10			
	Sometimes	3	10	3	10			
	Often	2	6.7	2	6.7			
	Almost all the time	2	6.7	0	0			
Forces others to perform actions on his/her behalf due to feelings of fear or disgust and react to refusal with rage or violence (e.g. to open doors for him because of a fear of touching the handle)?	Not at all	17	56.7	24	80	.068	.483	.633
	Rarely	2	6.7	3	10			
	Sometimes	2	6.7	1	3.3			
	Often	2	6.7	2	6.7			
	Almost all the time	7	23.3	0	0			
Demands special "cuddling" or ritualized contact without regard for the will of others?	Not at all	8	26.7	25	83.3	.001	.490	.775
	Rarely	8	26.7	2	6.7			
	Sometimes	6	20	1	3.3			
	Often	6	20	1	3.3			

TABLE 3. Continued

Item		DBD+OCD		DBD only				
		N	%	*N*	%	$P\ \chi^2$	R_{PBIS}	ROC
Almost all the time		2	6.7	1	3.3			
Forbids the entrance of strangers to the home or limit others in their social activity in the home?	Not at all	15	50	26	86.7	.007	.402	.717
	Rarely	4	13.3	4	13.3			
	Sometimes	4	13.3	0	0			
	Often	6	6.7	0	0			
	Almost all the time	1	3.3	0	0			
Behaves inappropriately or provocatively in a sexual sense (e.g. walks around naked)?	Not at all	20	66.7	25	83.3	.313	.370	.602
	Rarely	3	10	3	10			
	Sometimes	3	10	2	6.7			
	Often	1	3	0	0			
	Almost all the time	3	10	0	0			
Repeats actions or words many times and demands that others listen or attend to him/her until he/she feels it's enough?	Not at all	7	23.3	18	60	.006	.638	.752
	Rarely	4	13.3	5	16.7			
	Sometimes	7	23.3	6	20			
	Often	6	20	1	3.3			
	Almost all the time	6	20	0	0			
Imposes physical contact or proximity in a way that is unpleasant to others (e.g. approaches and hugs for a long time, shouts into other's ears)?	Not at all	15	50	22	73.3	.001	.301	.663
	Rarely	2	6.7	8	26.7			
	Sometimes	7	23.3	0	0			
	Often	5	16.7	0	0			
	Almost all the time	1	3.3	0	0			
Deprives parents or others of sleep (e.g. demands that they be with him all night, turns on and off lights)?	Not at all	10	33.3	23	76.7	.007	.590	.764
	Rarely	5	16.7	4	13.3			
	Sometimes	6	20	2	6.7			
	Often	4	13.3	1	3.3			
	Almost all the time	5	16.7	0	0			
Impose rules or behaviors on others due to tactile or other sensitivity and react to disobedience with rage or violence (e.g. forbids certain sounds, demands specific temperature settings)?	Not at all	5	16.7	23	76.7	<.001	.737	.868
	Rarely	2	6.7	4	13.3			
	Sometimes	9	30	1	3.3			
	Often	8	26.7	2	6.7			
	Almost all the time	6	20	0	0			

DBD, disruptive behavior disorder; OCD, obsessive–compulsive disorder; CD-POC, coercive and disruptive behavior scale–pediatric OCD; $P\ \chi^2$, *P* values for χ^2 analysis of response distribution by study group; R_{pbis}, corrected point biserial (item to scale); ROC, area under the curve (predicting OCD).

the CD-POC were rated higher by parents of children with OCD and DBD, the differences in distribution of answers were significant for 12 of the items. The overall usefulness of the scale based on its ability to discriminate between groups and its correlation to CY-BOCS was undiminished when using only the 12 significant items, with Pearson's *r* values of .53, .49, and .53 for compulsions, obsessions, and total score, respectively, all with *P*-values below .01. Future research may indicate using these items only to assess coercive behaviors in OCD.

