Oppositional defiant disorder: Epidemiology, clinical manifestations, course, and diagnosis

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INTRODUCTION

Oppositional defiant disorder (ODD) is a disorder defined by patterns of angry or irritable mood, argumentative or defiant behavior, and vindictiveness of at least six months duration. The symptoms lead to conflicts with adults or peers, and are associated with impairment in home, school, or community settings. Symptoms typically begin in the preschool years, although the disorder may be first diagnosed later in childhood, adolescence, or even in adulthood. ODD often, but not always, precedes the development of conduct disorder.

This topic describes the epidemiology, pathogenesis, clinical manifestations, course, assessment, and diagnosis of ODD. Topics discussing attentional problems, hyperactivity, mood disorders, and behavior and mood manifestations of prior trauma are found separately. (See "Attention deficit hyperactivity disorder in children and adolescents: Clinical features and diagnosis" and "Posttraumatic stress disorder in children and adolescents: Epidemiology, clinical features, assessment, and diagnosis" and "Pediatric unipolar depression: Epidemiology, clinical features, assessment, and diagnosis".)

EPIDEMIOLOGY, COMORBIDITY, AND PATHOGENESIS

Prevalence — The reported prevalence rate of oppositional defiant disorder (ODD) varies from 1 to 10 percent. In a large, representative United States sample of 3199 individuals from the

National Comorbidity Survey Replication, the lifetime prevalence of ODD was estimated as 11 percent in males and 9 percent in females [1]. However, the prevalence of ODD in a representative sample of more than 10,000 5- to 15-year-old children from the United Kingdom was 3 percent in males and 1.4 percent in females [2]. In general, the disorder is more prevalent in males than females prior to adolescence but not consistently thereafter.

Comorbidity — ODD is comorbid with several other disorders. In a national comorbidity survey in the United States, in individuals with a lifetime diagnosis of ODD rates of comorbidities were as follows [1,3]:

- Any impulse-control disorder (68 percent)
  - Attention deficit hyperactivity disorder (ADHD; 35 percent)
  - Conduct disorder (42 percent)
  - Intermittent explosive disorder (29 percent)
- Any substance use disorder (47 percent)
- Major depressive disorder (39 percent)
- Disruptive mood dysregulation (23 to 38 percent) [4]
- Social phobia (31 percent)
- Specific phobia (25 percent)
- Bipolar disorder (20 percent)
- Posttraumatic stress disorder (20 percent)
- Generalized anxiety disorder (16 percent)
- Separation anxiety disorder (12 percent)

Genetics — Evidence for separate genetic pathways linking childhood irritability with later depression or anxiety, and defiant behavior with later conduct disorder and problematic substance use, has implications for the early identification of these disorders and for further research into the etiology, pathogenesis, and treatment of ODD and comorbid conditions.

- Studies in the United Kingdom, Sweden, and the United States demonstrate a moderate genetic influence on the irritability and defiant behavior components of ODD, with heritabilities ranging from 31 to 54 percent and 41 to 45 percent respectively [5-8].

- In British and Swedish studies, the genetic correlation of irritability was stronger with depressed mood than with delinquency while the genetic correlation for defiant behavior was stronger with delinquency than with depressed mood [6,7]. Longitudinally, the overlap of childhood irritability with adolescent mood and anxiety disorders and of defiant behavior with adolescent substance use disorder symptoms was primarily due to common genetic influences [6,7]. (See 'Symptom dimensions' below.)

- In a United States study, genetic analyses found that the ODD irritability factor shared genetic influences with depression/dysthymia and generalized anxiety disorder, while the ODD defiant behavior factor was associated with inattention, hyperactivity-impulsivity, and conduct disorder, but not vice versa [9]. (See 'Symptom dimensions' below.)

Neuroimaging — Neuroimaging studies report smaller brain structures in areas associated with emotion-processing, error-monitoring, problem-solving, and self-control in children with ODD/conduct disorder with or without comorbid ADHD [10]. These areas are thought to play a role in the neurocognitive and behavioral deficits implicated in ODD/conduct disorder.

