ORIGINAL INVESTIGATION

Borderline Personality Disorder in Primary Care

Raz Gross, MD, MPH; Mark Olfson, MD, MPH; Marc Gameroff, MA; Steven Shea, MD; Adriana Feder, MD; Milton Fuentes, PsyD; Rafael Lantigua, MD; Myrna M. Weissman, PhD

Background: Borderline personality disorder (BPD) is a severe and chronic psychiatric disorder characterized by marked impulsivity, instability of affect and interpersonal relationships, and suicidal behavior that can complicate medical care. Few data are available on its prevalence or clinical presentation outside of specialty mental health care settings.

Methods: We examined data from a survey conducted on a systematic sample (N=218) from an urban primary care practice to study the prevalence, clinical features, comorbidity, associated impairment, and rate of treatment of BPD. Psychiatric assessments were conducted by mental health professionals using structured clinical interviews.

Results: Lifetime prevalence of BPD was 6.4% (14/218 patients). The BPD group had a high rate of current suicidal ideation (3 patients [21.4%]), bipolar disorder (3 [21.4%]), and major depressive (5 [35.7%]) and anxiety (8 [57.1%]) disorders. Half of the BPD patients reported not receiving mental health treatment in the past year and nearly as many (6 [42.9%]) were not recognized by their primary care physicians as having an ongoing emotional or mental health problem.

Conclusions: The prevalence of BPD in primary care is high, about 4-fold higher than that found in general community studies. Despite availability of various pharmacological and psychological interventions that are helpful in treating symptoms of BPD, and despite the association of this disorder with suicidal ideation, comorbid psychiatric disorders, and functional impairment, BPD is largely unrecognized and untreated. These findings are also important for the primary care physician, because unrecognized BPD may underlie difficult patient-physician relationships and complicate medical treatment.

Arch Intern Med. 2002;162:53-60

From the Division of Clinical and Genetic Epidemiology, Department of Psychiatry (Drs Gross, Olfson, Feder, Fuentes, and Weissman and Mr Gameroff), the Division of General Medicine, Department of Medicine (Drs Shea, Feder, and Lantigua), College of Physicians and Surgeons, and the Department of Epidemiology, Mailman School of Public Health (Drs Gross, Shea, and Weissman), Columbia University, and New York State Psychiatric Institute (Drs Olfson and Weissman), New York, NY.

BORDERLINE personality disorder (BPD) is a severe and chronic disorder characterized by a pervasive instability of affect and interpersonal relationships, marked impulsivity, and high frequency of comorbid anxiety and mood disorders. Patients with BPD are at risk for suicide, repetitive self-destructive behaviors, and substance use disorders and sustain clinically significant distress and impairment.[1-6]

Although patients with BPD have often been described by primary care physicians as difficult, demanding, manipulative, noncompliant, disruptive, and the "most psychologically challenging patients a primary care physician ever encounters,"[7-10] few published data exist on the epidemiology and clinical features of BPD in primary care. Most available studies were conducted in psychiatric patients, where the average prevalence of BPD across studies ranges from 8% to 27% for outpatients and 15% to 51% for inpatients.[11] The reported prevalence in the few published community studies ranges from 0.4% to 2%, with a median of 1.6%.[11,12]

We found only 3 studies that assessed the prevalence of BPD in a primary care or general practice setting. Sansone et al[13,14] reported a 20% prevalence of symptoms suggestive of BPD measured by means of the Personality Diagnostic Questionnaire–Revised among women aged 17 to 52 years. Hueston et al[15] reported a 26% prevalence of BPD in patients of a family practice clinic, according to a self-administered Structured Clinical Interview for *DSM-III-R* (*Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition*) Personality Disorders, and Parsons[16] found a BPD prevalence rate of 18.5% among attendees of primary health centers in England using the Diagnostic Interview Schedule–Borderline Index. None of the studies used a probability sample. Sansone et al[13,14] and Parsons[16] measured BPD using instruments known to overdiagnose personality disorders,[17-20] and

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

PATIENTS AND METHODS

SETTING

These data derive from a general medicine practice–based study that was conducted at the Associates in Internal Medicine, the faculty and resident group practice of the Division of General Medicine at the College of Physicians and Surgeons, Columbia University, New York, NY.[21] The practice serves approximately 18 000 patients each year.

