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Screening for Borderline Personality Disorder in Psychiatric Outpatients With Major Depressive Disorder and Bipolar Disorder

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ABSTRACT

Objective: Borderline personality disorder (BPD) is a serious illness that is frequently underdiagnosed. A previous psychometric analysis of the 9 BPD criteria in *DSM-IV/DSM-5* found that the affective instability criterion functioned well as a screen for the disorder. A limitation of that initial study was that the performance of the BPD criteria was examined in a diagnostically heterogeneous sample, including those with a low likelihood of having BPD. The present study from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project examined the operating characteristics of the BPD criteria in patients with major depressive disorder (MDD) and bipolar disorder.

Methods: From December 1995 to April 2014, 3,674 psychiatric outpatients were evaluated with a semistructured diagnostic interview for *DSM-IV* BPD. The operating characteristics of the BPD criteria were examined in 3 nonoverlapping groups of patients: those with a principal diagnosis of MDD, those with a principal diagnosis of bipolar disorder, and all remaining patients.

Results: The sensitivity and negative predictive value of the affective instability criterion were greater than 90% in patients with MDD, bipolar disorder, or other diagnoses. Of the 9 BPD criteria, the affective instability criterion achieved the highest sensitivity and negative predictive value in all 3 diagnostic groups.

Conclusions: Despite the phenomenological overlap between BPD and mood disorders, inquiry about affective instability functions well as a clinically useful screen for BPD in patients with MDD and bipolar disorder. In patients presenting for the treatment of MDD or bipolar disorder, clinicians should screen for BPD in the same way that they screen for other comorbid psychiatric disorders—by inquiring about a single feature of the disorder (ie, affective instability), the presence of which captures almost all patients with the disorder and the absence of which rules out the disorder.

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Borderline personality disorder (BPD) is a serious psychiatric disorder resulting in significant psychosocial morbidity,^{1–4} reduced health-related quality of life,⁵ high use of psychiatric services,^{6,7} and elevated risk of suicide.^{8–10} Despite its clinical and public health significance, BPD is underrecognized in clinical practice. The underrecognition of BPD has been identified as a significant clinical problem.^{11–13} For patients diagnosed with BPD, the lag between initial treatment seeking and the correct diagnosis is often more than 10 years.¹⁴ The treatment and clinical implications of the failure to recognize BPD include the overprescription of medication and the underutilization of empirically effective psychotherapies.¹²

There are very likely many reasons why mental health professionals underrecognize and underdiagnose BPD. Foremost among these reasons is that mood, anxiety, and substance use disorders are common in patients with BPD,^{15,16} and the symptoms associated with these other disorders are typically the chief complaint of patients presenting for treatment.¹⁷ Patients with BPD do not usually report as a chief complaint the features of BPD such as abandonment fears, chronic feelings of emptiness, or an identity disturbance. If they did, BPD would most likely be easier to recognize.

When clinicians conduct their initial evaluation of patients, they establish a principal diagnosis and, depending on how much time permits, determine the presence of comorbid disorders. To determine the presence of comorbid diagnoses, a clinician will typically ask screening questions assessing the necessary feature or “gate criterion” of the diagnostic criteria for the disorder. For example, in a patient with a principal diagnosis of major depressive disorder (MDD), the clinician would inquire about the presence of panic attacks, excessive fears, or substance use to screen for the presence of panic disorder, phobic disorders, or a substance use disorder. However, not all psychiatric disorders have a necessary feature. Several disorders are diagnosed when a minimum number of features from a list are present, and no single item is required. Such is the case for BPD, which is diagnosed when at least 5 of 9 diagnostic criteria are present, none of which is required. In the absence of a gate criterion, it can be time consuming to screen for BPD.