In a meta-analysis including 29 studies examining structural and functional neuroimaging, a diagnosis of ODD/conduct disorder appeared to be associated with smaller brain structures in the bilateral amygdala, bilateral insula, right striatum, left medial/superior frontal gyrus, and left precuneus irrespective of whether comorbid ADHD was present [10].

Socioeconomic status and other correlates — Antisocial behaviors (eg, aggressive or rule-breaking behavior) are common in ODD and appear to be associated with the following socioeconomic correlates:

- In a meta-analysis of 132 studies including more than 339,000 subjects, antisocial behaviors were weakly associated with lower socioeconomic status most strongly in preschool children, less strongly in childhood and the least in adolescence [11].

- In an observational study, 82 participants with ADHD and ODD were compared with 82 participants with ADHD only and 82 typically developing control subjects [12]. Among the subjects with ADHD and ODD, higher rates of parental ADHD, adverse life events, deviant peer affiliations, and lower socioeconomic status were reported as compared to participants with ADHD only or with typically developing controls.

- In other studies, ODD has been associated with poor parental monitoring, inconsistent discipline, corporal punishment, paternal substance use disorder, paternal antisocial

personality disorder, maternal anxious depression, aggression, somatic complaints, thought and attentional problems, and intrusive behavior [13-16].

CLINICAL PRESENTATION

Diagnostic features — The prominent feature of oppositional defiant disorder (ODD) is a persistent pattern of angry or irritable mood, argumentative or defiant behavior, and vindictiveness of at least six months duration. The disturbance in behavior is associated with distress in the individual or others (family, peer group) or impacts negatively upon social/interpersonal, educational, occupational, or other areas of functioning. Symptoms must occur with persons other than a sibling to make a diagnosis of ODD.

Symptom dimensions — Individuals who have the irritability aspects of the disorder tend to have comorbid symptoms such as anxiety or depression (ie, internalizing disorders) which may occur throughout the course of the illness. Individuals with more disruptive behavior aspects of the disorder tend to have comorbid attentional problems, substance use, and conduct disorder (ie, externalizing disorders) [9]. This clear differential pattern emphasizes the utility of distinguishing specific ODD symptoms as they predict different types of psychopathology in adolescence and adulthood [5,9,17-26]. (See 'Genetics' above.)

COURSE

Symptoms of oppositional defiant disorder (ODD) typically appear during preschool, with many of the behaviors associated with ODD increasing throughout the preschool, childhood, and adolescent years. Children and adolescents with ODD are at increased risk of functional impairments in relationships, education, and the workplace in adulthood.

While ODD and conduct disorder are often comorbid, some but not all children with ODD will develop conduct disorder:

- In a four-year follow-up study comparing children with ADHD to controls, two types of ODD associated with ADHD were identified [27]. One type that is thought to be prodromal to conduct disorder and another that is subsyndromal to conduct disorder and is unlikely to progress to conduct disorder in later years. In the study, among the 140 children with ADHD, 65 percent had comorbid ODD while 22 percent had comorbid conduct disorder. Additionally, among those with comorbid ODD, 32 percent also had comorbid conduct disorder. In all but one of these cases, ODD preceded the diagnosis of conduct disorder by

several years. Despite this comorbidity, children with ODD but without conduct disorder at baseline were at no greater risk for conduct disorder at four-year follow-up.

- In a 10-year follow-up, ODD persisted at full or subthreshold levels in 17 percent of those diagnosed previously [28]. At 10-year follow-up, ODD also appeared to confer a higher risk of developing conduct disorder (odds ratio 6.2) or antisocial personality disorder (odds ratio 4.5). Furthermore, children with ODD also showed higher rates of educational problems such as needing extra help with schoolwork (65 percent), placement in a special class (12 percent), detention (35 percent), suspension (45 percent), or expulsion (6 percent) than children in the control group. However, these children did not show increases in arrests, convictions, or being fired from a job unless their ODD was accompanied by conduct disorder.

