DSM 5 AND DISRUPTIVE MOOD DYSREGULATION DISORDER

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GOALS

• Learn DSM 5 criteria for DMDD
• Understand the theoretical background of DMDD
• Discuss background, pathophysiology and treatment
• Understand how DMDD differs from other psychiatric disorders
• Discuss future goals of research
DSM V Criteria

A. Severe recurrent temper outbursts manifested verbally (e.g., verbal rages) and/or behaviorally (e.g., physical aggression toward people or property) that are grossly out of proportion in intensity or duration to the situation or provocation.

B. The temper outbursts are inconsistent with developmental level.

C. The temper outbursts occur, on average, three or more times per week.

D. The mood between temper outbursts is persistently irritable or angry most of the day, nearly every day, and is observable by others (e.g., parents, teachers, peers).
DSM V Criteria

E. Criteria A-D have been present for 12 or more months. Throughout that time, the individual has not had a period lasting 3 or more consecutive months without all of the symptoms in Criteria A-D.

F. Criteria A and D are present in at least two of three settings (i.e., at home, at school, with peers) and are severe in at least one of these.

G. The diagnosis should not be made for the first time before age 6 years or after age 18 years.

H. By history or observation, the age at onset of Criteria A-E is before 10 years.
DSM V Criteria

I. There has never been a distinct period lasting more than 1 day during which the full symptom criteria, except duration, for a manic or hypomanic episode have been met.

Note: Developmentally appropriate mood elevation, such as occurs in the context of a highly positive event or its anticipation, should not be considered as a symptom of mania or hypomania.

J. The behaviors do not occur exclusively during an episode of major depressive disorder and are not better explained by another mental disorder (e.g., autism spectrum disorder, posttraumatic stress disorder, separation anxiety disorder, persistent depressive disorder [dysthymia]).
DSM V Criteria

**Note:** This diagnosis cannot coexist with oppositional defiant disorder, intermittent explosive disorder, or bipolar disorder, though it can coexist with others, including major depressive disorder, attention deficit/hyperactivity disorder, conduct disorder, and substance use disorders. Individuals whose symptoms meet criteria for both disruptive mood dysregulation disorder and oppositional defiant disorder should only be given the diagnosis of disruptive mood dysregulation disorder. If an individual has ever experienced a manic or hypomanic episode, the diagnosis of disruptive mood dysregulation disorder should not be assigned.

K. The symptoms are not attributable to the physiological effects of a substance or to an other medical or neurological condition.
Exclusions

- Bipolar Disorder
- Intermittent Explosive Disorder
- Oppositional Defiant Disorder
  - Due to high degree of overlap between ODD and DMDD, when criteria for both disorders are met then ODD should be dropped in favor of DMDD
  - Rationale:
    - DMDD is more severe disorder
    - More access to services
Possible Comorbid Conditions

- Major Depressive Disorder
- Attention Deficit/Hyperactivity Disorder
- Conduct Disorder
- Substance Use Disorders
- Anxiety Disorders
Why the new diagnosis?

- First, no DSM-IV category captures the symptomatology of children characterized primarily and fundamentally by severely impairing non-episodic irritability.
- Other DSM-IV disorders do not accurately capture the phenotype exhibited by severe irritability.
- Oppositional defiant disorder does have irritability but it is not required; can be diagnosed only on the basis of oppositional behavior.
Limitations of DSM-IV

• DSM-IV provides no definition of irritability, despite the inclusion of this symptom as a criterion for at least six diagnoses in children (manic episode, oppositional defiant disorder, generalized anxiety disorder, dysthymic disorder, posttraumatic stress disorder, and major depressive episode)
Problems with Childhood Bipolar Disorder

