PERSPECTIVE

An empirically based alternative to DSM-5′s disruptive mood dysregulation disorder for ICD-11

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The World Health Organization (WHO)'s priorities for the development of the classification of mental and behavioural disorders in the ICD-11 include increasing its clinical utility in global mental health settings (1) and improving the identification and diagnosis of mental disorders among children and adolescents (2).

An issue that has been hotly debated in the area of childhood psychopathology is the assessment, diagnosis and treatment of children with severe irritability and anger (3,4). Although virtually all children display irritable and angry behaviours at times, some children exhibit them more frequently and more intensely, to the extent that they become an impairing form of emotional dysregulation. Recent findings indicate that these children with chronic and severe irritability/anger have not been adequately identified through existing classification systems, are at an increased risk for particular negative outcomes, and have not received appropriate treatment. To the extent that ICD-11 can help clarify the clinical picture of irritability/anger, children and families will benefit from more accurate diagnoses, more useful prognoses, and more effective interventions.

This paper provides a brief overview of the issue, followed by several possible options and the current proposal for the classification of childhood irritability/anger in ICD-11. This proposal represents a markedly different – but we believe more scientifically justifiable – solution to the problems in this area than that selected for DSM-5 (5).

CLINICAL CONCERNS RELATED TO SEVERE IRRITABILITY/ANGER IN CHILDREN

Concern about misdiagnosis

One of the major reasons why researchers and practitioners have been concerned about the classification of severe irritability/anger in children is that this phenomenon is widely believed to account for significant misdiagnosis of children as having bipolar disorder. This is particularly true in the U.S., where rates of bipolar disorder diagnoses in children increased by as much as 4000% between 1994 and 2003 (6).

The growing incidence of pediatric bipolar disorder appeared to be due to diagnostic errors or changing diagnostic conventions, since risk factors for the disorder had not changed and international data did not show a similar increase (7). The view that mania and hypomania could present as irritability among children appeared to underlie this changing diagnostic pattern (4,7).

Notably, a large majority of the children diagnosed with bipolar disorder based on this interpretation of irritability would have also met the diagnostic requirements for oppositional defiant disorder (ODD) (4). Though generally grouped with conduct disorder and other disorders characterized by disruptive behavior, ODD is a disorder of emotional dysregulation (8), partially defined by affective symptoms of irritability and anger (5,9) and sharing significant comorbidity and continuity with mood and anxiety disorders (10,11).

Thus, increasing rates of bipolar disorder diagnosis in children could reflect: a) diagnostic confusion regarding the presentation of bipolar disorder among children; and b) the presence of more severe symptoms of emotional dysregulation in children more properly considered as having ODD.

Concern about outcomes

Seeking to clarify the relationship between irritability and bipolar disorder, researchers at the U.S. National Institute of Mental Health began investigating "severe mood dysregulation" (SMD), a syndrome characterized by chronic abnormal levels of anger or sadness, hyperarousal evident in insomnia or agitation, and heightened verbal or physical reactivity (12). SMD and severe irritability/anger in childhood were found to predict anxiety and depressive disorders, but not bipolar disorders, in adolescence and adulthood (13-15).

At the same time, researchers have examined the "irritability dimension" of ODD, which typically includes often losing one's temper, being touchy, and being chronically or frequently angry, but not the hyperarousal symptoms of SMD. It has long been established that a significant proportion of children with ODD follow a developmental pathway

leading to more serious antisocial behaviours characteristic of conduct disorder (16). However, children with these irritable/angry symptoms of ODD appear to follow a different course, with outcomes more commonly including later depression and anxiety (17-19), as well as peer victimization (20) and greater treatment resistance and functional impairment following treatment (21).

Overall, severe irritability/anger appears to be a clinically significant feature and predictor of outcomes across development, from early childhood (22,23) through adulthood (15), with similar findings in girls and boys. Further, irritability/anger may have distinct genetic underpinnings from resistant behaviours and conduct problems (24). Clearly, this is an area deserving careful clinical attention.

Concern about selecting appropriate interventions

During the period of increasing diagnostic rates of childhood bipolar disorder in the U.S., there was also an increasing tendency to use medications appropriate for adult bipolar disorder in an attempt to ameliorate high levels of anger and irritability in children (6,7), despite a paucity of clinical trials of these medications with child populations. However, children with severe irritability and anger are unlikely to exhibit manic or hypomanic episodes, either at the time of initial evaluation or in subsequent years (4), so that medications for bipolar disorder are probably not an appropriate treatment for them. On the other hand, there are several empirically based psychosocial interventions and medications that can be effective in treating childhood anger and reactive aggression (16,25). An improved diagnostic classification of childhood irritability/anger should help to facilitate more effective treatment.

