Gin S. Mahi: A Critical Analysis of Concepts in Psychiatry

Gin S. Malhi and Erica Bell: Fake Views: DMDD, Indeed! *

Prior to the publication of DSM-5 in 2013, it was difficult to diagnose and suitably treat a child presenting with significant impairment and dysfunction because of persistent irritability, angry mood and frequent temper outbursts. This is because in DSM-IV none of the defined childhood disorders fully captured the central symptom of *persistent* irritability. And although some of these symptoms could be roughly mapped onto oppositional defiant disorder (ODD), attention-deficit/hyperactivity disorder (ADHD) or conduct disorder (CD), many key diagnostic criteria would not be fulfilled. Therefore, in practice, to formulate these symptoms diagnostically, clinicians dealing with children had to extrapolate from the diagnostic criteria of adult disorders. For example, the DSM diagnosis of bipolar disorder (in adults) makes explicit mention of irritability within its principal criteria for a manic episode. But in childhood, it is thought that the presentation of bipolar disorder is *not* episodic and therefore persistent irritability may be recognized as a symptom of pediatric bipolar disorder.

However, irritability is not exclusive to *mania* and in adolescence and childhood irritability is also a symptom of *depression*. In other words, irritability in this age group can reflect mania, depression or both. However, notably, after the age of 18, for the purposes of diagnosis, irritability in the context of mood disorders can only signify mania. Because of this confusion, persistent irritability in youth has often led to the diagnosis of bipolar disorder in children and adolescents.

At the beginning of the new millennium this diagnostic extrapolation of bipolar disorder to explain chronic irritability in youth resulted in the rates of pediatric BD diagnoses increasing by approximately 500% in less than a decade (Blader and Carlson 2007; Moreno, Laje, Blanco et al. 2007). And, understandably, in the face of this apparent "epidemic of bipolar disorder" among children and adolescents, researchers argued that thorough investigations into the accuracy of a pediatric bipolar diagnosis must be undertaken. This was important because

broadening of the diagnosis also meant more widespread prescription of medications – a particularly grave concern because of the risks the use of antipsychotics and antidepressants pose when used in populations in which they have not been properly tested.

Therefore, to counter the increasing rates of pediatric bipolar diagnoses, a totally new diagnosis of *disruptive mood dysregulation disorder* (DMDD) was suddenly introduced in DSM-5. In this, DMDD is diagnosed in children and adolescents on the basis of chronic and persistent irritability – distinguishing it from the episodic and recurrent pattern of mood episodes observed in adults. However, more than half a decade later, the "creation" of this new diagnostic entity has not provided any novel insights or greater understanding and is yet to demonstrate any tangible clinical benefits. Instead, DMDD has added to existing diagnostic confusion and likely distracted researchers and clinicians from more meaningful exploration of the mechanisms underlying irritability in children and adolescents.

DMDD

Irritability

Irritability is a principal symptom of DMDD that is common to the phenomenology of several externalizing disorders. Hence, there is significant diagnostic overlap between DMDD and a number of other disorders. In addition to the overlap of irritability, some symptoms and behaviors of DMDD may be a consequence of irritability and these are also found in a range of childhood disorders (see Figure 1). For example, behavioral symptoms such as destruction of property, physical/verbal aggression and being argumentative may arise because of ongoing irritability, but these are also the diagnostic criteria for externalizing disorders such as ODD. Similarly, psychomotor agitation is an important feature of mania that overlaps clinically with DMDD irritability. The contiguity and imbrication of symptoms that constitute the clinical profile of DMDD with those of other disorders suggests that it possesses no distinctive features and as such its criteria are inextricably enmeshed with those used to define a whole range of externalizing disorders.

