# Psychiatric Diagnoses in Patients Previously Overdiagnosed With Bipolar Disorder

Mark Zimmerman, MD; Camilo J. Ruggero, PhD; Iwona Chelminski, PhD; and Diane Young, PhD

***Objective:*** In a previous article from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project, we reported that bipolar disorder is often overdiagnosed in psychiatric outpatients. An important question not examined in that article was what diagnoses were given to the patients who had been overdiagnosed with bipolar disorder. In the present report from the MIDAS project, we examined whether there was a particular diagnostic profile associated with bipolar disorder overdiagnosis.

***Method:*** Eighty-two psychiatric outpatients reported having been previously diagnosed with bipolar disorder that was not confirmed when they were interviewed with the Structured Clinical Interview for *DSM-IV* (SCID). Psychiatric diagnoses were compared in these 82 patients and in 528 patients who were not previously diagnosed with bipolar disorder. Patients were interviewed by a highly trained diagnostic rater who administered a modified version of the SCID for *DSM-IV* Axis I disorders and the Structured Interview for *DSM-IV* Personality for *DSM-IV* Axis II disorders. This study was conducted from May 2001 to March 2005.

***Results:*** The most frequent lifetime diagnosis in the 82 patients previously diagnosed with bipolar disorder was major depressive disorder (82.9%, n = 68). The patients overdiagnosed with bipolar disorder were significantly more likely to be diagnosed with borderline personality disorder compared to patients who were not diagnosed with bipolar disorder (24.4% vs 6.1%; $P < .001$). A previous diagnosis of bipolar disorder was also associated with significantly higher lifetime rates of major depressive disorder ($P < .01$), posttraumatic stress disorder ($P < .05$), impulse control disorders ($P < .05$), and eating disorders ($P < .05$), although only the association with impulse control disorders remained significant after controlling for the presence of borderline personality disorder.

***Conclusions:*** Psychiatric outpatients overdiagnosed with bipolar disorder were characterized by more Axis I and Axis II diagnostic comorbidity in general, and borderline personality disorder in particular.

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***Corresponding author:*** *Mark Zimmerman, MD, Bayside Medical Center, 235 Plain St, Providence, RI 02905 (mzimmerman@lifespan.org).*

The diagnosis of bipolar disorder has received increasing attention during the past decade. Several research reports have suggested that bipolar disorder is underrecognized and that many patients, particularly those with major depressive disorder, in fact, have bipolar disorder.[1–10] More recently, some reports have suggested that bipolar disorder is also overdiagnosed at times. For example, Hirschfeld and colleagues[11] interviewed 180 depressed primary care outpatients receiving antidepressant medication with the Structured Clinical Interview for *DSM-IV* (SCID). Forty-three patients reported a prior diagnosis of bipolar disorder, and this diagnosis was not confirmed by the SCID in 32.6%. Of note, the overdiagnosis rate of 32.6% was higher than the 21.9% underdiagnosis rate in the 137 patients who had not been previously diagnosed with bipolar disorder.[11] Stewart and El-Mallakh[12] evaluated 21 patients with a substance use disorder who were admitted for residential treatment and had been previously diagnosed with bipolar disorder. Based on the results of the SCID interview, only 9 (42.9%) were diagnosed with bipolar disorder. The other 12 patients were diagnosed with a substance-induced mood disorder. Goldberg and colleagues[13] evaluated 85 patients admitted to an inpatient dual-diagnosis unit specializing in the treatment of mood and substance use disorders who had been diagnosed with bipolar disorder by their outpatient psychiatrist. Similar to the results of Stewart and El-Mallakh,[12] only a minority of the patients (32.9%)[13] had the diagnosis of bipolar disorder confirmed. None of these studies examined the prevalence of personality disorders using standardized assessment measures.