Family accommodation in OCD refers to the ways in which parents assist in compulsive rituals, provide reassurance, or modify their own routines so as to alleviate or avoid the distress experienced by the obsessive–compulsive child,[13] and has been shown to be very common among the families of children with OCD.[14] Family accommodation has also been shown to be an important predictor of severity, impairment, and treatment outcomes for youth with OCD.[15–17] Studies of accommodation have found it to be elevated in families of children with OCD and a comorbid externalizing disorder.[18] This study offers a possible pathway from aggression to increased accommodation by offering a preliminary description of some of the ways in which children with OCD may impose accommodation on their parents and families. Further research should assess the relationship of the CD-POC to other measures that probe family impact of OCD, such as the Family Accommodation Scale[13,19] and the Child OCD Impact Scale.[20]

Higher levels of coercive behaviors were linked to more severe obsessive–compulsive symptoms. This is in line with other studies that found family accommodation to be correlated with OCD severity and could reflect a bidirectional relationship, whereby accommodation reinforces OCD symptoms and inhibits coping, eliciting even more demands for accommodation by the child. In the case of accommodation imposed on the parents through disruptive

or coercive means, the correlation with symptom severity may be even more pronounced as the child becomes highly dependent on controlling the home environment, and consequently less apt to resist the obsessive–compulsive urges.

Other studies have pointed to the link between disruptive behavior in the context of pediatric OCD and increased symptomatology. In a study of the family and individual variables associated with family accommodation in pediatric OCD, family conflict was correlated with worse child outcomes when parents refused to accommodate the symptoms.[18] Similarly, in a report on the role of comorbid disruptive behaviors in childhood OCD, more accommodation was reported among parents of children with OCD and a DBD.[4] A family environment high in interpersonal conflict or a tendency toward aggressive behavior can make resisting demands for accommodation considerably more difficult. Although it is likely that in some OCD cases the demands for accommodation are the expression of an aggressive trait or a comorbid condition, the current results imply that in at least some cases the disruptive behaviors are secondary to OCD. The relatively low rates of CBCL clinical scores for disruptive behavior scales among the OCD children supports this conclusion.

One question that calls for further investigation is the relationship of specific symptom dimensions in OCD to coercive and disruptive behaviors. A number of researchers, using exploratory and confirmatory methodologies, such as factor analysis, have focused on identifying underlying dimensions of obsessive–compulsive symptoms.[21,22] OCD symptom dimensions have been described as "thematic content of an individual's obsessions and related compulsions"[23] and include themes, such as *contamination/cleaning* and *symmetry/order*. Interestingly, the two items on the CD-POC that most effectively differentiated between OCD and DBD children, both relate to the dimension *sensory sensitivity/pickiness* ("Forbids certain actions because of feelings of extreme disgust"; "Impose rules or behaviors on others due to tactile or other sensitivity"; and "React to disobedience with rage or violence"). Further research with larger samples and tools, such as the University of Sao Paulo Sensory Phenomena Scale[24] that explicitly assess the sensory dimension of OCD, could allow for deeper understanding of the relationship between specific symptom dimension and coercive behaviors.

LIMITATIONS

A limitation of this study is that it does not supply an estimate as to the prevalence of coercive behaviors among children and adolescents with OCD. The purpose of this report was to compare the disruptive behaviors of children with OCD to others and we selected parents who reported having behavioral problems with their child. It is conceivable that some level of such behavior is typical of the majority of young people suffering from OCD and we are currently initiating further research using the CD-POC to address this issue. An additional limitation is that a single parent participated in this study for every child, and hence we cannot report on agreement between parents for the CD-POC.

Relatedly, a larger sample size would aid in refining the CD-POC and selecting the most helpful of the 18 items. Further research using larger samples may allow for better item selection as well as determining the underlying factorial structure of the scale.

CONCLUSION

This study highlights some of the special characteristics of disruptive or aggressive behaviors that may be typical of children with OCD in contrast to other disruptive children. The questions used to assess these disruptive or coercive behaviors were based on parental reports of behavioral difficulties and seem to well represent the ways in which accommodation may be imposed by a child with OCD. With additional study, including larger samples of parents, we believe these items could serve as a tool for the assessment of these coercive behaviors and provide a means for expanding current research into pediatric OCD and family accommodation.

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