Figure 1

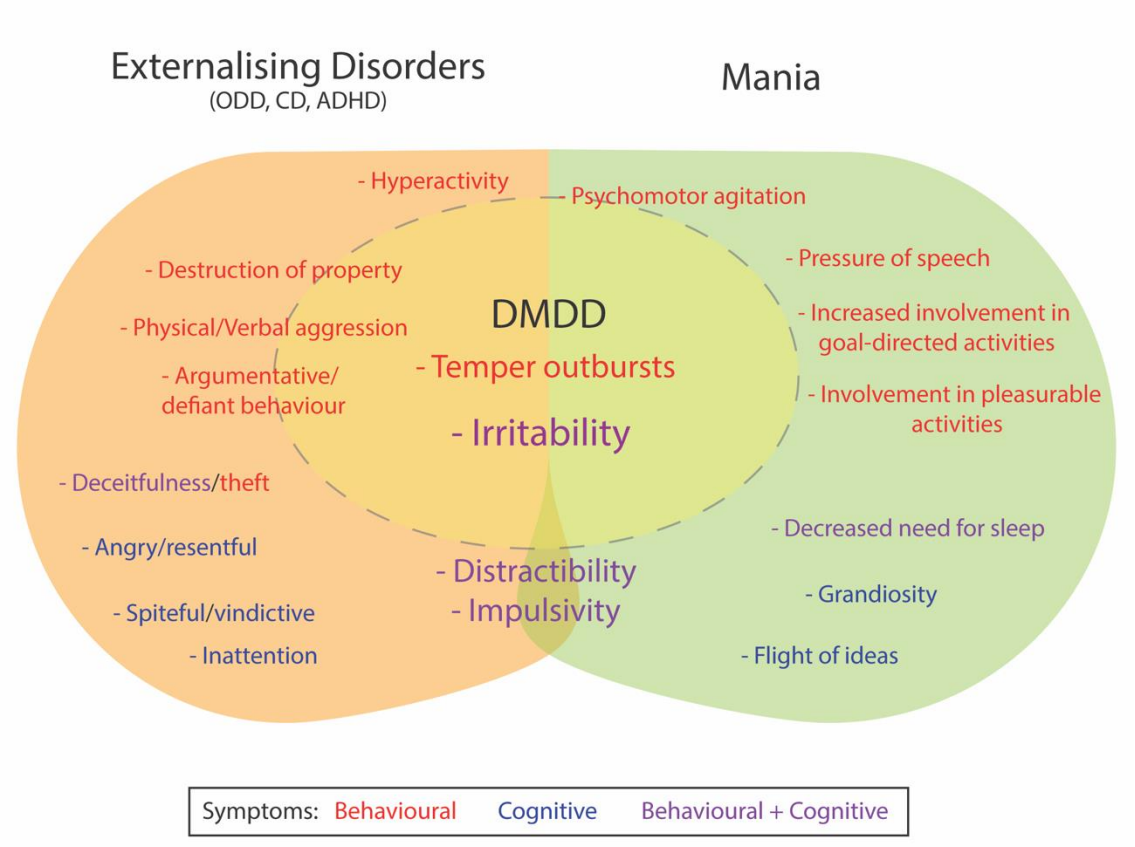

Figure 1. DMDD lacks diagnostic distinction phenomenologically. Figure shows overlap of symptoms between DSM-5 externalizing disorders, DMDD and mania. Symptoms/signs that straddle a "boundary" between two disorders may be secondary and arise as a result of primary symptoms, e.g., destruction of property as a result of temper outbursts. Broadly speaking, the symptoms/signs can also be categorized as being largely cognitive or behavioral or indeed both. It is notable that irritability (a prominent feature of DMDD) is common to many disorders.

Diagnosis

At first pass the diagnostic criteria for DMDD seem to be straightforward and simply include behavioral outbursts (temper outbursts) set against a background of irritable mood (See Figure 2). But closer examination of the criteria reveals that they are complicated and difficult to understand and apply in practice. For example, it is unclear how temper outbursts differ from losing one's temper – a criterion for ODD angry/irritable mood. The nature of temper outbursts that should be considered as being consistent with a particular developmental level is also not specified. Furthermore, throughout the diagnostic decision-making tree (see Figure 3) the empirical basis for each criterion is not made clear and although the cut-offs are explicit, the determination of duration, severity and context is left to the clinician to interpret and apply.