• From 1994 to 2003, diagnosis of Bipolar Disorder in children went up 4000%
• Increased diagnosis thought to be caused by “loose” translation of DSM-IV criteria for Bipolar Disorder when applied to children
• Researchers considered changing criteria for children but concluded that original Bipolar Disorder criteria should stand
• DMDD was developed to identify children not meeting diagnosis of Bipolar Disorder yet having significant impairment.
• DSM V removes “Bipolar Disorder Not Otherwise Specified” category which was commonly applied to children not meeting full criteria.
Goals of Task Force for DMDD

In defining severe mood dysregulation, task force had five goals:

1) to operationalize severe irritability reliably, with a high threshold, far beyond that of any current DSM-IV diagnosis;

2) to identify youths who are as severely impaired as those with bipolar disorder so that any observed differences between severe mood dysregulation and bipolar disorder could not be attributed to differences in severity;
Goals of Task Force for DMDD

3) to require symptoms common to mania and ADHD, since such symptoms were part of the rationale for assigning the bipolar disorder diagnosis to children with severe chronic irritability;

4) to exclude preschoolers and patients whose symptoms did not begin until adolescence, because irritability may fluctuate during these developmental transitions; and

5) to exclude youths with even brief episodes of mania, such as those meeting criteria for episodic bipolar disorder not otherwise specified
Studies contributing to DMDD

- NIMH studied 142 children.
- To make the diagnosis of severe mood dysregulation, researchers used a module that is appended to the Schedule for Affective Disorders and Schizophrenia–Present and Lifetime Version.
- The module is administered by master’s- or doctoral-level clinicians who are trained to reliability ($\kappa=0.90$), including in the distinction between severe mood dysregulation and bipolar disorder.
Studies contributing to DMDD

• In the NIMH sample, the mean age at study entry is 11.7 years, but parents report a mean age at onset nearly 7 years earlier.

• The mean Children’s Global Assessment Scale (CGAS) score was 45.8 (SD=6.9), compared with a mean score of 46.5 (SD=12.4) for 107 youths with bipolar disorder recruited over the same period, indicating that youths with severe mood dysregulation are as severely impaired as those with bipolar disorder.

• Approximately 60% of the youths with severe mood dysregulation had a community diagnosis of bipolar disorder at the time of recruitment.
Studies contributing to DMDD

- 84.9% of the youths in the severe mood dysregulation sample met DSM-IV criteria for lifetime oppositional defiant disorder,
- 86.3% met criteria for lifetime ADHD.
- 58.2% met criteria for a lifetime anxiety disorder
- 16.4% for lifetime major depressive disorder, although youths were not included in the severe mood dysregulation sample if their irritability could be attributed solely to a major depressive episode or an anxiety disorder.
Studies contributing to DMDD

- post hoc analyses were performed using data from the NIMH Diagnostic Interview Schedule for Children, Version IV obtained from parents of youths in four community samples (approximately 9,600 youths) and two clinical samples (approximately 2,100 youths).
- A proxy for the severe mood dysregulation diagnosis required three symptoms of oppositional defiant disorder: temper tantrums, being angry or resentful (each at least “a few days a week”), and being touchy or easily annoyed.
Studies contributing to DMDD

- In the community samples, 15% of youths with oppositional defiant disorder met criteria for the severe mood dysregulation proxy;
- In clinical samples, the severe mood dysregulation phenotype accounted for approximately 25% of the youths with oppositional defiant disorder
Autistic Disorder vs. DMDD

- Soft exclusionary criteria in DMDD – “cannot better be explained by Autistic Disorder”
- No overlap of symptoms
- Little explanation of how these two disorders interact
Bipolar Disorder vs DMDD

- Researchers assessed rates of mood episodes in 84 youths with severe mood dysregulation and 93 youths with DSMIV bipolar disorder over a median of 28.4 months.
- Only one patient (1.2%) with severe mood dysregulation, but 58 (62.4%) with bipolar disorder, exhibited at least one new manic, hypomanic, or mixed episode during follow-up (Mann-Whitney U=2,720, z=−3.48, p<0.001).
- Thus, in this clinical sample, rates of prospectively observed manic episodes were 50 times higher in bipolar disorder than in severe mood dysregulation.
- Longer studies with larger clinical samples are needed.
Long-term outcome of DMDD