With this in mind, our clinical research group conducted a psychometric analysis of the 9 *DSM-IV/DSM-5* BPD criteria to determine if it was possible to identify a single criterion with sufficiently high sensitivity that it could function as a gate criterion to screen for the disorder. (The criteria to diagnose BPD are the same in *DSM-IV* and *DSM-5*. Because the study was done in the *DSM-IV* era, we hereafter refer to

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- Borderline personality disorder (BPD) is a serious illness that is frequently underdiagnosed.
- The sensitivity and negative predictive value of the affective instability criterion of BPD were greater than 90% in patients with major depressive disorder, bipolar disorder, or other diagnoses. Of the 9 BPD criteria, the affective instability criterion achieved the highest sensitivity and negative predictive value in all 3 diagnostic groups.
- Despite the phenomenological overlap between BPD and mood disorders, inquiry about affective instability functions well as a clinically useful screen for BPD in patients with MDD and bipolar disorder. Most patients with BPD have the criterion (ie, sensitivity is high), and the absence effectively rules out the disorder (ie, negative predictive value is high).

DSM-IV. However, the results apply equally well to *DSM-5*.) In a large sample of psychiatric outpatients evaluated with semistructured interviews,¹⁸ we found that the affective instability criterion had a sensitivity greater than 90%, higher than the sensitivities of the other 8 BPD criteria. This finding was consistent with the results of other, smaller studies,^{19–25} which also found that affective instability was the most frequent criterion in patients with BPD with a greater than 90% frequency.

A limitation of our initial study¹⁸ was that we examined the performance of the BPD criteria in all patients in our sample, including those with a low likelihood of having BPD. When clinicians screen for disorders that are comorbid with the principal diagnosis, they do not screen for all possible disorders as there are too many to cover. Rather, clinicians screen for those disorders that are relatively common and might have an impact on treatment recommendations. With regard to a screen for BPD, it is of greatest importance to examine how it performs in patients with mood disorders. The relationship between BPD and mood disorders, especially bipolar disorder, has been the subject of longstanding empirical study and debate.^{26–39} Because of the phenomenological overlap between BPD and mood disorders, it is possible that the affective instability criterion will not perform as well in patients with a mood disorder as in patients without a mood disorder. If true, this would render this criterion as a screen for BPD less clinically useful.

Accordingly, in the present report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project, we examined the operating characteristics of the *DSM-IV* BPD criteria in patients with MDD and bipolar disorder. Because patients with mood disorders, by definition, have a dysregulation in their mood, we hypothesized that the false positive rate of the affective instability criterion would be higher in patients with a principal diagnosis of MDD or bipolar disorder compared to patients with other principal diagnoses, thus resulting in lower specificity. We also hypothesized that the BPD screen would have a lower negative predictive value in the patients

with MDD and bipolar disorder compared to patients with other diagnoses because the prevalence of BPD is higher in patients with mood disorders compared to patients without mood disorders.

METHODS

The Rhode Island MIDAS project represents an integration of research methodology into a community-based outpatient practice affiliated with an academic medical center.⁴⁰ A comprehensive diagnostic evaluation is conducted upon presentation 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 2,000 patients enrolled in the study. Patients were most frequently referred from primary care physicians (29.7%), psychotherapists (17.4%), and family members or friends (17.7%). The Rhode Island Hospital institutional review committee approved the research protocol, and all patients provided informed, written consent.

The sample examined in the present report was derived from the 3,800 psychiatric outpatients evaluated with semistructured diagnostic interviews from December 1995 to April 2014. Patients were interviewed by a diagnostic rater who administered a modified version of the Structured Clinical Interview for *DSM-IV* (SCID)⁴¹ and the BPD section of the Structured Interview for *DSM-IV* Personality (SIDP-IV).⁴² During the course of the study, the assessment battery changed. The evaluation of BPD did not begin until after the project began and the first 90 patients had been evaluated. Also, due to time constraints, the complete evaluation was sometimes not conducted, and 36 patients were not fully assessed for BPD. This left a final sample of 3,674 patients.