Figure 2

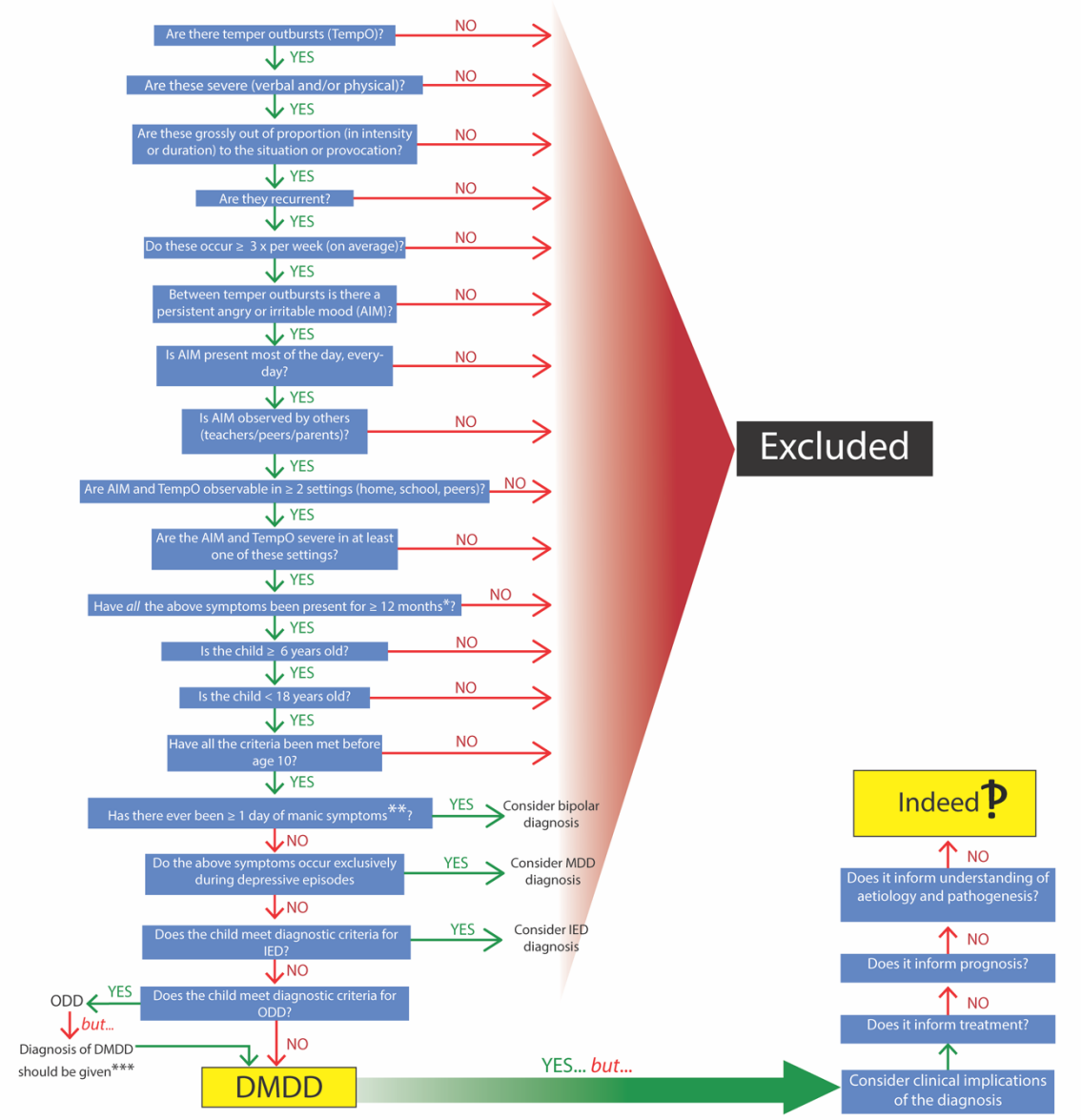

Figure 2. Stepwise diagnosis of DMDD. The decision-tree shows the questions that need to be considered in order to arrive at a diagnosis of disruptive mood dysregulation disorder as per DSM-5 criteria. It illustrates the complexity of the process and highlights the futility of the experience given that the diagnosis does not inform prognosis or treatment and does not provide any meaningful understanding of the individual's behavior and distress. Note: *That there has not been a time period of more than three months in which all the above symptoms were not met (at least 9 months of these symptoms). **Criteria (excluding duration) have been met for manic/hypomanic episode. ***If an individual meets diagnostic criteria for both ODD and DMDD, ODD is subsumed by DMDD. MDD = Major depressive disorder; IED = Intermittent explosive disorder.