- In a longitudinal study of 1420 9- to 21-year-old individuals [17], while ODD at baseline predicted a later conduct disorder diagnosis (odds ratio 7.9), after controlling for a conduct disorder diagnosis at baseline, ODD predicted later conduct disorder in males but not females (odds ratios 6.5 and 0.5, respectively).

DIAGNOSIS

Assessment — We assess for interpersonal or relationship problems, school- or work-related problems, and legal problems across multiple situations and settings. Typically, history taking is obtained from caregivers or teachers. Children under the age of 10 are rarely used as informants given the lack of reliability and validity of the child's reports of their oppositional defiant disorder (ODD) symptoms.

We often use parent, caregiver, and teacher questionnaires such as the Emory Combined rating scale [29] and the Strengths and Weaknesses of ADHD-symptoms and Normal-behavior scale [30] as an alternative or supplement to structured or semistructured interviews. These rating scales are relatively quick and easy for parents or teachers to complete, and have good reliability and validity in clinical and nonclinical samples [29,31].

Other options that we use less commonly include the Diagnostic Schedule for Children [32], the Kiddie-Schedule for Affective Disorders and Schizophrenia [33], and the Diagnostic Interview Schedule for Children and Adolescents [34].

Diagnostic criteria — While we try make a carefully considered diagnosis, we prefer to treat all individuals with symptoms that cause psychosocial distress and impairment, whether they meet

all the diagnostic criteria for ODD. (See "Treatment of oppositional defiant and conduct disorders".)

To meet criteria for the diagnosis, the frequency of symptoms must exceed that which is normative for the individual's age. The frequency criteria provide a framework for the minimal frequency; however, other factors such as cultural, developmental, or gender factors are considered. It is important to recognize that while ODD and conduct disorder are frequently comorbid, they are distinct disorders that can be separately diagnosed and may co-occur. In addition, while ODD is typically considered a childhood disorder it can occur in adults and may similarly benefit from treatment.

The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) criteria for the diagnosis of ODD are as follows:

A. A pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting at least six months as evidenced by at least four symptoms from any of the following categories, and exhibited during interaction with at least one individual who is not a sibling.

Angry/irritable mood as demonstrated by:

- Often losing temper
- Is often touchy or easily annoyed
- Is often angry or resentful

Argumentative/defiant behavior as demonstrated by:

- Often argues with authority figures (eg, adults)
- Often actively defies or refuses to comply with requests from authority figures or with rules
- Often deliberatively annoys others
- Often blames others for their mistakes or misbehavior

Vindictiveness:

- Has been spiteful or vindictive at least twice within the past six months.

(The persistence and frequency of these behaviors are used to distinguish a behavior that is within normal limits from behavior that is symptomatic. For children younger than five years these behaviors should occur on most days for at least six months, whereas for children older than five years these behaviors should occur at least once per week for months. These

frequency criteria provide guidance on a minimal level of frequency to define symptoms, but other factors such as developmental level, gender, and culture are also considered).

B. The disturbance is associated with distress in the individual or others in their immediate social context (eg, family, peer, work colleagues) or if they impact negatively on social, educational, occupational, or other important areas of functioning.

C. These behaviors do not occur exclusively in the course of a psychotic episode, substance use, depression or bipolar disorder. The criteria for disruptive mood dysregulation disorder are not met.

Additionally, we specify current severity of the disorder:

- Mild: Symptoms are confined to only one setting
- Moderate: Some symptoms are present in at least two settings
- Severe: Some symptoms are present in three or more settings

Differential diagnosis — We differentiate ODD from other disorders with similar or overlapping presentation:

- **Conduct disorder** – The behaviors occurring in ODD are typically less severe than those in conduct disorder. Conduct disorder includes aggression towards people, animals or destruction of property while these are not described in ODD. Additionally, emotional dysregulation (eg, irritability, anger) is often seen in ODD though not necessarily in conduct disorder.