The diagnostic raters were highly trained and monitored throughout the project to minimize rater drift. The diagnostic raters included PhD-level psychologists and research assistants with college degrees in the social or biological sciences. Research assistants received 3 to 4 months of training during which they observed at least 20 interviews, and they were observed and supervised in their administration of more than 20 evaluations. Psychologists observed only 5 interviews, and they were observed and supervised in their administration of 15 to 20 evaluations. During the training, the senior author (M.Z.) met with each rater to review the interpretation of every item on the SCID. Also during training, every interview was reviewed on an item-by-item basis by the senior rater who observed the evaluation. At the end of the training period, the raters were required to demonstrate exact, or near exact, agreement with a senior diagnostician on 5 consecutive evaluations. Throughout the MIDAS project, ongoing supervision of the raters consisted of weekly diagnostic case conferences

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Table 1. Questions on the Structured Interview for DSM-IV Personality (SIDP-IV) Used to Assess the Borderline Personality Disorder Criterion of Affective Instability

Has anyone ever told you that your moods seem to change a great deal? IF YES: What did they say?
Do you often have days when your mood changes a great deal—days when you shift back and forth from feeling like your usual self, to feeling angry or depressed or anxious? IF YES: How intense are your mood swings? How often does this happen in a typical week? How long do the moods last?

involving all members of the team. In addition, every case was reviewed by the senior author.

The reliability of assessing the individual BPD criteria was examined in 47 patients. The mean of the κ coefficients of agreement was 0.71, ranging from $\kappa=0.56$ (recurrent suicidal behavior or self-injury) to $\kappa=0.83$ (stress-related paranoia or dissociation). The reliability of the affective instability criterion was 0.79. The questions on the SIDP-IV assessing the affective instability criterion are listed in Table 1.

Statistical Analysis

We computed the sensitivity, specificity, and positive and negative predictive values of each of the 9 BPD criteria. Because the focus is on screening for a disorder, rather than diagnosis, we were most interested in each criterion's sensitivity (ie, likelihood that a patient with BPD had the criterion) and negative predictive value (ie, likelihood that a patient who does not have the criterion is not diagnosed with BPD). A symptom or diagnostic criterion functions well as a screen if almost all patients with the disorder have the symptom (ie, high sensitivity) and almost all patients who screen negative do not have the disorder (ie, high negative predictive value). For screening purposes, having high positive predictive value (ie, high likelihood of having the disorder if the criterion is present) is less critical because the quick screen is expected to be followed by a more thorough diagnostic evaluation. We examined the operating characteristics of the BPD criteria in 3 nonoverlapping groups of patients: patients with a principal diagnosis of MDD, patients with a principal diagnosis of bipolar disorder, and all remaining patients.

RESULTS

The data in Table 2 show that the majority of the patients were female, white, and high school graduates. The most common principal diagnoses were MDD (33.4%), adjustment disorder (5.7%), bipolar disorder (5.6%), generalized anxiety disorder (4.6%), and panic disorder (4.5%). The frequency of BPD was 10.6% ($n=390$) in the total sample. The frequency of BPD was highest in the patients with bipolar disorder (29.1%), next highest in the patients with MDD (11.3%), and lowest in the patients with other principal diagnoses (8.3%).

The sensitivity of the affective instability criterion was greater than 90% in patients with MDD, bipolar disorder,

Table 2. Demographic and Clinical Characteristics of 3,674 Psychiatric Outpatients^a

Characteristic	Value
Sex	
Female	2,212 (60.2)
Male	1,460 (39.8)
Education	
< 12 years	280 (7.6)
High school graduate or GED	1,904 (51.8)
College graduate	1,487 (40.5)
Marital status	
Married	1,491 (40.6)
Living with someone	234 (6.4)
Widowed	59 (1.6)
Separated	188 (5.1)
Divorced	521 (14.2)
Never married	1,179 (32.1)
Race	
White	3,201 (87.1)
Black	154 (4.2)
Hispanic	99 (2.7)
Asian	38 (1.0)
Other	180 (4.9)
Age, mean (SD), y	38.76 (13.4)

^aValues are shown as n (%) unless otherwise noted. Data were missing for the following variables: education ($n=3$), marital status ($n=2$), race ($n=2$), sex ($n=2$), and age ($n=1$).

Abbreviation: GED = General Education Development certificate.

or other diagnoses (Table 3). Of the 9 BPD criteria, the affective instability criterion achieved the highest sensitivity in all 3 patient groups. Likewise, the affective instability criterion achieved the highest negative predictive value in all 3 patient groups. The negative predictive value of the affective instability criterion was more than 98% in patients with MDD and patients in the other diagnoses group. The negative predictive value was a little lower (94%) in the patients with bipolar disorder.