As shown in Figure 3, in order to qualify for DMDD a child must have experienced *persistent angry or irritable mood* coupled with frequent verbal and/or physical *temper outbursts* (criteria A and D). Furthermore, the latter must be inconsistent with the developmental level and must occur ≥ 3 times per week (criteria B and C). In addition, Criterion E stipulates that the aforementioned criteria must have been present for at least 9 of the past 12 months and that there should not have been a period lasting 3 or more *consecutive* months without all of the symptoms in Criteria A-D. This means that there may be many periods of less than this duration when the symptoms are not present – and overall this may amount to a large proportion of time where there are no symptoms whatsoever. Nevertheless, once this pattern of symptoms has been established, the child's age also needs to be factored into diagnostic considerations. For instance, the diagnosis cannot be made before the age of 6 years or after the age of 18 years (criterion G), however, at the same time, the above symptoms must have first occurred (*onset*) before the age of 10 years (criterion H). In other words, these symptoms have to be identified after close observation within a specific window of 5 – 11 years of age. However, what is not explicated is how this should be achieved. But this is not all that is required.

Figure 3

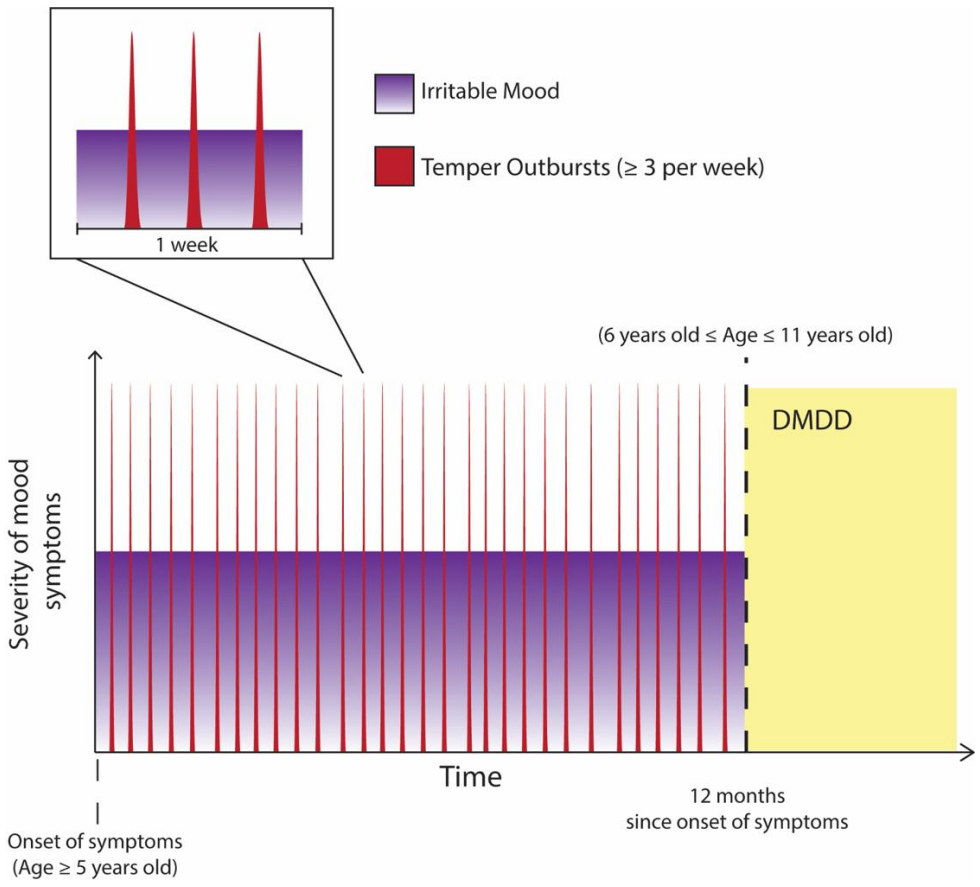

Figure 3. Schematic of diagnostic criteria (A – E) for DSM-5 DMDD. Peaks represent temper outbursts (TempO) which punctuate a persistent state of irritability. Once symptoms have been present for 12 months a diagnosis of DMDD can be considered, provided these symptoms first appeared between the ages of 5 and 10 years.