SAMPLE

We performed the study in 2 phases. In the first phase, described in detail elsewhere,[21] a systematic sample of consecutive adult primary care patients with scheduled appointments was invited to participate in the study. Eligible patients included those who were aged 18 to 70 years, made at least 1 previous visit to the clinic, could speak and understand English or Spanish, and were scheduled for face-to-face contact with their primary care physician. Patients were excluded from the study if their current general health status prohibited completion of survey forms and if assessment results showed them to be highly suicidal.

A total of 1264 patients met study eligibility criteria, and 1005 (79.5%) consented to participate. Study participants were slightly younger than eligible nonparticipants. A random subsample of patients from the first study phase was selected to participate in the second phase. The selected and nonselected patients did not differ in their sociodemographic characteristics. Most of the selected patients (82.3%) agreed to participate in the second phase. Those who refused did not significantly differ with respect to sex, race or ethnicity, family income, and mean age, but had lower educational attainment.

The institutional review board of the Department of Medicine, College of Physicians and Surgeons, approved the study protocol, and all the study participants signed informed consent.

MEASUREMENTS

At study intake, patients completed a sociodemographic questionnaire, 5-point self-rated physical and emotional health measures (excellent, very good, good, fair, and poor), sections from the Patient Health Questionnaire, the self-report version of the Primary Care Evaluation of Mental Disorders, including an item for suicidal ideation, to determine whether the patient had "thoughts that you would be better off dead or of hurting yourself in any way" for at least several days in the past 2 weeks.[22] Current and lifetime psychotic symptoms were assessed using the psychotic symptoms section of the Mini-International Neuropsychiatric Interview, a structured diagnostic interview that has been used in primary care populations.[23] It consists of 8 questions on delusions (eg, "Have you ever believed that people were spying on you?") and 2 on hallucinations (eg, "Have you ever heard/seen things other people couldn't hear/see?"). The Mini-International Neuropsychiatric Interview also specifies whether a person has current psychotic symptoms.

Disability was measured using the 10-point self-rated family life/home responsibilities and social life subscales from the Sheehan Disability Scale (0 indicates none; 1-3, mild disability; 4-6, moderate; 7-9, marked; and 10, extreme).[24,25] Patients were also asked about professional mental health treatment and prescriptions and psychiatric hospital admissions. Data on number of visits to the general medicine practice were obtained through linkage to the computerized medical records database.

Psychiatric diagnoses were ascertained using the Structured Clinical Interview updated to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*)

Hueston et al[15] relied on self-report, a more limited approach compared with clinical interviews, in which responses may be affected substantially by other relatively common psychiatric symptoms such as depression and anxiety.[11] Thus, the high rates of BPD in these studies, which resemble the high end of the BPD prevalence range reported from psychiatric outpatient settings, may be due to selection biases and measurement problems. In addition, none of the available primary care studies collected comprehensive data on comorbid psychiatric disorders and symptoms, functioning, and treatment rates of patients with BPD.

We examined data from a cross-sectional survey of randomly sampled patients in an urban general medicine practice. Assessment included a structured clinical interview for BPD administered by trained mental health professionals to determine the prevalence of BPD in this primary care population and to examine the association between BPD and other mental disorders, suicidal ideation, impairment, and mental health treatment. More specifically, we asked whether substantial numbers of patients in primary care had BPD; whether they are functionally impaired; whether their burden of disease is similar to that of patients with other major mental disorders; and what proportion of these patients are clinically recognized and receive mental health treatment.