DISCUSSION

We previously suggested¹⁸ that the assessment of affective instability could function as a screen for BPD because we found its sensitivity was nearly 93% and its negative predictive value was 99% in a large sample of psychiatric patients with varied diagnoses. The high sensitivity indicated that almost all patients with BPD would screen positive, and the high negative predictive value indicated that few patients who screened negative had the disorder (and would therefore be missed by the screen). However, our previous report failed to take into account that clinicians do not screen for all comorbid disorders for all patients. Rather, clinicians rely, in part, on their knowledge of comorbidity patterns in determining which disorders to screen for. We therefore undertook the present analysis to examine the operating characteristics of the BPD criteria in the more diagnostically homogeneous groups of mood disorder patients because these disorders are among the most common in patients with BPD.^{16,17,43}

The results of the present large study of psychiatric outpatients indicated that inquiry about affective instability functions very well as a clinically useful screen for BPD

Table 3. Sensitivity and Specificity of the Criteria for Borderline Personality Disorder in 3,674 Psychiatric Outpatients

Variable	Sensitivity, %	Specificity, %	Positive Predictive Value, %	Negative Predictive Value, %
All Patients (N = 3,674)^a				
Avoid abandonment (n = 219)	34.7	97.4	61.6	92.6
Unstable relationships (n = 577)	78.2	91.7	52.9	97.3
Identity disturbance (n = 532)	72.6	92.4	53.2	96.6
Impulsivity (n = 698)	66.7	86.7	37.2	95.6
Suicidality/self-injury (n = 393)	54.0	94.4	53.4	94.5
Affective instability (n = 956)	92.8	81.9	37.9	99.0
Emptiness (n = 912)	76.2	81.3	32.6	96.6
Anger (n = 897)	84.4	82.7	36.7	97.8
Stress-induced paranoia/dissociation (n = 348)	52.1	95.6	58.3	94.4
Major Depressive Disorder (n = 1,221)^b				
Avoid abandonment (n = 76)	29.2	96.8	55.3	91.1
Unstable relationships (n = 205)	73.6	90.8	51.7	96.3
Identity disturbance (n = 197)	72.9	91.4	53.3	96.2
Impulsivity (n = 222)	66.0	88.2	42.8	95.1
Suicidality/self-injury (n = 140)	47.2	93.3	48.6	93.0
Affective instability (n = 329)	91.0	81.6	39.8	98.5
Emptiness (n = 431)	87.5	71.7	29.2	97.7
Anger (n = 310)	83.3	82.3	38.7	97.4
Stress-induced paranoia/dissociation (n = 117)	47.2	95.4	58.1	93.1
Bipolar Disorder (n = 166)^c				
Avoid abandonment (n = 24)	34.0	94.0	70.8	76.8
Unstable relationships (n = 62)	76.0	79.3	61.3	88.5
Identity disturbance (n = 55)	74.0	84.5	67.3	88.3
Impulsivity (n = 58)	68.0	79.3	58.6	85.2
Suicidality/self-injury (n = 46)	56.0	84.5	60.9	81.7
Affective instability (n = 99)	93.0	54.3	46.5	94.0
Emptiness (n = 83)	84.0	64.7	50.6	90.4
Anger (n = 75)	86.0	72.2	57.3	92.2
Stress-induced paranoia/dissociation (n = 46)	64.0	87.9	69.6	85.0
No Major Depressive/Bipolar Disorder (n = 2,287)^d				
Avoid abandonment (n = 119)	38.8	97.9	63.9	94.5
Unstable relationships (n = 310)	82.1	92.9	51.9	98.2
Identity disturbance (n = 280)	71.9	93.3	50.4	97.3
Impulsivity (n = 418)	66.8	86.3	31.3	96.5
Suicidality/self-injury (n = 207)	58.5	95.5	55.1	96.1
Affective instability (n = 528)	92.8	81.9	37.9	99.0
Emptiness (n = 398)	65.8	87.1	32.4	96.5
Anger (n = 512)	84.7	83.4	32.4	98.3
Stress-induced paranoia/dissociation (n = 185)	52.6	96.1	55.7	95.6

^aMissing data as follows: avoid abandonment (n = 1), unstable relationships (n = 2), identity disturbance (n = 8), affective impulsivity (n = 2), suicidality/self-injury (n = 4), anger (n = 5), stress-induced paranoia/dissociation (n = 1).

