Check for updates

Canadian Psychiatric Association
Association des psychiatres du Canada

The Canadian Journal of Psychiatry / La Revue Canadienne de Psychiatrie
2018, Vol. 63(12) 813-815
© The Author(s) 2018
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/0706743718789900
TheCJP.ca | LaRCP.ca
SAGE

Disruptive Mood Dysregulation Disorder: A Critical Perspective

Gordon Parker, MD, PhD, DSc, FRANZCP[1,2] and Gabriela Tavella, BPsych (Hons)[1,2]

Keywords
DSM-5, disruptive mood dysregulation disorder, psychiatric classification

> One must do no violence to nature, nor model it in conformity to any blindly formed chimera.
>
> —Janos Bolyai

The first condition listed in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), "Depressive Disorders" chapter is disruptive mood dysregulation disorder (DMDD) and thus precedes the presumably more substantive condition of major depressive disorder. The diagnostic criteria for DMDD (which is restricted to children up to 12 years of age) include 4 symptoms, with each making reference to a sentinel feature of "temper outbursts" (characterized as severe, inconsistent with developmental level, occurring 3 or more times per week, and with the interepisode mood being irritability or anger for most of the day). The DSM-5 text[1] states that it was added as a new diagnosis to "address concerns about the potential of the overdiagnosis of treatment for bipolar disorder in children" (p. 155). As no "depressive" symptoms are listed as criteria, the immediate question is why is DMDD listed as a depressive disorder? In this article, we question DSM strategies, both in terms of the logic of positioning DMDD as a depressive disorder as well as the logic in providing the condition as a "diversionary" diagnosis to address concerns about the overdiagnosis of juvenile bipolar disorder.

In a scene-setting historical article, Leibenluft et al.[2] defined 4 differing juvenile bipolar disorder phenotypes. These, they asserted, reflected reference to "Relevant literature . . . and the input of experts" (p. 430). The 4 classes comprised 1) a "narrow phenotype" respecting full DSM-IV diagnostic criteria for hypo/mania, 2) an "intermediate phenotype" for those who failed only to meet DSM-IV duration criteria, 3) another "intermediate phenotype" for those who lacked the hallmark symptom of an elevated mood during hypo/manic states and who instead had "irritable hypo/mania," and 4) a "broad phenotype" for those who had a chronic nonepisodic illness marked by severe irritability and hyperarousal. In relation to the last—and certainly the most problematic phenotype—the authors stated that it was marked by the child's "increased reactivity to negative emotional stimuli in the form of severe rages, as well as chronic hyperarousal (motor hyperactivity, distractibility, etc.)," as well as the symptoms being chronic and, as noted, nonepisodic. Their argument for including such a category was that "none of the DSM-IV diagnoses captures a relatively homogeneous population of patients with mood disturbance, hyperarousal, and decreased frustration tolerance."[2(p435)]

Several concerns can be expressed about that argument. First, the mood disturbance component is not included in the phenotypic description. More importantly, do such broad and nonspecific features suggest a "homogeneous" category of necessity, as would be expected of a valid diagnostic entity? The authors themselves earlier suggest that this may not be the case, in stating that such a broad phenotype "may ultimately prove to be a heterogenous group"[2(p431)] comprising those with hypo/mania, while others may have dysthymia, major depression, or a form of disruptive behavior disorder. Second, as the primary feature is irritability, and neither depression nor hypo/mania, what was the logic in ever positioning it as a bipolar disorder? Third, why include a nonepisodic component to the definition, as this criterion counters one of the few accepted criteria for the bipolar disorders—that symptoms are intermittent and episodic?

While Leibenluft et al.[2] suggest several possible validating strategies, they offer no empirical evidence for the category. Their description of the putative phenotypes would of necessity risk merging bipolar disorder in childhood with a range of nonepisodic personality and conduct conditions

[1] School of Psychiatry, University of New South Wales, Sydney, Australia
[2] Black Dog Institute, Sydney, Australia

Corresponding Author:
Gordon Parker, MD, PhD, DSc, FRANZCP, Black Dog Institute, Prince of Wales Hospital, Randwick NSW 2031, Australia.
Email: g.parker@unsw.edu.au

marked by irritability. In addition, for the "broad phenotype," they refer to there being "very preliminary evidence" indicating that children fitting that phenotype "may respond well to stimulants." If so, the broad phenotype appears more weighted to capture those with attention-deficit hyperactivity disorder (ADHD) than those with a bipolar disorder.