As previously reported,[14] we used the SCID to interview 700 psychiatric outpatients presenting for treatment. Prior to the interview, the patients completed a self-administered questionnaire that asked them whether they had been previously diagnosed with bipolar or manic-depressive disorder by a health care professional. Family history information was obtained from the patients regarding their first-degree relatives. Raters who made the diagnoses were blind to the results of the self-administered scale. Slightly more than 20% of the sample reported that they had been previously

diagnosed as having bipolar disorder (n = 145, 20.7%), significantly higher than the 12.9% rate based on the SCID. More than half (56.6%, n = 82) of 145 patients who reported that they had been previously diagnosed with bipolar disorder were not diagnosed with bipolar disorder based on the SCID. Patients with SCID-diagnosed bipolar disorder had a significantly higher morbid risk of bipolar disorder than patients who self-reported a previous diagnosis of bipolar disorder that was not confirmed by the SCID. Patients who self-reported a previous diagnosis of bipolar disorder that was not confirmed by the SCID did not have a significantly higher morbid risk for bipolar disorder than the patients who were negative for bipolar disorder by self-report and the SCID. Thus, the results of the study suggested that bipolar disorder is often overdiagnosed, and the family history analyses supported the validity of the diagnostic procedures.[14]

An important question not examined in our previous report[14] was what diagnoses were given to the patients who had been overdiagnosed with bipolar disorder. In the present report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project, we examined whether there was a particular diagnostic profile associated with bipolar disorder overdiagnosis. In our initial article, we noted that an area of particular diagnostic confusion is between bipolar disorder and borderline personality disorder, and we therefore predicted that patients overdiagnosed with bipolar disorder would have an increased prevalence of this and other cluster B personality disorders compared to psychiatric outpatients who had never previously been diagnosed with bipolar disorder. On the basis of the findings of Stewart and El-Mallakh[12] and Goldberg et al,[13] we also predicted that an overdiagnosis of bipolar disorder would be associated with a higher frequency of substance use disorders.

## METHOD

The Rhode Island MIDAS project represents an integration of research methodology into a community-based outpatient practice affiliated with an academic medical center.[15] A comprehensive diagnostic evaluation is conducted when patients present for treatment. This private practice group predominantly treats individuals with medical insurance (including Medicare but not Medicaid) on a fee-for-service basis, and it is distinct from the hospital's outpatient residency training clinic that predominantly serves lower income, uninsured, and medical assistance patients. Data on referral source were recorded for the last 700 patients enrolled in the study. Patients were most frequently referred from primary care physicians (33.6%), psychotherapists (14.9%), and family members or friends (15.1%). The Rhode Island Hospital's institutional review committee approved the research protocol, and all patients provided written informed consent. This study was conducted from May 2001 to March 2005.

As described in our previous report, as part of the initial evaluation, patients were also asked to complete several questionnaires. During the course of the study, we have changed the questionnaires administered. For the last 700 patients, 1 of the questionnaires asked whether the patient had been diagnosed with bipolar or manic-depressive disorder by a health care professional. Eighty-two patients reported having been previously diagnosed with bipolar disorder that was not confirmed by the SCID evaluation. We refer to these patients as the group that was overdiagnosed with bipolar disorder. Psychiatric diagnoses were compared in these 82 patients and the 528 patients who were not previously diagnosed with bipolar disorder. The remaining 90 patients were diagnosed with bipolar disorder and are not included in the present report.

Patients were interviewed by a diagnostic rater who administered a modified version of the SCID[16] and the Structured Interview for *DSM-IV* Personality.[17] As described previously, the diagnostic raters were highly trained and monitored throughout the project to minimize rater drift. Reliability was examined in 48 patients. A joint-interview design was used in which one rater observed another conducting the interview, and both raters independently made their ratings. For disorders diagnosed in at least 2 patients by at least 1 of the 2 raters, the κ coefficients were as follows: major depressive disorder (κ = 0.91), dysthymic disorder (κ = 0.88), bipolar disorder (κ = 0.85), panic disorder (κ = 1.0), social phobia (κ = 0.84), obsessive-compulsive disorder (κ = 1.0), specific phobia (κ = 0.91), generalized anxiety disorder (κ = 0.93), posttraumatic stress disorder (κ = 0.91), alcohol abuse/dependence (κ = 0.64), drug abuse/dependence (κ = 0.73), and any somatoform disorder (κ = 1.0). The reliabilities of any personality disorder (κ = 0.77) or any cluster A (κ = 1.0), cluster B (κ = 0.61), or cluster C personality disorder (κ = 0.87) were good to excellent. Too few patients were diagnosed with individual personality disorders to calculate κ coefficients for individual personality disorders. However, intraclass correlation coefficients (ICC) of dimensional scores were high (paranoid, ICC = 0.95; schizoid, ICC = 0.92; schizotypal, ICC = 0.89; antisocial, ICC = 0.93; borderline, ICC = 0.96; histrionic, ICC = 0.93; narcissistic, ICC = 0.90; avoidant, ICC = 0.96; dependent, ICC = 0.97; obsessive compulsive, ICC = 0.91).

