Chronic Irritability and ADHD

SHUTTERSTOCK

by Melissa A. Brotman, PhD

MANY YOUTH DIAGNOSED WITH ADHD struggle with symptoms of irritability, specifically, angry mood and temper outbursts. Irritability is among the most common reasons why children are brought for psychiatric evaluation and care. In community studies, problems with severe irritability occur in two to five percent of children. To address the pressing need to assess and treat youth with the most severe and impairing irritability, the fifth edition of the Diagnostic and Statistical Manual (DSM-5) included a new diagnosis, disruptive mood dysregulation disorder (DMDD). It is essential to understand how DMDD symptoms present in order to determine if youth with ADHD have both ADHD and DMDD.

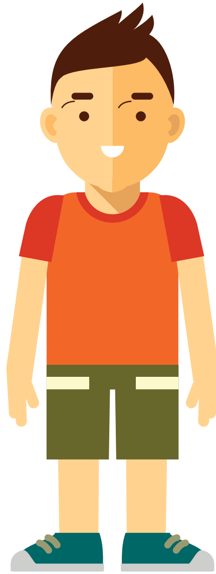
Approximately forty percent of youth with ADHD have mood instability, most commonly manifesting as irritability (Shaw et al 2014), although these symptoms may not be severe enough for a diagnosis of DMDD. Since DMDD is new, it is unclear how many children with ADHD also have DMDD. Conversely, there are studies suggesting that approximately eighty percent of children who meet criteria for DMDD also have ADHD, although these numbers need to be confirmed in more studies.

Emotion regulation involves the ability to modify one's emotional state in order to work toward adaptive, goal-oriented behavior. So, in addition to problems regulating activity and attention, many children with ADHD have problems regulating their *emotions* to achieve their goals, such as completing a task (homework, for example). The emotion regulation deficits in children with ADHD can cause significant impairment. Youth with DMDD have particular problems regulating angry emotions. Children with ADHD who have significant problems with irritability and anger outburst should be assessed for DMDD.

Disruptive mood dysregulation disorder (DMDD) has two core criteria: temper outbursts and a generally irritable mood.

Temper outbursts and general irritability

DMDD has two core criteria: temper outbursts and a generally irritable mood. In youth with DMDD, the temper outbursts occur, on average, at least three times a week. While temper outbursts are common in youth with various psychiatric illnesses, children with DMDD have such outbursts routinely. While the outbursts *can* have a physical component such as slamming a door, kicking furniture, or destroying property, most outbursts in youth with DMDD are verbal, such as yelling or



Youth with ADHD and significant sadness plus lack of pleasure in things may be suffering from major depressive disorder (MDD) in addition to their ADHD. Youth with ADHD and significant anger and irritability may have ADHD comorbid with DMDD. Interestingly, youth with significant irritability during childhood are at higher risk for developing MDD and anxiety disorders in adulthood.

screaming. Youth with DMDD are often verbally argumentative, snappy, or make verbal threats.

The second core criterion for DMDD is an ever-present irritable mood. Parents often say they feel like they have to "walk on eggshells" for fear of upsetting their generally angry, grumpy, and grouchy child. Many parents report that they avoid certain activities, such as going out to a restaurant or inviting another family over in order to avoid eliciting anger in the child. Parents also say they avoid asking the child to do things that are age-appropriate, like homework or chores. Together, the temper outbursts and pervasively irritable and cranky mood get in the way of the child's ability to get along at home, at school and with their peers.

In thinking about the comorbidity of ADHD and DMDD, it is important to note that the two disorders come from different sections in the DSM-5. While ADHD is categorized as a disruptive behavior disorder, highlighting the problems these behaviors cause for those around the child, DMDD is a mood disorder, emphasizing the difficulties with emotions and mood. Youth with ADHD and significant sadness plus lack of pleasure in things may be suffering from major depressive disorder (MDD) in addition to their ADHD. Youth with ADHD and significant anger and irritability may have ADHD comorbid with DMDD. Interestingly, youth with significant irritability during childhood are at higher risk for developing MDD and anxiety disorders in adulthood.

Available treatments

There are pharmacological and psychological treatment treatments that might be effective for youth with ADHD and DMDD. Data suggest that psychostimulants decrease irritability and anger symptoms in children with ADHD (Fernandez de la Crus et al 2015). Therefore, in an irritable child with ADHD, stimulant treatment may decrease both the child's symptoms of ADHD and his or her irritability. Since DMDD is a mood disorder, it may also not be surprising that selective serotonin reuptake inhibitors (SSRIs), commonly used in the treatment of both depression and anxiety, may reduce irritability. While research in adults shows that SSRIs decrease the irritability associated with MDD, data from work in children are not as clear. The Emotion Development Branch at NIMH is conducting a randomized controlled trial testing the efficacy of SSRIs plus a stimulant in the treatment of DMDD.