RESULTS

LIFETIME PREVALENCE OF BPD AND SOCIODEMOGRAPHIC CHARACTERISTICS

Of the 218 patients interviewed, 14 (6.4%) met *DSM-IV* criteria for BPD. Patients with BPD were similar to the comparison patient and control groups in terms of their age, ethnicity, marital status, education, and household income. More specifically, 142 patients (69.3%) were of Hispanic ancestry; mean age was 53.5 years; 175 (85.3%) reported an annual household income of less than $12 000; and 62 (30.2%) were married or living with a partner. Sex was the only sociodemographic variable found to be significantly different between the study groups ($\chi^2_2 = 7.38$; $P = .02$). Specifically, significantly more patients with other psychiatric disorders were female (40 patients [90.2%]) compared with BPD patients or controls (11 [78.6%] and 100 [71.4%], respectively). Therefore, all statistics in-

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

criteria for BPD[26] and sections from the second version (2.1) of the Composite International Diagnostic Interview (CIDI).[27] The CIDI is a fully structured psychiatric diagnostic interview with acceptable validity and reliability[28] used in primary care research.[29] It maps the symptoms elicited during the interview onto *DSM-IV* and *International Classification of Diseases, 10th Revision* diagnostic criteria. The sections included in this study covered most major adult mental disorders. We used the following 3 self-report measures of functional capacity: the Medical Outcomes 36-item Short-Form Health Survey (SF-36),[30,31] which has been used extensively to evaluate functional status in primary care patients and to assess the effects of mental disorders on functioning[32,33]; the Social Adjustment Scale–Self-report, a widely used survey that measures 5 major areas of functioning (work, social and leisure activities, relationships with extended family, and marital and parental roles)[34]; and the Social Adaptation Self-evaluation Scale, a 21-item scale that measures patients' social motivation and behavior.[35] All 3 scales were included, as they appear to measure somewhat different aspects of functioning.[36]

A 1-page physician encounter form, a modification of the instrument used in the World Health Organization Collaborative Study on Psychological Problems in General Health Care project,[29] provided physician-rated current physical and emotional health on a 5-point scale (1 indicates poor; 2, fair; 3, good; 4, very good; and 5, excellent) and information on prescribed psychotropic medications and ongoing medical problems.

Because the clinic serves a large Hispanic population, all data forms were translated from English to Spanish and back-translated by different clinicians. Both versions were then compared for discrepancies and discussed in a consensus meeting. Much attention was given to maintaining the cultural equivalency of the constructs being measured. Interviews were conducted by a bilingual team of trained mental health care professionals.

ANALYTIC STRATEGY

The sample was cross-tabulated into 3 mutually exclusive groups. The first group consisted of all patients with BPD. The second group included patients who had other current mental disorders according to the CIDI. The third group included patients who did not have any current disorders (normal controls). We included patients with other mental disorders as a comparison group because of the high rates of comorbid mental disorders usually found in patients with BPD.[4,5] Only patients who completed all the CIDI sections were included in the final analysis (n=205). All 14 patients with BPD had complete CIDI data.

Data obtained using 5-point Likert scales (1 indicates poor; 5, excellent) were analyzed as categorical (poor or fair vs good, very good, or excellent). The 20-point Sheehan Disability Scale data were also analyzed as categorical (none vs any disability).

We computed between-group comparisons involving proportions using the χ^2 and Fisher exact tests. Logistic regression models (with normal controls as the reference group) were used to compute adjusted (for sex) tests of significance, odds ratios, and 95% confidence intervals. Comparisons involving means were computed by means of a 2-way (study group and sex) analysis of variance. For data skewed owing to outliers (level of education and number of primary care clinic visits), we used a nonparametric method (the Kruskal-Wallis test) that makes much weaker assumptions about the underlying distributions than the normal-theory methods. When results of a test across multiple groups were significant ($P<.05$), we performed pairwise group comparisons.

We set the α level at .05, and all tests were 2-tailed. We used SPSS for Windows software (SPSS Base 9.0; SPSS Inc, Chicago, Ill) to conduct data analysis and statistical tests.

volving the 3 groups were adjusted for sex, as described in the "Analytic Strategy" subsection of the "Patients and Methods" section. There were no statistically significant differences for sex between BPD patients and those with other disorders or between BPD patients and normal controls.