We compared the demographic and diagnostic characteristics of patients in 2 groups who were not diagnosed with bipolar disorder based on the SCID—those who reported being previously diagnosed with bipolar disorder and those who had not been so diagnosed in the past. The *t* test was used to compare the 2 groups on continuously distributed variables. Categorical variables were compared by the $\chi^2$ statistic or by the Fisher exact test if the expected value in any cell of a $2 \times 2$ table was less than 5. After the univariate analyses, we conducted a multivariate logistic regression analysis to determine which of the predictor variables were

**Table 1. Demographic Characteristics of Psychiatric Outpatients Without Bipolar Disorder Who Previously Were and Were Not Diagnosed With Bipolar Disorder**

| Characteristic | Prior Bipolar Diagnosis (n = 82) | No Prior Bipolar Diagnosis (n = 528) | $\chi^2$ or $t$ | $P$ Value |
|---|---|---|---|---|
| Sex, % (n) | | | | |
| Female | 59.8 (49) | 58.7 (310) | $\chi^2 = 0.03$ | NS |
| Male | 40.2 (33) | 41.3 (218) | | |
| Race, % (n) | | | | |
| White | 86.6 (71) | 88.8 (469) | $\chi^2 = 0.35$ | NS |
| Nonwhite | 13.4 (11) | 11.2 (59) | | |
| Education, % (n) | | | | |
| < High school graduate | 9.8 (8) | 6.6 (35) | $\chi^2 = 7.14$ | NS |
| High school graduate or GED | 28.0 (23) | 20.5 (108) | | |
| Some college | 42.7 (35) | 40.0 (211) | | |
| College graduate | 19.5 (16) | 33.0 (174) | | |
| Marital status, % (n) | | | | |
| Married | 39.0 (32) | 45.3 (239) | $\chi^2 = 10.25$ | NS |
| Living together | 1.2 (1) | 3.4 (18) | | |
| Widowed | 0 (0) | 2.7 (14) | | |
| Separated | 2.4 (2) | 2.8 (15) | | |
| Divorced | 25.6 (21) | 15.3 (81) | | |
| Never married | 32.9 (27) | 30.5 (161) | | |
| Age, mean (SD), y[a] | 39.4 (12.2) | 40.4 (13.2) | $t = 0.62$ | NS |

[a]Age was compared by $t$ test.
Abbreviations: GED = General Equivalency Degree, NS = not significant.

independently associated with diagnostic group. Only those variables that were significant in the univariate analyses were entered into the regression analysis.

## RESULTS

The demographic characteristics of the patients who had been previously diagnosed with bipolar disorder did not differ from the patients who had not been previously diagnosed with bipolar disorder (Table 1). The most common lifetime diagnosis in the 82 patients previously diagnosed with bipolar disorder was major depressive disorder (82.9%, n = 68). Patients in the overdiagnosed bipolar group were diagnosed with significantly more lifetime Axis I disorders (mean ± SD, 5.2 ± 2.8 vs 3.8 ± 2.6; $t = 4.4$, $P < .001$) and were significantly more likely to have 3 or more disorders (87.8% vs 63.1%; $\chi^2 = 19.5$, $P < .001$). Compared to patients who were not diagnosed with bipolar disorder, those with a previous diagnosis of bipolar disorder had significantly higher lifetime rates of major depressive disorder, posttraumatic stress disorder, impulse control disorders, and eating disorders (Table 2). Turning to diagnoses that were current at the time of the evaluation, patients in the overdiagnosed bipolar group were diagnosed with significantly more current Axis I disorders (mean ± SD, 3.4 ± 2.4 vs 2.4 ± 1.8; $t = 4.2$, $P < .001$) and were significantly more likely to have 3 or more disorders (54.9% vs 39.6%; $\chi^2 = 6.8$, $P < .01$). The data in Table 3 show that the patients previously diagnosed with bipolar disorder were significantly more likely to be diagnosed with current posttraumatic stress disorder. The patients overdiagnosed with bipolar disorder were also significantly more likely to be diagnosed with a current personality disorder (Table 4). In particular, the patients previously diagnosed with bipolar disorder were significantly more likely to be diagnosed with borderline and antisocial personality disorder.