^bMissing data as follows: identity disturbance (n = 3), suicidality/self-injury (n = 1), anger (n = 2), stress-induced paranoia/dissociation (n = 1).

^cMissing data as follows: anger (n = 1).

^dMissing data as follows: avoid abandonment (n = 1), unstable relationships (n = 2), identity disturbance (n = 5), affective impulsivity (n = 2), suicidality/self-injury (n = 3), anger (n = 2).

in patients with MDD and in patients without MDD or bipolar disorder. The results were only slightly less favorable for bipolar disorder. In patients with bipolar disorder, the sensitivity of the affective instability criterion was high (93.0%), and thus most patients with BPD would be picked up by the screen. The negative predictive value, though, dropped from 99% in patients without bipolar disorder to 94% in patients with bipolar disorder. Nonetheless, the vast majority of patients with bipolar disorder who screened negative would not be diagnosed with BPD.

In the Introduction, we noted that a problem in diagnosing BPD is that patients do not present for treatment with a chief complaint of abandonment fears, chronic

feelings of emptiness, or an identity disturbance. However, they sometimes do complain of “mood swings.” As noted by Paris and Black,¹² the failure to distinguish the brief shifts in mood in response to interpersonal stressors characteristic of BPD from the more sustained changes in mood characteristic of bipolar disorder can result in diagnostic error. The results of the present study were encouraging in indicating that assessing affective instability is an effective approach toward screening for BPD in patients with bipolar disorder. Improving the recognition of BPD in patients with MDD and bipolar disorder is clinically important because BPD is associated with increased rates of suicide attempts and unemployment in these diagnostic groups.^{44–47}

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In clinical practice, clinicians typically first establish a patient's principal diagnosis and then conduct a psychiatric review of systems in which they inquire about the necessary criterion of various disorders. The present study is consistent with the results of other studies^{19–25} which have found that affective instability is the most frequent of the BPD criteria and is present in more than 90% of patients with BPD.

A concern, though, is whether there might be a false positive problem. That is, might patients who are experiencing a mood disorder episode overreport affective instability, and could this result in overdiagnosing BPD? In considering this concern, it is important to emphasize the difference between screening for a disorder and diagnosing a disorder. We are not suggesting that the diagnosis of BPD can be abbreviated to an assessment of the presence or absence of affective instability. The positive predictive value of the affective instability criterion was below 50% in all diagnostic groups, thereby indicating that the majority of patients who reported this criterion were not diagnosed with BPD. In fact, the data in Table 3 show that the positive predictive value of the affective instability criterion was among the lowest of the BPD criteria. When a disorder is screened for, most individuals who screen positive will not have the disorder after the costly diagnostic procedure is performed. In the case of BPD, the more “expensive,” definitive, diagnostic procedure amounts to an assessment of the other diagnostic criteria for BPD. While the positive predictive value was less than 50%, the negative predictive value of the affective instability criterion was well over 90%. Other studies^{19,20,23–25} have likewise found a negative predictive value well above 90%. A clinician can therefore be highly confident in ruling out a diagnosis of BPD in patients who do not report affective instability.

If the goal was to identify the criterion that, when present, was most likely to result in a patient's being diagnosed with BPD, then avoiding abandonment performed as the best criterion. The data in Table 3 show that more than two-thirds of the patients with bipolar disorder who reported abandonment fears were diagnosed with BPD and that across all patients this criterion had a positive predictive value of more than 60%. However, the sensitivity of this criterion was the lowest of the 9 BPD criteria. If the abandonment fears criterion was used as the gate criterion, approximately two-thirds of the patients with BPD would be missed because this criterion's sensitivity was only 35%. However, clinicians should keep in mind that when patients discuss relationship problems, are distressed about the possibility of their partner leaving them, and describe excessive efforts taken to prevent their partner from leaving, then the suspicion of a diagnosis of BPD should be heightened. To be sure, not all patients who described abandonment fears were diagnosed with BPD—but the majority were (and the rate was highest in the patients with bipolar disorder).

