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Bipolar disorders: A shift to overdiagnosis or to accurate diagnosis?

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Letters to the Editor

Underdiagnosis: Which Way to Measure?

Dear Editor:

Dr Philip B Mitchell has made tremendous contributions to psychiatry, including innovative approaches to understanding bipolar disorder (BD).[1] But, in his recent review of overdiagnosis,[2] Dr Mitchell errs in his comparison of underdiagnosis and overdiagnosis in the study by Zimmerman et al.[3] The more appropriate value for underdiagnosis in that study is 30%, not 4.8%.[4]

Overdiagnosis is itself an overstatement, given the assumptions on which it rests (for example, BD as a dichotomous condition, either present or absent, against which Dr Mitchell himself has elegantly argued[1]; and the use of a single-structured interview as a gold standard, compared with a clinician who may have known the patient for years). Nevertheless, the very low positive predictive value (PPV) in the Zimmerman study (43%) is indeed concerning. If contrasted with a 4.8% underdiagnosis rate, it would suggest that our field of psychiatry is dangerously imbalanced toward ascribing diagnoses of BD, as posited in Mitchell's review.

Yet the imbalance is not so dramatic if one uses a different characterization of underdiagnosis, namely sensitivity: when the illness is present, how often do clinicians detect it? (For underdiagnosis rate, 1–sensitivity; in Zimmerman et al, 30%). Which is a more appropriate way to consider missed cases—sensitivity or negative predictive value (NPV)?

Given that overdiagnosis is generally characterized by PPV, it seems logical to characterize underdiagnosis using NPV (that is, 1–NPV, as per Mitchell). However, NPV, like PPV, is strongly influenced by illness prevalence. The high NPV in the Zimmerman study (95%) is due in large part to the relatively low prevalence of BD in the Brown University study population (13%). When an illness is uncommon, a clinician will frequently be correct if he or she simply maintains a reluctance to diagnose it. This is not accuracy, but it will appear so if one uses NPV to characterize diagnostic precision.

Instead, the appropriate way to characterize missed cases is using sensitivity (as in paragraph 5 of Zimmerman et al's[3] Discussion): when the illness is present, how often do clinicians fail to detect it? This question is independent of prevalence. In the Zimmerman study, sensitivity was 70%: that is, 30% of the time, when BD was present as determined by the structured interview, the clinicians did not diagnose it.

A balanced view of diagnostic accuracy noting errors in both directions is not as likely to make national headlines.[5] In seeking balance, an underdiagnosis rate of 30% more accurately contrasts concerns about overdiagnosis: both are a significant problem.

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Bipolar Disorders: A Shift to Overdiagnosis or to Accurate Diagnosis?

Dear Editor:

Contrary to Dr Philip B Mitchell's suggestion,[1] manic depressive illness has historically been conceptualized as a broad diagnostic entity that included cases of pure melancholia in addition to cases with hypomania or mania. With the dichotomous or more categorical classification of mood disorders in the 1960s there was a shift toward a narrower definition of bipolar disorder (BD)—a shift away from Kraepelin's more dimensional classification framework.[2] To understand the recent changes to the construct of BD, we have to consider some related issues.

Corresponding to the increase in prevalence of BD there appears to have been a significant increase in the use of antidepressants (ADs). In the United States, the rate of AD use among teens and adults increased by almost 400% between 1988 and 1994 and 2005 and 2008.[3] In spite of the higher use of ADs, the prevalence of treatment-resistant depression appears to have increased from 10% to 15% in the 1990s to 40% in 2006.[4] Treatment with ADs in people with latent bipolarity may induce mixed depressions with minimal manic symptoms, such as irritability, crowded thoughts, and agitation. Identification of manic features is important because avoidance of ADs and use of mood stabilizers might lead to a better outcome in patients with depression.[5] Labelling these people as having personality disorders risks overpsychologizing and withholding of potentially effective treatments. Similar to the overdiagnosis of BD, there has been an increase in diagnoses with psychological causation, including borderline personality disorder (BPD). It is estimated that 11% of outpatients and 20% of psychiatric inpatients are diagnosed with BPD, despite the overlapping symptom

profile with bipolar spectrum disorders.[6] Ironically, the overdiagnosis of BPD has not been debated the same way as the overdiagnosis of BD, yet the consequences of this overdiagnosis (or misdiagnosis) can have devastating effects on the well-being of those patients so diagnosed.

Rather than being an industry-driven shift or mere diagnostic fad, the apparent increase in BD diagnoses probably reflects an increase in the rigour and sensitivity of our assessment techniques, and a growing acceptance of dimensional models of mood disorders, as had been originally proposed by Kraepelin.[2]

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Reply

Re: Bipolar Disorders: A Shift to Overdiagnosis or to Accurate Diagnosis? And Underdiagnosis: Which Way to Measure?

Dear Editor:

I am delighted that my review article[1] suggesting a shift to overdiagnosis of bipolar disorder (BD) aroused the passionate interest of such eminent BD research colleagues. It is timely for our profession of psychiatry to address such issues forthrightly.

First, concerning Dr James Phelps' correspondence, I did not state that the rate of underdiagnosis was 4.8%. Rather, I stated that "among the sample without a previous clinical diagnosis of BD, only 4.8% had this condition identified by the SCID-I [Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Axis I Disorders]."[p 663] This 4.8% refers to Table 3 of Zimmerman et al[2] in which only 27 of the 555 without a self-reported clinical diagnosis of BD had this condition diagnosed by the SCID. I assume that when Dr Phelps mentions an underdiagnosis rate of 30% that he is referring to the fact that 27 of the 90 with SCID-confirmed BD did not have such a prior clinical diagnosis. I agree with Dr Phelps' concluding statement that both overdiagnosis and underdiagnosis of BD are both problematic—my thesis is that the BD field has focused excessively on possible underdiagnosis while largely ignoring the substantial reality and dangers of overdiagnosis.

Second, concerning the correspondence of Dr Verinder Sharma and Dr Dwight Mazmanian, I did not use the terminology manic depressive illness in my article, rather stating "historically regarded as a relatively uncommon condition until recent decades, the construct of BD underwent a major expansion in the 1990s and 2000s . . ."[p 659] While it is true that Kraepelin[3] included patients with severe unipolar depression in his concept of manic depressive psychosis, the patients described in his texts with periods of elevated mood were predominantly drawn from an extremely ill inpatient population, certainly not those with questionable hypomanic presentations of such short durations and minimal symptom numbers as are being currently proposed. Additionally, while Dr Sharma and Dr Mazmanian quote a clinical study[4] indicating high rates of the diagnosis of borderline personality disorder, I note that the paper was published in 1991; I strongly doubt that such findings would pertain in contemporary practice in 2013.

The aim of my article was to provoke readers to consider more critically what I perceive as a worrying shift to overdiagnose. It is important that this major change in diagnostic practice does not go uncontested.

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