Because borderline personality disorder is associated with increased rates of posttraumatic stress disorder, eating disorders, and impulse control disorders,[18,19] we conducted a logistic regression analysis to examine which diagnoses were independently associated with bipolar disorder overdiagnosis. Only disorders significant in the univariate analyses (current posttraumatic stress disorder, lifetime eating disorder, lifetime impulse control disorder, lifetime major depressive disorder, antisocial personality disorder, and borderline personality disorder) were included in the model. We did not include lifetime posttraumatic stress disorder in the model because it largely overlaps with a current posttraumatic stress disorder diagnosis, and the odds ratio was higher for current diagnosis. As shown in Table 5, only borderline personality disorder, current posttraumatic stress disorder, and lifetime impulse control disorder were independently associated with bipolar disorder overdiagnosis.

## DISCUSSION

We previously reported that bipolar disorder is frequently overdiagnosed, with less than half of the patients who indicated that they had been previously diagnosed with bipolar disorder so diagnosed according to the SCID.[14] Supporting the validity of our diagnostic methods, we found that the patients who were overdiagnosed with bipolar disorder had a significantly lower morbid risk of bipolar disorder in their first-degree relatives compared to patients who were diagnosed with bipolar disorder according to the SCID. Moreover, in these presumptively overdiagnosed patients, the morbid risk for bipolar disorder was no different than in patients who were not diagnosed with bipolar disorder based on the SCID.

The question addressed in the present report was whether patients overdiagnosed with bipolar disorder were characterized by a particular demographic and diagnostic profile. We found that the patients who were overdiagnosed with bipolar disorder were characterized by more Axis I and Axis II diagnostic comorbidity. As predicted, patients who had been overdiagnosed with bipolar disorder were more frequently diagnosed with borderline personality disorder. In addition, these patients were more frequently diagnosed with major depressive disorder, antisocial personality disorder, posttraumatic stress disorder, and eating and impulse control disorders, although the multivariate analyses found that only borderline personality disorder, current posttraumatic stress disorder, and lifetime impulse control disorder were independently associated with overdiagnosis.

We had previously speculated that bipolar disorder overdiagnosis would be associated with borderline personality

**Table 2. Lifetime *DSM-IV* Axis I Disorders in Psychiatric Outpatients Without Bipolar Disorder Who Previously Were and Were Not Diagnosed With Bipolar Disorder**