Screening for the affective instability criterion involves more than asking a single question. Table 1 shows that

several questions are used on the SIDP-IV to assess this criterion. Similarly, other semistructured interviews use multiple questions to assess this criterion. For example, on the SCID,⁴¹ the interviewer first inquires if the patient is a moody person. Patients who respond in the affirmative are asked to elaborate (“Tell me about that. How long do your bad moods last? How often do these mood changes happen? How suddenly do your moods change?”). On the Diagnostic Interview for Personality Disorders,⁴⁸ patients are asked, “Have you often found that your mood has changed suddenly (eg, from feeling OK to feeling really sad or very irritable or extremely anxious)? How about from feeling OK to feeling enraged, panicked, or totally despairing? Have you had a lot of mood changes? Have you been told that you're a moody person? [IF YES TO ANY OF ABOVE] Do these mood changes typically last only a few hours to a few days?” Thus, semistructured personality disorder interviews assess affective instability by inquiring about mood swings, the frequency of such mood swings, and the duration of the mood swings.

A limitation of the present study was that it was based on a sample of patients presenting for outpatient treatment to a single clinical practice in which the majority of the patients were white and female and had health insurance. The generalizability of any single-site study is limited. However, a strength of the study was that the patients were unselected with regards to meeting any inclusion or exclusion criteria. The MIDAS project includes patients with a variety of diagnoses and does not select cases that are prototypical, and thus more severe variants, of the diagnostic construct. Further confidence in the validity of the results comes from their consistency with other studies of the diagnostic efficiency statistics of the BPD criteria,^{19,20,23–25} which found that the affective instability criterion had a sensitivity above 90% and a negative predictive value above 95%.

Other strengths of the study are the large sample size and the use of highly trained diagnostic interviewers to reliably administer semistructured diagnostic interviews. The findings were based on retrospective reports of patients at the time they were seeking treatment. State effects could have biased the assessment; however, there is research⁴⁹ supporting the validity of personality disorder assessment in currently depressed patients. While state effects may result in some false positive screens, false positive results, as noted previously in this section, are expected during screening assessments. The screening test is the first stage of a 2-stage assessment, and the intent is to cast a broad enough net to ensure that all patients with the disorder of interest are captured in that net. In the statistical terms of testing, a screening procedure should have high sensitivity. The second stage is the more definitive diagnostic evaluation. It is important for a screening test to have high sensitivity because the more time intensive/expensive follow-up diagnostic inquiry will presumably occur only in patients who are positive on the initial screen. The examination following the screening test is intended to distinguish between false positives and true positives.

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In conclusion, BPD is one of the most impairing and life threatening of psychiatric disorders, and it is often underdiagnosed. We recommend that clinicians screen for BPD in the same way that they screen for other psychiatric disorders by inquiring about the single feature of the disorder that is present in most patients with the disorder and the

absence of which effectively rules out the disorder. The psychometric properties of the affective instability criterion of BPD suggest that it can function as such a screening criterion in patients with MDD and bipolar disorder, and thus it should be added to a psychiatric review of systems for patients presenting for the treatment of a mood disorder.