How to address these concerns?

The developers of the DSM-5 (5) elected to address these concerns by adding a new diagnosis, disruptive mood dysregulation disorder (DMDD). Grouped among depressive disorders, DMDD is defined primarily by two features, present in multiple settings: a) frequent, severe temper outbursts, and b) persistent irritability evident every day for most of the day.

The addition of this new disorder has been met with several negative reactions among the professional community (e.g., 26). These critics note that DMDD is based on limited research, is not sufficiently distinct from existing disorders (e.g., ODD), and may further contribute to increasing rates of mental disorders diagnoses and medication use among children.

Initially, the ICD-11 Working Group on the Classification of Mental and Behavioural Disorders in Children and Adolescents had recommended the inclusion of a modified version of DMDD (27) in the ICD-11. Reflecting the lack of consensus in the field, this proposal was later rejected by the ICD-11 Working Group on Mood and Anxiety Disorders, and the issue was taken up by an expanded group of experts appointed by the WHO. This article reflects the discussions and recommendations of that task group.

DIAGNOSTIC OPTIONS: A SEPARATE DISORDER OR A SPECIFIER OF AN EXISTING DISORDER

A separate disorder

The rationale for introduction of DMDD in DSM-5 was developed largely out of the research on SMD (4). However, several limitations of this rationale should be noted.

First, SMD research is still early in its development and comes from a small number of research groups, primarily in the U.S.. Additional independent and international research is needed, particularly to support validity of the diagnosis and its utility in a global classification system.

Second, in the process of adapting SMD (the provisional research syndrome) into DMDD (the DSM-5 diagnosis), several significant changes were made, including removing hyperarousal (e.g., insomnia, agitation, distractibility, racing thoughts) from the essential criteria and removing low intelligence (IQ<80) from the exclusionary criteria (5,12). Consequently, the DMDD diagnosis had not been subjected to peer-reviewed research prior to the DSM-5 proposal.

When DMDD was finally examined in field studies (28) and secondary analyses (29-31), evidence arose of limited reliability, a lack of psychiatric consensus, and very high rates of overlap with other disorders. These findings are consistent with concerns raised in the professional community regarding DMDD (26) and suggest that the diagnosis is likely to be problematic in clinical settings.

It is therefore unclear from the existing evidence that a new disorder category should be created. Although the DMDD diagnosis has been presented as a solution to the misdiagnosis and overmedication of children, its inclusion may in fact contribute to diagnostic confusion and create a new target, with a higher base rate, for drug development and trials. The task group appointed by the WHO did not consider that DMDD represents a meaningful response to the concerns described above related to the diagnosis, outcomes, and treatment of youth with severe irritability and anger.

A specifier for ODD

There is an alternative, empirically based solution that considers all of the available research on anger and irritability in children. As summarized above, numerous studies on SMD and ODD dimensions have found that children with severe irritability/anger are at a significant and specific risk for internalizing disorders and other poor psychosocial outcomes

over time. The great majority of these children would *already* meet the diagnostic requirements for ODD and are not likely ever to develop bipolar disorder (4). Moreover, research evaluating different models of ODD dimensions (23,32) provides an empirical basis for how best to define the irritability/anger dimension within an existing diagnostic category.

The task group has recommended that WHO not accept DMDD as a diagnostic category in ICD-11, but rather approach the issue in an alternative, more conservative and more scientifically justifiable way. Specifically, the group has proposed that ICD-11 include a specifier to indicate whether or not the presentation of ODD includes chronic irritability and anger. We believe this option provides the most parsimonious basis for identifying and appropriately treating children with this maladaptive form of emotional dysregulation.

Prior to the approval of the ICD-11 by the World Health Assembly, anticipated in 2017, proposals for ODD and related disorders will be subject to empirical evaluation and scrutiny by the global professional community through several avenues. These include a public review and comment process (see updates at http://apps.who.int/classifications/icd11/browse/l-m/en), and Internet-based and clinic-based field studies conducted through WHO's Global Clinical Practice Network (see http://www.globalclinicalpractice.net to register) and WHO's network of international field study centers.

The WHO will make final decisions about the classification of chronic irritability and anger in children and further refine the diagnostic guidelines for ODD and related disorders on the basis of the evidence generated through these processes.

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