| Disorder | Prior Bipolar Diagnosis (n = 82) | No Prior Bipolar Diagnosis (n = 528) | OR | 95% CI | *P* Value |
|---|---|---|---|---|---|
| Mood disorders, % (n) | | | | | |
| Major depressive disorder | 82.9 (68) | 67.6 (357) | 2.3 | 1.3–4.3 | < .01 |
| Dysthymic disorder | 15.9 (13) | 12.3 (65) | 1.3 | 0.7–2.6 | NS |
| Depressive disorder NOS | 6.1 (5) | 8.7 (46) | 0.7 | 0.3–1.8 | NS |
| Depression due to GMC | 0 (0) | 1.1 (6) | 0.5 | 0.0–8.7 | NS |
| Anxiety disorders, % (n) | | | | | |
| Panic disorder | 9.8 (8) | 9.1 (48) | 1.1 | 0.5–2.4 | NS |
| Panic disorder with agoraphobia | 20.7 (17) | 14.4 (76) | 1.6 | 0.9–2.8 | NS |
| Agoraphobia without history of panic | 2.4 (2) | 1.1 (6) | 2.2 | 0.4–10.9 | NS |
| Social phobia | 34.1 (28) | 25.9 (137) | 1.5 | 0.9–2.4 | NS |
| Specific phobia | 14.6 (12) | 9.3 (49) | 1.7 | 0.9–3.3 | NS |
| Posttraumatic stress disorder | 30.5 (25) | 19.7 (104) | 1.8 | 1.1–3.0 | < .05 |
| Generalized anxiety disorder | 30.5 (25) | 26.9 (142) | 1.2 | 0.7–2.0 | NS |
| Obsessive-compulsive disorder | 8.5 (7) | 6.3 (33) | 1.4 | 0.6–3.3 | NS |
| Anxiety disorder NOS | 12.2 (10) | 13.6 (72) | 0.9 | 0.4–1.8 | NS |
| Substance use disorders, % (n) | | | | | |
| Alcohol abuse/dependence | 45.1 (37) | 36.4 (192) | 1.4 | 0.9–2.3 | NS |
| Drug abuse/dependence | 29.3 (24) | 20.6 (109) | 1.6 | 0.9–2.7 | NS |
| Any substance use disorder | 52.4 (43) | 42.6 (225) | 1.5 | 0.9–2.4 | NS |
| Any eating disorder, % (n) | 19.5 (16) | 11.4 (60) | 1.9 | 1.0–3.5 | < .05 |
| Any psychotic disorder, % (n) | 3.7 (3) | 1.9 (10) | 2.0 | 0.5–7.3 | NS |
| Any somatoform disorder, % (n) | 12.2 (10) | 8.0 (42) | 1.6 | 0.8–3.3 | NS |
| Any impulse control disorder, % (n) | 18.3 (15) | 9.7 (51) | 2.1 | 1.1–3.9 | < .05 |
| Adjustment disorders, % (n) | 6.1 (5) | 8.7 (46) | 0.7 | 0.3–1.8 | NS |

Abbreviations: GMC = general medical condition, NOS = not otherwise specified, NS = not significant.

**Table 3. Current *DSM-IV* Axis I Disorders in Psychiatric Outpatients Without Bipolar Disorder Who Previously Were and Were Not Diagnosed With Bipolar Disorder**

| Disorder | Prior Bipolar Diagnosis (n = 82) | No Prior Bipolar Diagnosis (n = 528) | OR | 95% CI | *P* Value |
|---|---|---|---|---|---|
| Mood disorders, % (n) | | | | | |
| Major depressive disorder | 48.8 (40) | 44.1 (233) | 1.2 | 0.8–1.9 | NS |
| Dysthymic disorder | 12.2 (10) | 9.7 (51) | 1.3 | 0.6–2.7 | NS |
| Depressive disorder NOS | 4.9 (4) | 6.6 (35) | 0.7 | 0.3–2.1 | NS |
| Depression due to GMC | 0 (0) | 0.6 (3) | 0.9 | 0.1–17.8 | NS |
| Anxiety disorders, % (n) | | | | | |
| Panic disorder | 4.9 (4) | 4.9 (26) | 1.0 | 0.3–2.9 | NS |
| Panic disorder with agoraphobia | 14.6 (12) | 9.3 (49) | 1.7 | 0.9–3.3 | NS |
| Agoraphobia without history of panic | 2.4 (2) | 1.1 (6) | 2.2 | 0.4–10.9 | NS |
| Social phobia | 31.7 (26) | 22.0 (116) | 1.6 | 1.0–2.7 | NS |
| Specific phobia | 14.6 (12) | 8.7 (46) | 1.8 | 0.9–3.6 | NS |
| Posttraumatic stress disorder | 25.6 (21) | 11.4 (60) | 2.7 | 1.5–4.7 | < .001 |
| Generalized anxiety disorder | 30.5 (25) | 25.9 (137) | 1.3 | 0.7–2.1 | NS |
| Obsessive-compulsive disorder | 6.1 (5) | 4.2 (22) | 1.5 | 0.5–4.1 | NS |
| Anxiety disorder NOS | 9.8 (8) | 11.6 (61) | 0.8 | 0.4–1.8 | NS |
| Substance use disorders, % (n) | | | | | |
| Alcohol abuse/dependence | 9.8 (8) | 9.8 (52) | 1.0 | 0.5–2.2 | NS |
| Drug abuse/dependence | 7.3 (6) | 3.4 (18) | 2.2 | 0.9–5.8 | NS |
| Any substance use disorder | 15.9 (13) | 12.1 (64) | 1.4 | 0.7–2.6 | NS |
| Any eating disorder, % (n) | 8.5 (7) | 5.7 (30) | 1.5 | 0.7–3.7 | NS |
| Any psychotic disorder, % (n) | 3.7 (3) | 1.3 (7) | 2.8 | 0.7–11.1 | NS |
| Any somatoform disorder, % (n) | 12.2 (10) | 7.6 (40) | 1.7 | 0.8–3.5 | NS |
| Any impulse control disorder, % (n) | 12.2 (10) | 7.0 (37) | 1.8 | 0.9–3.9 | NS |
| Adjustment disorders, % (n) | 4.9 (4) | 7.4 (39) | 0.6 | 0.2–1.8 | NS |