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REFERENCES

1. Bellino S, Patria L, Paradiso E, et al. Major depression in patients with borderline personality disorder: a clinical investigation. *Can J Psychiatry*. 2005;50(4):234–238.
2. Skodol AE, Gunderson JG, McGlashan TH, et al. Functional impairment in patients with schizotypal, borderline, avoidant, or obsessive-compulsive personality disorder. *Am J Psychiatry*. 2002;159(2):276–283.
3. Gunderson JG, Stout RL, McGlashan TH, et al. Ten-year course of borderline personality disorder: psychopathology and function from the Collaborative Longitudinal Personality Disorders study. *Arch Gen Psychiatry*. 2011;68(8):827–837.
4. Zanarini MC, Jacoby RJ, Frankenburg FR, et al. The 10-year course of social security disability income reported by patients with borderline personality disorder and Axis II comparison subjects. *J Pers Disord*. 2009;23(4):346–356.
5. Grant BF, Chou SP, Goldstein RB, et al. Prevalence, correlates, disability, and comorbidity of DSM-IV borderline personality disorder: results from the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry*. 2008;69(4):533–545.
6. Bender DS, Dolan RT, Skodol AE, et al. Treatment utilization by patients with personality disorders. *Am J Psychiatry*. 2001;158(2):295–302.
7. Zanarini MC, Frankenburg FR, Hennen J, et al. Mental health service utilization by borderline personality disorder patients and Axis II comparison subjects followed prospectively for 6 years. *J Clin Psychiatry*. 2004;65(1):28–36.
8. Pompili M, Girardi P, Ruberto A, et al. Suicide in borderline personality disorder: a meta-analysis. *Nord J Psychiatry*. 2005;59(5):319–324.
9. Oldham JM. Borderline personality disorder and suicidality. *Am J Psychiatry*. 2006;163(1):20–26.
10. Black DW, Blum N, Pfohl B, et al. Suicidal behavior in borderline personality disorder: prevalence, risk factors, prediction, and prevention. *J Pers Disord*. 2004;18(3):226–239.
11. Comtois KA, Carmel A. Borderline personality disorder and high utilization of inpatient psychiatric hospitalization: concordance between research and clinical diagnosis. *J Beh Health Serv Res*. 2016;43(2):272–280.
12. Paris J, Black DW. Borderline personality disorder and bipolar disorder: what is the difference and why does it matter? *J Nerv Ment Dis*. 2015;203(1):3–7.
13. Zimmerman M, Mattia JJ. Differences between clinical and research practices in diagnosing borderline personality disorder. *Am J Psychiatry*. 1999;156(10):1570–1574.
14. Magnavita JJ, Critchfield KL, Levy KN, et al. Ethical considerations in treatment of personality dysfunction: using evidence, principles, and clinical judgment. *Prof Psychol Res Pr*. 2010;41:64–74.
15. Zanarini MC, Gunderson JG, Frankenburg FR. Axis I phenomenology of borderline personality disorder. *Compr Psychiatry*. 1989;30(2):149–156.
16. Zimmerman M, Mattia JJ. Axis I diagnostic comorbidity and borderline personality disorder. *Compr Psychiatry*. 1999;40(4):245–252.
17. Zimmerman M, Chelminski I, Dalrymple K, et al. Principal diagnoses in psychiatric outpatients with borderline personality disorder: Implications for screening recommendations. *Ann Clin Psychiatry*. 2017;29(1):54–60.
18. Zimmerman M, Multach MD, Dalrymple K, et al. Clinically useful screen for borderline personality disorder in psychiatric outpatients. *Br J Psychiatry*. 2017;210(2):165–166.
19. Farmer RF, Chapman AL. Evaluation of DSM-IV personality disorder criteria as assessed by the structured clinical interview for DSM-IV personality disorders. *Compr Psychiatry*. 2002;43(4):285–300.
20. Grilo CM, Becker DF, Anez LM, et al. Diagnostic efficiency of DSM-IV criteria for borderline personality disorder: an evaluation in Hispanic men and women with substance use disorders. *J Consult Clin Psychol*. 2004;72(1):126–131.
21. Korfine L, Hooley JM. Detecting individuals with borderline personality disorder in the community: an ascertainment strategy and comparison with a hospital sample. *J Pers Disord*. 2009;23(1):62–75.
22. Leppänen V, Lindeman S, Arntz A, et al. Preliminary evaluation of psychometric properties of the Finnish Borderline Personality Disorder Severity Index: Oulu-BPD-Study. *Nord J Psychiatry*. 2013;67(5):312–319.
