CE

Disruptive Mood Dysregulation Disorder

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ABSTRACT

This article is an overview of disruptive mood dysregulation disorder (DMDD). It reviews history, diagnostic criteria, prevalence, comorbidities, treatment, and recommendations for clinical practice. The diagnosis of DMDD was created to separate the symptoms of chronic irritability punctuated by short-term outbursts in young children. Although controversy exists around DMDD as a sole diagnosis due to comorbidity with other psychiatric disorders, there is evidence of its unique traits. There are limited data regarding treatment, although the efficacy of cognitive behavioral therapy shows potential for first-line treatment. Providers need to support families, validate parental concerns, and teach behavioral modification to complement therapy and pharmacotherapy.

Keywords: disruptive mood dysregulation disorder, irritability, treatment options

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When faced with the ongoing explosive tantrums seen with disruptive mood dysregulation disorder (DMDD), some parents may feel helpless and unsure of how to manage their child's behavior. One mother described her child as being continually "on edge" throughout the week and prone to outbursts with minimal provocation, sometimes leading to physical aggression.[1] The persistent pattern of outbursts and severe irritability are characteristic of the newly accepted DMDD diagnostic criteria.[2] This article provides an overview for primary care providers (PCPs) regarding the challenging and controversial diagnosis of DMDD from its background, diagnosis and differentials, treatment options, and implications for PCPs.

OVERVIEW AND BACKGROUND

DMDD was initially created to differentiate and reduce the number of children diagnosed with the pediatric bipolar disorder (PBD).[3] Researchers found PBD and adult bipolar disorder (BD) varied in their presentation, with PBD characterized by chronic, nonepisodic irritability rather than classic manic episodes, which led to an increase in the diagnosis of PBD.[4] The concern of increasing prevalence of PBD between 1994 and 2004 was attributed to using a broad-based phenotype for diagnosis and its application with younger children.[5] At that time, children diagnosed with broad phenotype PBD were characterized by manic episodes associated with chronic irritability, while

This CE learning activity is designed to help improve knowledge about disruptive mood dysregulation disorder and appropriate treatment as demonstrated by a score of at least 70% on the CE evaluation quiz.

At the conclusion of this activity, the participant will be able to:

A. Describe current research on DMDD diagnostic dilemma
B. Review the risk factors and pathophysiology of the disease
C. Discuss the treatment of children with DMDD and NP role in management

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The authors do not present any off-label or non-FDA-approved recommendations for treatment.

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those with a narrow phenotype presented with distinct episodes of hypomania, mania, elevated mood, or grandiosity.[6] Severe irritability, therefore, became the focus of research and the beginning of DMDD.

The disorder of DMDD was added to the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition; *DSM-5*) based largely on the work of Dr. Ellen Leibenluft and her definition of severe mood dysregulation. Abnormal baseline mood, symptoms of hyperarousal, and increased reactivity were isolated from PBD and proposed as a new set of standards; first called severe mood dysregulation (SMD), which then morphed into DMDD.[5] Children who displayed symptoms of chronic irritability with explosive tantrums were subsequently diagnosed with DMDD rather than PBD. Separation by diagnosis was meant to encourage the development of targeted interventions for both groups. Further studies revealed that nonepisodic irritable broad phenotype PBD did not correlate with a progression of BD into adulthood[7] and that future hypomanic and manic episodes were 50 times more likely in children with narrow phenotype PBD than SMD.[8]

DIAGNOSTIC DILEMMA

The current diagnostic criteria for DMDD is characterized by persistent and pervasive irritability, underlying and punctuated by frequent temper outbursts.[2] As defined in the *DSM-5*, these intense and prolonged outbursts must occur more than 3 times per week, in at least 2 settings, and last more than a year.[2] This diagnosis, made by mental health specialists, relies most heavily on history. In addition to irritability, the age of onset and ability to function are crucial to meet full diagnostic criteria. DMDD should not be used before age 6 or after age 18, and onset must occur by age 10 through historical account without any manic or hypomanic episodes.[2] One of the key distinguishing features of narrow phenotype PBD is the cyclic nature of hypomanic and manic episodes. BD has episodes of mania, which is not a criterion for DMDD.

Irritability can be hard for clinicians to delineate and a challenge for patients and families to define. Irritability is considered in light of intensity, frequency, duration, context, and functional impairment.[4] In addition, temper outbursts are related to developmental age, with preschoolers having the highest incidence, frequency, and intensity and decreasing in both incidence and intensity by later childhood.[8] In later childhood and adolescence, the average temper outburst lasts 5–7 minutes and occurs no more than once a week.[4] Table 1 (available online) is a review of the studies related to obstacles in DMDD diagnosis. Some studies show difficulty in establishing the diagnosis, symptoms in children younger than age 6, and difficulty with interrater reliability.[9-13]

Although considered separate from PBD, many clinicians continue to question the validity of DMDD as a distinct condition because of its high comorbidity with other diagnoses such as oppositional defiant disorder (ODD) and attention-deficit/hyperactivity disorder (ADHD).[3] The data from studies indicate the rates of comorbidity with DMDD are wide ranging with percentages varying from 13% to 93% (mean = 69%) for ODD and 21% to 81% (mean = 52%) for ADHD.[14-20] In a recent study, 98.4% of children (n = 665, aged 6–12, 52.6% male, 80.5% white) diagnosed with DMDD (n = 61) met criteria for ODD or had a T score > 65 for ADHD, conduct disorder (CD), depression, or anxiety.[17] In another, 96% of DMDD-positive youth (n = 184, aged 6-12) met criteria for ODD or CD.[13] In an earlier study, only 5% of participants (n = 1593) with DMDD symptoms ($P < 0.0001$) did not have comorbidity with ODD.[19] Mulraney et al. reported 1 in 5 children (n = 179, aged 6–8) met criteria for ADHD and DMDD, and 89.7% of that group was comorbid with ODD.[20] These rates of comorbidity pose a problem and suggest that DMDD does not stand alone diagnostically. DMDD may be considered a more severe form of ADHD and ODD.[21] Lochman et al proposed the addition of a specifier for ODD that encompasses chronic irritability and anger in these patients.[22]

Meanwhile, other studies support DMDD as a separate entity. In one study, only 19% of children (n = 21, ages 6–16, 76.2% male) were diagnosed with ODD, indicating DMDD as both different and detectable in countries outside of the United States and Europe.[23] Likewise, in the Copeland et al studies, comorbidity rates of DMDD with ODD were 37% in the Duke Preschool Study (n = 918, $P < 0.0001$),