CLINICAL CHARACTERISTICS

Table 1 shows that BPD patients and patients with other mental disorders had significantly higher rates of current suicidal ideation than controls ($\chi^2_2=7.68$; $P=.02$). Ten of the 14 patients with BPD had at least 1 current psychotic symptom, nearly twice as high as and significantly higher than the rate observed for patients with other mental disorders, and 7 times higher than the rate observed for controls. Among patients with at least 1 lifetime psychotic symptom, the mean number of lifetime psychotic symptoms per patient in the BPD group was also significantly greater than that of controls ($F_{2,40}=8.01$, $P=.001$).

The most common symptoms in patients with BPD were chronic feelings of emptiness, sudden mood changes, impulsivity, and unstable and intense interpersonal relationships.

PSYCHIATRIC COMORBIDITY

The rate of comorbidity (ie, presence of at least 1 additional current mental disorder) in the BPD group was compared with rates of psychiatric disorders among non-BPD patients who had at least 1 psychiatric disorder. Prevalences of major depression, dysthymic disorder, anxiety, and substance use disorders were similar in both groups. The 3 patients with current bipolar I disorder (manic-depressive illness) also met criteria for BPD (Table 1).

PHYSICIANS' ASSESSMENT

Assessment by physicians found 6 BPD patients (54.5%), 22 patients with other mental disorders (55.0%), and 38 controls (31.9%) with poor or fair current emotional health ($\chi^2_2=7.9$; $P=.04$). Differences between the groups with regard to current physical health were not statistically significant.

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

Table 1. Clinical Characteristics, Borderline Personality Symptoms, Psychiatric Comorbidity, and Primary Care Physicians' Assessment*

Characteristic	Patients With BPD (n = 14)	Patients With Any Other Psychiatric Disorder (n = 51)	Control Subjects (n = 140)	*P* Value
Clinical Characteristics				
Suicidal ideation†	3 (21.4)	10 (19.6)	8 (5.7)	.02
OR (95% CI)	4.34 (0.99-18.91)	3.56 (1.30-9.74)	1.00	
Psychotic symptoms†	10 (71.4)	20 (39.2)	14 (10.0)	<.001
OR (95% CI)	22.46 (6.21-81.26)	5.78 (2.58-12.96)	1.00	
Lifetime psychotic symptoms, mean (SD), No.	4.7 (2.1)	3.1 (1.9)	2.0 (1.8)	<.005
Borderline Personality Symptoms‡				
Chronic emptiness	12 (85.7)	21 (42.9)	16 (11.5)	<.001
Sudden mood changes	10 (71.4)	15 (30.6)	21 (15.1)	<.001
Interpersonal instability	10 (71.4)	6 (12.2)	12 (8.6)	<.001
Impulsivity	10 (71.4)	3 (6.1)	6 (4.3)	<.001
Abandonment fear	9 (64.3)	8 (16.3)	5 (3.6)	<.001
Identity disturbance	9 (64.3)	2 (4.1)	4 (2.9)	<.001
Temper display	9 (64.3)	4 (8.2)	12 (8.6)	<.001
Suspiciousness	8 (57.1)	3 (6.1)	1 (0.7)	<.001
Self-harm§‖	7 (50.0)	2 (4.1)	3 (2.1)	<.001
Psychiatric Comorbidity†				
Major depression	5 (35.7)	22 (44.9)	. . .	.54
Dysthymic disorder	2 (14.3)	8 (16.0)	. . .	>.99‖
Bipolar disorder	3 (21.4)	0	. . .	.008‖
Anxiety disorders¶	8 (57.1)	27 (54.0)	. . .	.84
Substance use disorders#	1 (7.1)	6 (12.5)	. . .	>.99‖
Primary Care Physicians' Assessment				
Poor/fair emotional health	6 (54.5)	22 (55.0)	38 (31.9)	.04
Poor/fair physical health	2 (18.2)	17 (42.5)	38 (31.9)	.30
Emotional problem	6 (54.5)	31 (75.6)	42 (35.6)	<.001
Medical problem	10 (90.9)	39 (97.5)	109 (94.0)	.60