• 20 year post hoc analysis data done on community samples

• Brotman et al. found that compared to youths who never met these criteria, those who met them at a mean age of 10.6 years (SD=1.4) were seven times more likely to meet criteria for a unipolar depressive disorder at a mean age of 18.3 years (SD=2.1) (odds ratio=7.2, 95% confidence interval [CI]=1.3–38.8, p=0.02).

• The lifetime prevalence of severe mood dysregulation in this sample (N=1,420, ages 9–19 years) was 3.3%, whereas only 0.1% of the sample met criteria for bipolar disorder.
Genetics of DMDD vs Bipolar Disorder

• Studies on heritability show that children with DMDD do not have increased incidence of Bipolar Disorder in family members.

• Is DMDD heritable? no published work has addressed the heritability of severe mood dysregulation or irritability.

• Studies do show that Oppositional Defiant Disorder has a heritable component.
### Comparison

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<tr>
<th>Bipolar Disorder</th>
<th>DMDD</th>
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<td>• Discrete mood episodes of mania and depression</td>
<td>• “Severe, non-episodic irritability”</td>
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<td>• Lifelong episodic illness</td>
<td>• Does not develop into Bipolar Disorder</td>
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<td>• Decreased focus on irritability in DSMV</td>
<td>• Associated with severe outbursts/tantrums</td>
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<td>• Can be diagnosed at any age but rare in childhood; peak onset in 20s-30s</td>
<td>• Cannot be first diagnosed before 6 or after 18</td>
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<td>• Psychosis may be present</td>
<td>• Not associated with psychosis</td>
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Attention Deficit/Hyperactivity Disorder

- Commonly comorbid in DMDD
- Changes in criteria in DSMV include:
  - Elimination of subtypes
  - Change in age of symptoms from before 7 to before 12
  - NO EXCLUSION FOR AUTISTIC SPECTRUM DISORDERS
  - Allows reduced symptoms for adults with ADHD
Comparison

ADHD
• Classified as a neurodevelopmental disorder
• Have normal (but strongly exhibited) emotional range
• No mood/anxiety criteria
• Impacts learning and structured environments most

DMDD
• Classified as a depressive disorder
• Mood expression is significantly abnormal
• Not episodic
• Impacts all environments and associated with dangerous behaviors
Comorbidity of DMDD and ADHD

• 86.3% of severe mood dysregulation sample met criteria for ADHD

• Data indicate differences in amygdala activity in nonirritable youths with ADHD relative to those with severe mood dysregulation, those with bipolar disorder, and healthy comparison subjects during face processing.
## Comparison

<table>
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<tr>
<th>ODD</th>
<th>DMDD</th>
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<td>• Disruptive Behavior Disorder</td>
<td>• Classified as a depressive disorder</td>
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<td>• Irritability a common factor but not required for diagnosis</td>
<td>• Mood expression is significantly abnormal</td>
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<td>• Manifests as a pattern of defiant and resistive behavior towards authority figures</td>
<td>• Impacts all environments and associated with dangerous behaviors</td>
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### Conduct Disorder
- Disruptive Behavior Disorder
- Serious violations of rules
- Characterized by lack of empathy and conscience
- No mood or anxiety criteria
- Can be comorbid with ODD in DSM-V

### DMDD
- Classified as a depressive disorder
- Mood expression is significantly abnormal
- Irritability a core feature
- Impacts all environments and associated with dangerous behaviors
DSM-5 Intermittent Explosive Disorder Changes