The 2003 article by Liebenluft et al.[2] did not, however, initiate the broadening of the definition of childhood bipolar disorder. This process had been in process for some time. The DSM-5 notes that by the end of the 20th century, the "contention by researchers that severe, nonepisodic irritability is a manifestation of paediatric mania coincided with an upsurge in the rates . . . of bipolar disorder in their pediatric patients."[1(p157)] Illustrative data were provided by Leibenluft,[3] who referenced 2 studies, with one reporting an increase in a diagnosis of bipolar disorder in children from 0.42% in 1994 to 6.67% in 2003 and another assessing hospital discharge diagnoses and reporting a rise in rates from 1.3/10,000 in 1996 to 7.3/100,000 in 2004. In addition, Roy et al.[4] reported that pediatric visits for bipolar disorder in the United States had risen from 25/100,000 in 1994-1995 to 1003/100,000 in 2002-2003. Thus, it is likely that the "broad phenotype" described in the 2003 article by Liebenluft et al.[2] is the main contributor to the increase in diagnoses of juvenile bipolar disorder. Rather than reject such a phenotype being accorded any entity status as either a bipolar or unipolar disorder, DSM-5 chose to prioritize it as a unipolar depressive disorder.

Leibenluft[3] later presented a somewhat revisionist position to her earlier 2003 article. She first noted the escalation in the diagnosis of pediatric bipolar disorder over the preceding decade in the United States and that "some research groups maintain that it is . . . reasonable to apply a bipolar diagnosis to children" with "severe nonepisodic irritability" (p. 129). She referenced 4 papers in support (but did not include her own 2003 article) and later referenced the same papers when stating that some researchers posit that mania presents differently in children/adolescents compared with adults, with pediatric mania presenting more "as persistent, non-episodic and severe irritability."[3(p130)] Leibenluft[3] then concluded that such categorizing was not, however, supported as youths with nonepisodic irritability 1) are instead more at risk of developing unipolar depressive and anxiety disorders rather than manic episodes as they get older (a statement repeated almost identically in DSM-5 in relation to DMDD), 2) do not have high familial rates of bipolar disorder, and 3) differ pathophysiologically from youths who have been diagnosed with a DSM-IV bipolar disorder. However, after arguing that nonepisodic irritability is distinguishable from mania, she later suggested an overlap via the shared feature of mood dysregulation and that the two may lie on "a pathophysiologic spectrum with each other as well as with major depression."[3(p138)] In all, 3 models for severe nonepisodic irritability are evident in this article. First, that it is a bipolar phenotype. Second, that it is not. Third, that it may lie along a spectrum or dimension including bipolar and unipolar disorders.

In a subsequent overview article, Copeland et al.[5] noted how the DMDD phenotype had been conceptualized as a pediatric bipolar disorder, but they then referenced studies indicating that it presaged a unipolar rather than a bipolar disorder. The authors detailed how—when considered by their DSM-5 Work Group—the proposal had generated 2 principal concerns from them. The first was the potential negative consequences of a new childhood diagnostic category together with the attendant risks of both increased medication use and the pathologizing of "normal" behavior. The second was the lack of empirical support for DMDD's definition, with the authors noting that there were "no published studies that have focused on the newly proposed criteria for disruptive mood dysregulation disorder."[5(p174)] Accordingly, the aims of their article were to review the utility of the proposed diagnosis in community samples of children, estimate its prevalence, and determine whether children meeting disorder criteria displayed comorbid psychopathological functioning. They overviewed 3 community-based studies of children and adolescents and judged that, while none were designed to assess DMDD per se, it was possible to assess the prevalence of the condition. Three-month prevalence rates for juveniles meeting the authors' full set of study criteria ranged from 0.8% to 3.3%. Copeland et al.[5] concluded from such data that the rarity of DMDD emerged from strictly applying frequency, duration, and cross-context criteria. Of key importance, they also established that a diagnosis of DMDD co-occurred with all common psychiatric disorders apart from anxiety disorders and ADHD and most strongly with the depressive disorders and oppositional defiant disorder (ODD; odds ratios of 16.3 and 103.0, respectively). They observed that its high co-occurrence with ODD belied proposed attempts to categorize it as a mood disorder only. Their article provides further support that it is an unlikely bipolar subtype: specifically, of the 7 subjects who had experienced manic episodes, only 1 met criteria for DMDD. The overall results of the review therefore challenged the utility of the DSM-5 inclusion of DMDD as a separate diagnostic disorder, let alone a depressive mood disorder.

Axelson[6] noted that the inclusion of DMDD in DSM-5 was controversial. He also observed that there were no published data using the proposed diagnostic criteria and that its support came "primarily from studies of the related but not identical construct of severe mood dysregulation" (p. 136). In reviewing the study by Copeland et al.,[5] Axelson[6] observed that the prevalence of the DMDD is highly dependent on whether the frequency, persistence, and duration criteria of the disorder are applied, but as retrospective recall of such information is difficult, it probably accounted for the "questionable" test-retest reliability kappa coefficient of 0.25 (as quantified in a DSM-5 field trial). Roy et al.[4] provided more specific data—with the kappa being 0.49 in inpatient settings and 0.06 to 0.11 in outpatient settings. Finally, Axelson[6] observed that DMDD is unlikely to be

distinct from ODD and thus would have limited "diagnostic utility" (p. 138). He therefore concluded that, at the time of writing, there were insufficient scientific data to "create a new diagnosis" (p. 138).