*Values are expressed as number (percentage) unless otherwise indicated. BPD indicates borderline personality disorder; OR, odds ratio; CI, confidence interval; and ellipses, data not applicable. Patients in the "Any Other Psychiatric Disorder" group have at least 1 psychiatric disorder. Borderline personality symptoms data were available for 49 patients with any other psychiatric disorder and 139 control subjects. Psychiatric comorbidity data were available for 50 patients with any other psychiatric disorder. Physicians' assessments were available for 170 patients. All statistics except for Psychiatric Comorbidity are adjusted for sex.

†Current prevalence.

‡Lifetime, using Structured Clinical Interview updated to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.[26]

§Actual or threatened.

‖Based on Fisher exact test.

¶Includes panic disorder, generalized anxiety disorder, social phobia, and simple phobia.

#Includes alcohol and other drug use disorders.

Following physician assessment, only 6 BPD patients (54.5%) were considered to have "active or ongoing emotional or mental problems," compared with 31 patients with other disorders (75.6%), and 42 controls (35.6%) (χ^2_2=19.90; P<.001). Results of physician assessment in most patients (>90%) in each group found ongoing medical problems (Table 1).

PATIENTS' REPORT OF PHYSICAL AND EMOTIONAL HEALTH, FUNCTIONING, AND DISABILITY

Patients with BPD and patients with other disorders had lower self-perceived emotional and physical health than the controls and significantly lower (worse) mean scores on the mental component summary of the SF-36, but not on the physical component summary. On the mental and general health subscales, BPD patients and patients with other disorders had significantly lower scores than controls. Patients with BPD and patients with other disorders were also more likely to report disability on the Sheehan Disability Scale and had higher mean total scores (signifying greater impairment) on the Social Adjustment Scale–Self-report. Specifically, patients with BPD were the most impaired of the 3 study groups in the family unit role area of the Social Adjustment Scale–Self-report. Patients with BPD and patients with other disorders also had lower (worse) scores on the Social Adaptation Self-evaluation Scale compared with controls (**Table 2**).

TREATMENT

The mean number of primary care visits made per year by patients with BPD was significantly lower than that of patients with other mental disorders and marginally lower than that of normal controls. Patients with BPD and those with other disorders reported similar rates of mental health treatment during the past year (7 [50%] and 25 [49%], respectively), compared with 13 (9.3%) in the controls. All patients who reported past-year mental health treatment also reported that they were prescribed psycho-

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

Table 2. Patients' Self-report of Emotional Health, Physical Health, and Functioning and Medical Care*

	Patients With BPD (n = 14)	Patients With Any Other Psychiatric Disorder (n = 51)	Control Subjects (n = 140)	*P* Value
Patients' self-report				
Poor/fair emotional health	11 (78.6)	39 (76.5)	49 (35.0)	<.001
OR (95% CI)	6.74 (1.79-25.36)	5.87 (2.78-12.36)	1.00	
Poor/fair physical health	10 (71.4)	42 (82.4)	83 (59.3)	.04
OR (95% CI)	1.65 (0.49-5.58)	2.82 (1.26-6.32)	1.00	
Any disability†	8 (57.1)	31 (60.8)	36 (25.7)	<.001
OR (95% CI)	3.82 (1.24-11.76)	4.36 (2.19-8.69)	1.00	
SF-36 score, mean (SD)‡				
Mental summary	36.0 (9.7)	37.3 (14.0)	53.1 (11.5)	<.001
Mental health	42.3 (24.2)	42.9 (23.8)	74.1 (20.7)	<.001
Physical summary	35.6 (7.5)	31.5 (10.2)	34.9 (12.0)	.18
General health	31.1 (17.4)	32.8 (22.8)	51.8 (24.0)	<.001
SAS-SR total score, mean (SD)§	2.3 (0.4)	2.3 (0.6)	1.7 (0.3)	<.001
SASS total score, mean (SD)§	36.4 (10.1)	35.3 (8.7)	40.9 (7.6)	<.001
Primary care visits and mental health care				
Visits (per year)	4.1 (2.2)	7.9 (6.4)	6.1 (4.6)	.02‖
Mental health care				
Past year	7 (50.0)	25 (49.0)	13 (9.3)	<.001
Ever	12 (85.7)	36 (70.6)	27 (19.3)	<.001
Hospital admission (ever)	3 (21.4)	11 (21.6)	9 (6.4)	.005