Abbreviations: GMC = general medical condition, NOS = not otherwise specified, NS = not significant.

disorder because patients with borderline personality disorder frequently experience brief episodes of intense emotions, including euphoria and irritability, which can be interpreted as indicative of bipolar disorder.[14] One-quarter of the patients overdiagnosed with bipolar disorder met *DSM-IV* criteria for borderline personality disorder. Looking at these results another way, nearly 40% (20 of 52) of the patients diagnosed with *DSM-IV* borderline personality disorder had been overdiagnosed with bipolar disorder.

We also predicted that bipolar disorder overdiagnosis would be associated with a history of substance use disorders. Both Stewart and El-Mallakh[12] and Goldberg and colleagues[13] found that the majority of patients receiving residential or inpatient substance use treatment who had

**Table 4. Current *DSM-IV* Axis II Disorders in Psychiatric Outpatients Without Bipolar Disorder Who Previously Were and Were Not Diagnosed With Bipolar Disorder**

| Disorder | Prior Bipolar Diagnosis (n = 82) | No Prior Bipolar Diagnosis (n = 528) | OR | 95% CI | *P* Value |
|---|---|---|---|---|---|
| Cluster A personality disorders, % (n) | | | | | |
| Paranoid | 2.4 (2) | 2.1 (11) | 1.2 | 0.3–5.4 | NS |
| Schizoid | 1.2 (1) | 0.9 (5) | 1.3 | 0.1–11.2 | NS |
| Schizotypal | 1.2 (1) | 0.2 (1) | 6.5 | 0.4–105.0 | NS |
| Any cluster A personality disorder | 4.9 (4) | 3.2 (17) | 1.5 | 0.5–4.7 | NS |
| Cluster B personality disorders, % (n) | | | | | |
| Antisocial | 7.3 (6) | 2.1 (11) | 3.7 | 1.3–10.3 | < .01 |
| Borderline | 24.4 (20) | 6.1 (32) | 5.0 | 2.7–9.3 | < .001 |
| Histrionic | 0 (0) | 0.2 (1) | 2.1 | 0.09–52.5 | NS |
| Narcissistic | 2.4 (2) | 0.8 (4) | 3.3 | 0.6–18.2 | NS |
| Any cluster B personality disorder | 29.3 (24) | 8.3 (44) | 4.6 | 2.6–8.0 | < .001 |
| Cluster C personality disorders, % (n) | | | | | |
| Avoidant | 11.0 (9) | 8.5 (45) | 1.3 | 0.6–2.8 | NS |
| Dependent | 1.2 (1) | 0.9 (5) | 1.3 | 0.1–11.2 | NS |
| Obsessive-compulsive | 7.3 (6) | 5.1 (27) | 1.5 | 0.6–3.7 | NS |
| Any cluster C personality disorder | 15.9 (13) | 13.1 (69) | 1.3 | 0.7–2.4 | NS |
| Any personality disorder, % (n) | 42.7 (35) | 24.1 (127) | 2.4 | 1.5–3.8 | < .001 |

Abbreviation: NS = not significant.