Most recently, Roy et al.[4] observed that severe, chronic irritable mood in children has long provided a challenge in pediatric psychiatry because of its poor diagnostic specificity and as a consequence of its inclusion in numerous anxiety, mood, and disruptive behavioral disorder diagnostic categories (as well as in attracting a diagnosis of bipolar disorder in children) and so provided a risk of polypharmacy (and frequently involving antipsychotic drugs).

This overview of salient articles allows a process critique to be formulated. As noted, it is stated in the DSM-5 that DMDD was created to potentially alleviate the overdiagnosis of and treatment for bipolar disorder in children. Logic would suggest, however, that if juvenile bipolar disorder was being invalidly overdiagnosed, the corrective strategy would be to provide refined and validated diagnostic criteria and then advance educational and related strategies to ensure that diagnostic limitations were respected. Goodwin and Jamison[7] detailed how the National Institute of Mental Health had convened a Roundtable meeting in 2000 to address diagnostic nuances in the formulation of childhood bipolar disorder in light of the "high stakes involved in terms of accurate detection and early treatment" (p. 195). Their report recommended that the diagnosis of a bipolar disorder (I or II) in children be limited to those who met DSM-IV criteria for those conditions and that those who did not meet full criteria be diagnosed as bipolar disorder–not otherwise specified. Such a strategy would have been advanced if the DSM-5 had sought to define bipolar disorder in children and in adolescence rather than providing DMDD as a diagnostic diversion. The DSM-5[1] also states (p. 137) that "making the diagnosis in children is often a challenge, especially in those with irritability and hyperarousal that is *nonepisodic*," but not adding any rider that such clinical presentations were now, in effect, to be handled by the DSM category of DMMD. In summary, what the DSM-5 fails to do is to actually define how juvenile bipolar disorder might be similar to or different from bipolar disorder in adulthood, an oversight that is likely to be unfortunate in its clinical consequences and difficult to understand when the literature on this topic is relatively rich.

For example, the phenotypic picture of bipolar disorder in childhood and adolescence has been overviewed in some detail by Goodwin and Jamison.[7] A highlighted empirical study indicates that the core symptoms of mania in children are elevated mood, grandiosity, decreased need for sleep, poor judgment, and racing thoughts, while other studies indicate that depressed periods in children are marked by hopelessness, anhedonia, and suicidal thoughts, suggesting a similar phenotype to bipolar disorder in adults. Turning to adolescents, Goodwin and Jamison[7] report that "for the most part, adolescent-onset bipolar disorder is clinically similar to adult bipolar disorder" (pp. 196-197), and they present considerable empirical support for that statement.

Conclusion

In addressing the concern that juvenile bipolar disorder was being overdiagnosed, the DSM appears to have assumed that such a process was principally driven by inclusion of a "broad phenotype" of children with a chronic and nonepisodic illness marked by severe irritability and hyperarousal. However, rather than unequivocally reject this phenotype as indicative of a bipolar disorder (as it lacks any empirical support while its features are not compatible with bipolar disorder) and thus excluding it from the DSM-5 manual completely, the DSM-5 went on to fashion a "diversionary" diagnosis. Creating such a category imputes a diagnostic "entity." On the evidence overviewed here, DMDD remains characterized more by its ineffability and intrinsic heterogeneity than by any entity status. Those who meet the criteria for DMDD may in fact have a conduct disorder, ODD, ADHD, or any of myriad other behavioral disorders. The DSM-5 has provided DMDD with a set of criteria but offers no empirical data about its etiology, natural history, or response to differing treatment modalities. Since the formal listing of this "diagnosis," no substantive studies have been published addressing those data vacuums. DMDD is a distracting if not disruptive psychiatric illusion rather than a valid diagnostic entity. Its chimera status should encourage its demise.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was funded under Program Grant No. 1037196 from the National Health and Medical Research Council, Australia.

References

1. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington (VA): American Psychiatric Association; 2016.
2. Leibenluft E, Charney DS, Towbin KE, et al. Defining clinical phenotypes of juvenile mania. Am J Psychiatry. 2003;160(3):430-437.
3. Leibenluft E. Severe mood dysregulation, irritability, and the diagnostic boundaries of bipolar disorder in youths. Am J Psychiatry. 2011;168(2):129-142.
4. Roy AK, Lopes V, Klein RG. Disruptive mood dysregulation disorder: a new diagnostic approach to chronic irritability in youth. Am J Psychiatry. 2014;171(9):918-924.
5. Copeland WE, Angold A, Costello EJ, et al. Prevalence, comorbidity, and correlates of DSM-5 proposed disruptive mood dysregulation disorder. Am J Psychiatry. 2013;170(2):173-179.
6. Axelson D. Taking disruptive mood dysregulation disorder out for a test drive. Am J Psychiatry. 2013;170(2):136-139.
7. Goodwin FK, Jamison KR. Manic-depressive illness: bipolar disorders and recurrent depression. Oxford (UK): Oxford University Press; 2007.