- Intermittent explosive disorder is characterized by an extreme expression of anger or rage that is out of proportion to the individual’s situation.
- The types of aggressive outbursts now to be considered are: physical aggression (as in the DSM-IV), verbal aggression, and nondestructive/non-injurious physical aggression.
- Frequency of behavior criteria is more detailed.
- Criteria now indicate that aggressive outbursts are impulsive and/or angry in nature and must result in marked distress, cause significant problems in work/school or interpersonal functioning, or be the cause of financial or legal problems.
- An individual must be at least 6 years old to receive this diagnosis.
Comparison

**Intermittent Explosive Disorder**
- Impulse Control Disorder
- Characterized by sudden rage/anger outbursts
- Outbursts are triggered by identifiable stressor
- Reaction far exceeds stressor
- Not due to other mood/anxiety/behavioral disorders

**DMDD**
- Classified as a depressive disorder
- Mood expression is significantly abnormal
- Irritability a core feature
- Impacts all environments and associated with dangerous behaviors
Implications of new diagnosis of DMDD

- Connection of DMDD to depressive disorders/ADHD will alter choice of psychiatric and psychosocial treatment
  - E.g. – If Bipolar Disorder, then treat with atypical antipsychotics and mood stabilizers but if related to depression/ADHD, then treat with antidepressants and/or stimulants
  - Cognitive and behavioral therapies as well as parent management training may be effective in DMDD patients
Psychotropic Medications in DMDD

- The only treatment trial of severe mood dysregulation is a small, negative trial of lithium


- A controlled trial of youths with a phenotype similar to severe mood dysregulation (ADHD and aggression unresponsive to stimulants) found divalproex combined with behavioral therapy to be more effective than stimulant plus placebo and behavior therapy

Psychotropic Medications in DMDD

• A second treatment trial of severe mood dysregulation is under way (clinicaltrials.gov identifier NCT00794040)
• compares a stimulant plus citalopram to a stimulant plus placebo.
• The study builds on the longitudinal data reviewed above suggesting that severe mood dysregulation is on a pathophysiologic continuum with unipolar depressive and anxiety disorders,
• Also builds on data suggesting that both stimulants and SSRIs might be effective in treating irritability and/or aggression.
Future Goals

• Goal: To find clinical and biological markers that distinguish DMDD from health individuals AND from other psychiatric disorders

• Discovering pathophysiology has the second goal of guiding diagnosis and treatment
Media response to DMDD
SLATE: The New Temper Tantrum Disorder
Will the new diagnostic manual for psychiatrists go too far in labeling kids dysfunctional?
By David Dobbs|Posted Friday, Dec. 7, 2012, at 1:12 PM
Wired.com: Psychiatry Set to Medicalize Hissy Fits BY DAVID DOBBS 11.14.12 3:20 PM
• Concern about using SSRI’s or other antidepressants in DMDD youth
  – If diagnosis is Bipolar Disorder, antidepressant may trigger “mania”
  – Researchers in DMDD caution not to confuse “activation” with mania.
  – Activation occurs in 10-20% of individuals starting SSRI and responds to withdrawal and reintroduction of medication at lower dosage
Conclusions about DMDD

Youth with DMDD
1) are at increased risk for unipolar depressive and anxiety disorders, rather than manic episodes, as they age;
2) do not have high familial rates of bipolar disorder;
3) differ pathophysiologically from youths with DSM-IV bipolar disorder.

AND

4) irritability is a common, yet relatively understudied, symptom in pediatric psychopathology.
Summary

- DMDD is controversial diagnosis to mitigate blurring of DSM IV criteria for Bipolar Disorder in DSM V, decrease over-diagnosis of Bipolar Disorder in children, better explain severe irritability as a mood disorder.
- Detractors cite that ODD, CD, and IED encompass these children, that the “difficult” child becomes “mentally ill” leading to unnecessary treatment with medications.
Summary

• Concerns about medical and insurance coverage of DMDD have been discussed.
• New diagnosis may guide treatment with alternative psychotropic medications with lower side effect profiles and open the door for more psychosocial interventions.