*Values are expressed as number (percentage) unless otherwise indicated. SF-36 indicates Medical Outcome Study 36-item Short-Form Health Survey[30,31]; SAS-SR, Social Adjustment Scale–Self-report[34]; and SASS, Social Adaptation Self-evaluation Scale. SF-36 summary scores were available for 197 patients; SAS-SR summary scores were available for 201 patients. All statistics, except for primary care visits, are adjusted for sex. Other abbreviations are given in the first footnote to Table 1.

†Measured using the Sheehan Disability Scale.[24,25]

‡Higher scores indicate better functioning.

§Higher scores indicate more impairment.

‖Based on Kruskal-Wallis test for comparison between patients with BPD and patients with any other psychiatric disorder.

tropic medications during the same period. Approximately 1 in 5 BPD patients and patients with other disorders reported ever being psychiatrically hospitalized, compared with roughly 1 in 15 controls (Table 2).

COMMENT

Four findings emerge from our study. First, we found a BPD prevalence of 6.4% in this primary care sample, a 4-fold higher prevalence than the median value found in most community surveys.[11,12,17,37] Second, a high prevalence of current suicidal ideation (21.4%), current psychotic symptoms (71.4%), and current bipolar I (manic-depressive) disorder (21.4%) was detected in primary care patients with BPD; and third, significant psychosocial impairment of these patients was measured. Finally, only about half of these patients were recognized by their primary care physicians as having an ongoing emotional or mental health problem or had received mental health treatment during the past year.

COMPARISON WITH OTHER STUDIES

Direct comparison of our findings with those of other published studies is difficult owing to the different sampling and assessment methods. The sample in the study by Sansone et al[13,14] reported a 20% prevalence of symptoms suggestive of BPD in a sample of young women (mean age, 33.6 years) who were seen consecutively by a family physician in a health maintenance organization and who underwent screening for BPD using the Personality Diagnostic Questionnaire–Revised. Compared with a structured interview for personality disorders, however, the Personality Diagnostic Questionnaire diagnosed significantly more BPD in individuals undergoing screening.[19,20,38]

Hueston et al[15] mailed a copy of the Structured Clinical Interview for *DSM-IV* to a nonrandom sample of 202 English-speaking, nonimmigrant patients of family practices. Of those who responded (response rate, 46%), 26% were identified as having BPD. Beyond the obvious selection bias in their study design, Hueston et al relied on the more limited and less specific self-report approach,[11,15] without a confirmatory clinical interview.

Parsons[16] used a convenience sample to study the prevalence of BPD in 965 patients of primary health centers in England and found a prevalence rate of 18.5% using the Diagnostic Interview Schedule–Borderline Index, an instrument that has been shown to overdiagnose BPD prevalence, perhaps because of some overlap in symptoms between Axis I psychiatric disorders and borderline personality as defined by the Diagnostic Interview Schedule.[17]

Very little can be learned from these studies concerning psychiatric comorbidity and functioning of BPD patients in primary care. Hueston et al[15] found a higher overall mean score on the Beck Depression Inventory and on the CAGE questionnaire (**C**, Have you ever felt the need to *c*ut down on your drinking? **A**, Have you ever felt *a*nnoyed by criticism of your drinking? **G**, Have you

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

ever felt guilty about your drinking? and E, Have you ever taken a drink [*eye opener*] first thing in the morning?) for alcohol use and lower SF-36 scores in patients with personality disorders in general. Parsons found high scores on the Beck Depression Inventory in a subsample of his study's participants (Shaun Parsons, PhD, written communication; January 13, 2000).