There are two types of psychological treatments for irritability: cognitive behavioral therapies (CBT) and computer-based training. CBT has also been shown to be effective in decreasing anger, aggression, and other behaviors associated with DMDD. CBT teaches children concrete skills on how to regulate their emotions and change their thought patterns. An important component of CBT is parent training, which involves reinforcing prosocial behaviors and using strategies like time-outs and ignoring negative behaviors, such as emotional outbursts (Patterson 1975). There are ongoing studies at NIMH

SHUTTERSTOCK

combining child-focused CBT and parent training to decrease DMDD symptoms.

Researchers at NIMH are now testing whether computer-based training can decrease irritability and anger outbursts in youth with DMDD. Using this computer training, children with DMDD modify their natural tendency to interpret ambiguous facial expressions as angry (Stoddard et al 2016). This work links research throughout the 1990s on "hostile attribution bias" and aggression in children, as with new computer-based assessment and training methods. "Hostile attribution bias" refers to a tendency to view neutral or ambiguous faces as having a negative or hostile emotion. This NIMH research includes brain imaging, which might help to identify brain circuits involved in irritability and guide the development of this and other new treatments.

In order to determine the most effective treatment for a child with hyperactivity and irritability, a comprehensive diagnostic assessment is essential. Once the diagnosis is clearer, effective treatment can be started. In turn, successful treatment and symptom improvement can then have profound long-term consequences for a child's development and future. Ⓐ

Melissa A. Brotman, PhD, *is a clinical psychologist and staff scientist at the National Institute of Mental Health's Emotion and Development Branch.*

ADDITIONAL READING

Shaw P, Stringaris A, Nigg J, Leibenluft E. 2014. Emotional dysregulation and attention-deficit/hyperactivity disorder. *American Journal of Psychiatry* 171: 276-93

Fernández de la Cruz L, Simonoff E, McGough JJ, Halperin JM, Arnold LE, Stringaris A. 2015. Treatment of children with attention-deficit/hyperactivity disorder (ADHD) and irritability: results from the Multimodal Treatment Study of Children with ADHD (MTA). *Journal of the American Academy of Child & Adolescent Psychiatry* 54: 62-70

Patterson GR. 1975. *Families: Applications of Social Learning to Family Life*. Champaign, Il: Research Press.

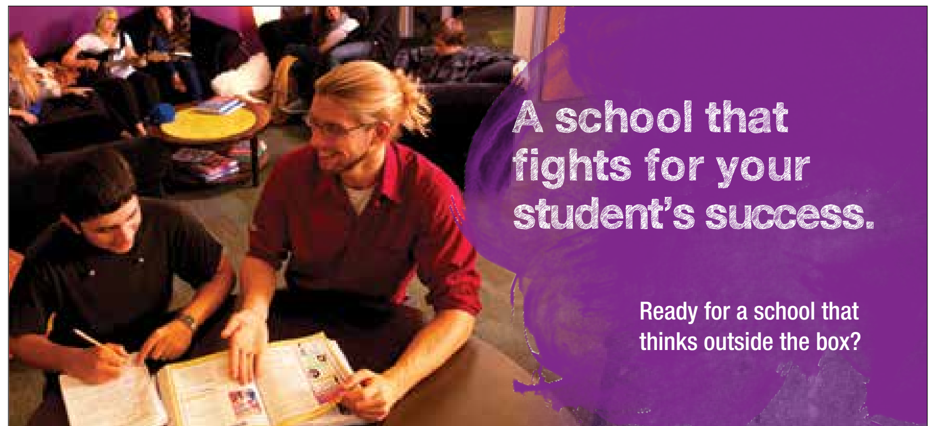
Stoddard J, Hsu D, Reynolds RC, Brotman MA, Ernst M, et al. 2015. Aberrant amygdala intrinsic functional connectivity distinguishes youths with bipolar disorder from those with severe mood dysregulation. *Psychiatry Research* 231: 120-5

For more information from the National Institute of Mental Health, visit:

NIMH main page:
http://www.nimh.nih.gov/index.shtml

About DMDD (NIMH page all about DMDD):
https://www.nimh.nih.gov/health/topics/disruptive-mood-dysregulation-disorder-dmdd/disruptive-mood-dysregulation-disorder.shtml

- Disruptive Mood Dysregulation Disorder (DMDD) NIH Research Study evaluating non-drug interventions to reduce anger, irritability or outbursts in children. Enrolling ages 8 to 17. **http://tinyurl.com/z25drco**
  Email: **irritablekids@mail.nih.gov**,
  1-301-496-8381 [TTY: 1-866-411-1010]



At Fusion we meet each student where they are and collaborate to find just the right solution for each student's success. Our one-to-one classrooms provide a personal approach to learning that stems from understanding first. Together with other teacher, staff, and you we create a learning program that that unlocks emotional, social, and academic growth.

Fusion is revolutionizing school...one student at a time.

fusion
A REVOLUTIONARY WAY TO SCHOOL

fusionacademy.com

Fusion Locations
California
Connecticut
Illinois
New Jersey
New York
Texas
Virginia
Washington DC