In order to formulate a diagnosis of DMDD, irritability must be retrospectively reported by at least two sources over a period of at least 12 months. This is problematic because it is not specified how irritability should be measured and clearly attempting to marry the historical accounts of two people is necessarily difficult. Consequently, the clinical assessment undertaken by a psychiatrist is most likely to rely on forming an impression, which is itself at best drawn from the impressions of others.

Once the aforementioned criteria have been retrospectively examined, criterion F stipulates that both temper outbursts and irritable mood must be present in at least two of the following settings and be occurring at a severe level in at least one of these environments: home, school or with peers. This criterion therefore requires the corroboration of symptoms from either teachers or peers (in addition to parents) to validate their pervasive and impactful nature. Not surprisingly, in the majority of clinical real-world settings this is likely to be a formidable challenge for all concerned.

And yet still – this is insufficient information to make a diagnosis of DMDD. On top of this exhaustive analysis, DMDD then has to be differentiated from other disorders. For instance, the child cannot have had a manic or hypomanic episode (which in itself is difficult to diagnose), but curiously a single day of mania or hypomania is permitted (criterion I). The symptoms also cannot be present only in the context of a major depressive episode and cannot coexist with bipolar disorder, ODD or intermittent explosive disorder (criterion J). This comorbidity constraint also highlights a diagnostic hierarchy, wherein one disorder takes precedence over another. For example, a child or adolescent that satisfies criteria for both ODD and DMDD *"should only be given the diagnosis of [DMDD]*," whereas a diagnosis of DMDD *can* coexist with any one of CD, ADHD or major depression. This somewhat arbitrary hierarchy likely reflects the fact that disorders such as ODD and DMDD have significant shared phenomenology and that in many instances the diagnoses are subsumed by each other. Hence why greater diagnostic specificity provides no additional information with regards to treatment. In sum, the diagnostic criteria for DMDD require the caregiver of the child in question to recollect accurately the frequency, age of onset and duration of both any persistent irritability and temper outbursts the child may be experiencing and then to corroborate this information

with another relevant second source such as a teacher. A clinician must then ascertain whether these symptoms are *not* better explained by a mood episode or other psychiatric disorder that has a significant overlap in symptomatology. This convoluted process – many aspects of which are clearly unrealistic – would at least be theoretically acceptable were it not for the fact that successfully making a diagnosis of DMDD does not inform management. In other words, the diagnosis offers no insight as regards treatment and, therefore, the process of diagnosing DMDD is redundant. This is also why, in practice, clinicians have to manage DMDD by extrapolating from the treatment of other psychiatric disorders. For example, many children diagnosed with DMDD are simply medicated with stimulants and/or antipsychotics.

ICD-11

Clinically, DMDD has failed to distinguish itself from other similar childhood disorders such as ODD (Mayes, Waxmonsky, Calhoun and Bixler 2016). This lack of phenomenological distinction means that the diagnosis has failed to achieve its primary goal, namely, to inform treatment. This is perhaps why the World Health Organization (WHO) has *not* included a diagnosis of DMDD in ICD-11, but instead added a "with chronic irritability-anger" subtype in the criteria for ODD (De Rosa 2018). Given that DMDD was created by DSM to address the over-diagnosis of bipolar disorder in youth, amending the criteria of an existing disorder based on empirical evidence of the construct that will encourage accurate scientific investigation of this syndrome is undoubtedly better than generating a new diagnosis altogether.

Post-DMDD

As DMDD lists no distinct criteria of its own and shares significant symptomatic overlap with already defined disorders, it is important to question its conceptualization as a separate entity. The arbitrary distinction of DMDD risks distorting and skewing our perspective on the inception of adult psychiatric disorders and is likely to generate research that will misinform and mislead clinical practice.

DSM should follow ICD-11 and insert a chronic irritability specifier or subtype within the diagnostic criteria for ODD. This would reflect empirical evidence and also provide a more meaningful framework on which to develop appropriate treatments and further examine the mechanisms underlying pediatric irritability.

Conclusion

DMDD has failed to fulfil the primary role of any diagnostic entity – i.e., to inform treatment. Furthermore, the over diagnosis of pediatric bipolar disorder, the issue which led to the development of DMDD in the first place, has not been resolved by the introduction of this new diagnostic category. Hence, because of these fundamental flaws that are likely to have dire consequences left unchecked, urgent consideration should be given to expunging DMDD from DSM.

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