- **Adjustment disorder** – Emotional dysregulation, oppositional behaviors, and aggressive behaviors may be a reaction to psychosocial stressors or a symptom of ODD. In individuals whose symptoms are temporally related to a psychosocial stressor and are present for up to six months, we diagnosis adjustment disorder.

- **Attention deficit hyperactivity disorder (ADHD)** – ADHD is often comorbid with ODD. Individuals with ADHD typically have symptoms (eg, oppositional behavior) in situations that demand sustained effort or demand that the individual sit still. The angry and/or defiant behaviors in ODD are more pervasive than those in ADHD.

- **Posttraumatic stress disorder (PTSD)** – Behaviors in children with PTSD may manifest as mood dysregulation and oppositional behaviors. In PTSD, the behaviors are associated with a prior traumatic event.

- **Mood disorders** – Both mood disorders and ODD have symptoms of negative affect and irritability. In mood disorder, these symptoms typically occur during periods of mood elevation or depression, whereas the symptoms occur across many contexts in ODD.

- **Disruptive mood dysregulation disorder** – Individuals with disruptive mood dysregulation and ODD have chronic irritability of mood and temper outbursts. However, individuals with disruptive mood dysregulation disorder manifest severe and frequent recurrent outbursts with a persistent disruption in mood between outbursts. When criteria for both disorders are met, only disruptive mood dysregulation disorder is given.

- **Intermittent explosive disorder** – Individuals with intermittent explosive disorder show aggression towards others. Aggression towards others is not part of the criteria for ODD.

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Attention deficit hyperactivity disorder".)

SUMMARY AND RECOMMENDATIONS

- **Oppositional defiant disorder (ODD)** – ODD is a disorder that typically begins in preschool years but may be first diagnosed later in childhood, adolescence, or even in adulthood. The symptoms lead to conflicts with adults or peers and are associated with impairment in home, school, or community settings. (See 'Introduction' above.)

- **Prevalence** – The prevalence of ODD ranges from 1 to 10 percent. The disorder is more prevalent in males than females prior to adolescence but not consistently thereafter. (See 'Prevalence' above.)

- **Socioeconomic correlates** – Antisocial behaviors (eg, aggressive or rule-breaking behavior) are common in ODD and appear to be modestly associated with lower socioeconomic status. (See 'Socioeconomic status and other correlates' above.)

- **Clinical manifestations** – The prominent feature of ODD is a persistent pattern of angry or irritable mood, argumentative or defiant behavior, and vindictiveness of at least six months duration. Symptoms must occur with persons other than a sibling to make a diagnosis of ODD. (See 'Clinical presentation' above.)

- **Symptom dimensions** – Individuals who have the irritability aspects of the disorder tend to have comorbid symptoms such as anxiety or depression (ie, internalizing disorders) which may occur throughout the course of the illness. Individuals with the more defiant behavior aspects of the disorder tend to have comorbid attentional problems, substance use, and/or conduct disorder (ie, externalizing disorders). (See 'Symptom dimensions' above.)

- **Course** – Symptoms of ODD typically appear beginning in the preschool years. Some, but not all, children with ODD, particularly those with the defiant behavior symptoms, will develop conduct disorder and substance use disorders. Similarly, some children with ODD, particularly those with the irritability symptoms, will develop mood and/or anxiety disorders. Children and adolescents with ODD are at increased risk of functional impairments in relationships, education and the workplace in adulthood. (See 'Course' above.)

- **Assessment** – We assess ODD using a detailed medical and psychiatric history that includes structured or semistructured interviews of the child's parents or caregivers and teachers. Symptom questionnaires or rating scales are often a useful supplement or alternative to structured or semistructured interviews. (See 'Assessment' above.)

- **Differential diagnosis** – We differentiate ODD from other disorders with similar or overlapping presentations by detailed history and assessment. These other disorders include conduct disorder, adjustment disorder, attention deficit hyperactivity disorder, posttraumatic stress disorder, mood disorders, disruptive mood dysregulation disorder, and intermittent explosive disorder. (See 'Differential diagnosis' above.)

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