23. Pfohl B, Coryell W, Zimmerman M, et al. DSM-III personality disorders: diagnostic overlap and internal consistency of individual DSM-III criteria. *Compr Psychiatry*. 1986;27(1):21–34.
24. Reich J. Criteria for diagnosing DSM-III borderline personality disorder. *Ann Clin Psychiatry*. 1990;2:189–197.
25. Nurnberg H, Raskin M, Levine P, et al. Hierarchy of DSM-III-R criteria efficiency for the diagnosis of borderline personality disorder. *J Pers Disord*. 1991;5:211–224.
26. Gunderson JG, Phillips KA. A current view of the interface between borderline personality disorder and depression. *Am J Psychiatry*. 1991;148(8):967–975.
27. Parker G. Is borderline personality disorder a mood disorder? *Br J Psychiatry*. 2014;204:252–253.
28. Zimmerman M, Morgan TA. The relationship between borderline personality disorder and bipolar disorder. *Dialogues Clin Neurosci*. 2013;15(2):155–169.
29. Barroilhet S, Vöhringer PA, Ghaemi SN. Borderline versus bipolar: differences matter. *Acta Psychiatr Scand*. 2013;128(5):385–386.
30. Ghaemi SN, Barroilhet S. Confusing borderline personality with severe bipolar illness. *Acta Psychiatr Scand*. 2015;132(4):281–282.
31. Bayes AJ, Parker GB. Clinical vs DSM diagnosis of bipolar disorder, borderline personality disorder and their co-occurrence. *Acta Psychiatr Scand*. 2017;135(3):259–265.
32. Parker G, Bayes A, McClure G, et al. Clinical status of comorbid bipolar disorder and borderline personality disorder. *Br J Psychiatry*. 2016;209(3):209–215.
33. Tyrer P. Borderline hits the diagnostic buffers again. *Bipolar Disord*. 2017;19(7):599–600.
34. Ghaemi SN. Bipolar vs borderline: diagnosis is prognosis once again. *Acta Psychiatr Scand*. 2016;133(3):171–173.
35. McDermid J, McDermid RC. The complexity of bipolar and borderline personality: an expression of 'emotional frailty'? *Curr Opin Psychiatry*. 2016;29(1):84–88.
36. Bayes A, Parker G, Fletcher K. Clinical differentiation of bipolar II disorder from borderline personality disorder part of the bipolar spectrum? *Harv Rev Psychiatry*. 2014;27(1):14–20.
37. Parker G. Borderline personality disorder and bipolar disorder: commentary on Paris and Black. *J Nerv Ment Dis*. 2015;203(1):13–14.
38. Smith DJ, Muir WJ, Blackwood DH. Is borderline personality disorder part of the bipolar spectrum? *Harv Rev Psychiatry*. 2004;12(3):133–139.
39. Birnbaum RJ. Borderline, bipolar, or both? *Harv Rev Psychiatry*. 2004;12(3):146–149.
40. Zimmerman M. A review of 20 years of research on overdiagnosis and underdiagnosis in the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) Project. *Can J Psychiatry*. 2016;61(2):71–79.
41. First MB, Spitzer RL, Gibbon M, et al. *Structured Clinical Interview for DSM-IV Axis I Disorders - Patient edition (SCID-I/P, version 2.0)*. New York, NY: Biometrics Research Department, New York State Psychiatric Institute; 1995.
42. Pfohl B, Blum N, Zimmerman M. *Structured Interview for DSM-IV Personality*. Washington, DC: American Psychiatric Press, Inc.; 1997.
43. Zanarini MC, Frankenburg FR, Dubo ED, et al. Axis I comorbidity of borderline personality disorder. *Am J Psychiatry*. 1998;155(12):1733–1739.
44. Galione J, Zimmerman M. A comparison of depressed patients with and without borderline personality disorder: implications for interpreting studies of the validity of the bipolar spectrum. *J Pers Disord*. 2010;24(6):763–772.
45. Zimmerman M, Martinez J, Young D, et al. Comorbid bipolar disorder and borderline personality disorder and history of suicide attempts. *J Pers Disord*. 2014;28(3):358–364.
46. Yen S, Frazier E, Hower H, et al. Borderline personality disorder in transition age youth with bipolar disorder. *Acta Psychiatr Scand*. 2015;132(4):270–280.
47. Neves FS, Malloy-Diniz LF, Corrêa H. Suicidal behavior in bipolar disorder: what is the influence of psychiatric comorbidities? *J Clin Psychiatry*. 2009;70(1):13–18.
48. Zanarini MC, Frankenburg FR, Chauncey DL, et al. The diagnostic Interview for Personality Disorders: interrater and test-retest reliability. *Compr Psychiatry*. 1987;28(6):467–480.
49. Morey LC, Shea MT, Markowitz JC, et al. State effects of major depression on the assessment of personality and personality disorder. *Am J Psychiatry*. 2010;167(5):528–535.