**Table 5. Logistic Regression Predicting Whether a Person Was Previously Diagnosed With Bipolar Disorder**

| Predictor | β | SE | OR | 95% CI | *P* Value |
|---|---|---|---|---|---|
| Current posttraumatic stress disorder | 0.6 | 0.3 | 1.9 | 1.0–3.5 | < .05 |
| Lifetime major depressive disorder | 0.5 | 0.3 | 1.7 | 0.9–3.2 | NS |
| Lifetime eating disorder | 0.3 | 0.3 | 1.4 | 0.7–2.7 | NS |
| Lifetime impulse control disorder | 0.7 | 0.3 | 2.0 | 1.0–3.9 | < .05 |
| Borderline personality disorder | 1.3 | 0.3 | 3.7 | 1.9–7.2 | < .001 |
| Antisocial personality disorder | 0.8 | 0.6 | 2.2 | 0.7–6.6 | NS |

Abbreviation: NS = not significant.

been diagnosed with bipolar disorder did not have the disorder. We found nonsignificantly higher rates of drug and alcohol problems in the overdiagnosed group. The severity of the substance use problems in the patients in the present study was milder than in these other 2 studies. Most of the patients diagnosed with a substance use disorder in the present study had never been hospitalized or treated in a residential setting for their substance use problems. Perhaps only patients with more severe and chronic forms of substance use disorder are at risk for being overdiagnosed with bipolar disorder.

Why might the phenomenon of false-positive bipolar disorder diagnoses be arising at this time? We believe that the increased availability of medications to treat bipolar disorder and the accompanying marketing efforts are chiefly responsible. Many continuing medical education programs on bipolar disorder begin with a summary of research suggesting bipolar disorder is underdiagnosed, and this is followed by a discussion of methods clinicians can use to improve the detection of the disorder. These discussions of diagnostic practice are usually not balanced by a summary of studies demonstrating overdiagnosis and the risks associated with overdiagnosis. Because clinicians are probably inclined to diagnose disorders that they feel more comfortable treating, we hypothesize that, in patients with mood instability who do not meet criteria for a hypomanic episode, physicians are nonetheless inclined to diagnose a potentially medication-responsive disorder such as bipolar disorder rather than a disorder such as borderline personality disorder that is less medication-responsive.

Questions can, and should, be raised whether our diagnoses were valid. Critics might argue that our research group has a tendency to underdiagnose bipolar disorder in favor of overdiagnosing borderline personality disorder. Potentially supportive of this hypothesis, several years ago our group published an article[20] describing problems with underdiagnosing borderline personality disorder in clinical practice. Because of the potential of diagnostic bias in studies of diagnostic accuracy, it is important to support one's findings with evidence of validity. Demonstrating validity in studies examining diagnostic biases at the interface of bipolar disorder and borderline personality disorder is difficult because many of the correlates of each disorder are the same. Both bipolar disorder and borderline personality disorder are characterized by young age at onset. Both disorders are also characterized by high rates of diagnostic comorbidity, particularly with anxiety disorders, impulse control disorders, and substance use disorders. In our previous article[14] suggesting that bipolar disorder is overdiagnosed, we validated our diagnostic method using family history of bipolar disorder as the validator. We focused on family history because it is one of the few validators that is specific to bipolar disorder. Thus, while it is not possible to rule out diagnostic bias on our part, we were able to validate our diagnostic methods.

Does the question of whether a patient has bipolar disorder or borderline personality disorder have treatment implications? The efficacy of pharmacologic interventions is well established for treating bipolar disorder, particularly

bipolar I disorder,[21] whereas no medications have been approved for the treatment of borderline personality disorder. However, some medications have been found to be of some benefit for different aspects of borderline personality disorder,[22] although not for the syndrome as a whole, and this fact might be responsible for these patients' often being prescribed multiple agents.[23] Evidence continues to emerge that establishes the efficacy of certain forms of psychotherapy for borderline personality disorder[24–26]; therefore, overdiagnosing bipolar disorder in patients with borderline personality disorder can result in the failure to recommend the most appropriate forms of treatment.

A limitation of the present study is that it was conducted in a single outpatient practice in which the majority of the patients were white and female and had health insurance. Replication of the results in other clinical samples with different demographic characteristics is warranted. Another limitation is that prior diagnoses of bipolar disorder were based on patients' reports rather than systematic ascertainment and review of patients' prior records. We did not determine whether psychiatrists, therapists, or primary care providers made prior diagnoses of bipolar disorder, although unsystematic observations indicated that most diagnoses were made by psychiatrists. Strengths of the study are the large sample size and the use of highly trained diagnostic interviewers to reliably administer semistructured diagnostic interviews.

***Author affiliation:*** Department of Psychiatry and Human Behavior, Brown University School of Medicine, Providence, Rhode Island.
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