COMORBID PSYCHIATRIC SYMPTOMS AND DISORDERS

We found a 21.4% rate of current suicidal ideation in the BPD group. Half of the patients with BPD described recurrent suicidal behavior or threats or self-mutilating behavior in the clinical interview. Lifetime rates of completed suicide among clinical samples of patients with BPD range from 3% to 9.5%.[39] A much higher percentage, probably ranging from 70% to 80%, exhibits self-harming behavior at least once.[39,40] Since the Patient Health Questionnaire inquired about thoughts of "hurting yourself," our suicidal ideation rate might include patients without suicidal intentions. However, any suicidal behavior, regardless of severity, places a person in a higher risk for completed suicide.[40] Among patients with BPD, numerous previous attempts often predict more serious and fatal subsequent attempts.[41] Moreover, Brodsky et al[39] showed that impulsivity in BPD patients is associated with the number of lifetime suicide attempts. Similar to findings in BPD inpatients,[42] patients with BPD in our sample had a high rate (71.4%) of impulsivity in at least 2 areas that are potentially self-damaging, compared with a much lower rate of 4.7% in study subjects without BPD.

Ten (71.4%) of the 14 BPD patients had at least 1 current psychotic symptom. Miller et al[43] found a 27% rate of psychotic symptoms among BPD inpatients using medical chart reviews. Dowson et al[44] found that self-report of past psychotic phenomena was associated with BPD. Although transient paranoid ideation during periods of extreme stress is one of the diagnostic criteria for BPD,[3] and was indeed found in 8 (57.1%) of the BPD patients in our study compared with 4 (2.1%) in well controls and patients with other mental disorders, the findings that BPD patients had an average of almost 5 lifetime psychotic symptoms and that 7 (50.0%) of them had current auditory or visual hallucinations suggest that psychotic symptoms are a frequent comorbid condition. Olfson et al[45] has shown in a separate study that psychotic symptoms in primary care were strongly associated with functional impairment.

Approximately one fifth (21.4%) of BPD patients met criteria for current bipolar I disorder. This rate is substantially higher than that reported in previous studies of BPD patients (0.3%-14.1%).[37,46,47] For comparison, the lifetime prevalence of bipolar disorder in a large cross-national study was 0.3% to 1.5%.[48] Only 1 study of BPD patients from an outpatient psychiatry clinic[49] found rates of bipolar disorder (21.1%) similar to ours.

Although the rates of suicidal ideation, psychotic symptoms, and bipolar I disorder in the BPD group of our study exceeded those found in other studies, the comparison of rates for anxiety disorders, major depression, and the chronic and less severe dysthymic disorder showed less consistent results.[5,49,50] Generally, the rates of these disorders in our BPD sample resembled those found in the community.[37] The rate of alcohol and other drug use disorders, frequently ascertained in BPD patients, was lower than that found in clinical[4,5] and community[37] studies.

GENERALIZABILITY AND LIMITATIONS

These results can be safely generalized to primary care patients with similar sociodemographic characteristics, although Swartz et al[37] did not find a significant relationship between socioeconomic status and BPD in the community, despite consistent observations of inverse relationship between socioeconomic status and overall rates of psychopathology.[51,52] In addition, studies on BPD show that the disorder is predominantly diagnosed in young white women with a mean age in the middle of the third decade of life.[53,54] Although data in these studies were derived mainly from clinical samples, and thus may reflect selection into treatment and biases of diagnosing clinicians rather than true differences, they suggest that the sociodemographics of our sample do not account for its high prevalence of BPD.

Generalizability of our results is also limited by the sampling strategy, by which frequent clinic attendees were more likely to be sampled than less frequent, presumably healthier attendees. Nevertheless, our results show that, in contrast to a common stereotype, BPD patients did not have a higher frequency of visits at the practice and thus were not more likely than other patients to be sampled for the study. This finding probably could not be explained by general health status, since comparison groups (BPD patients vs those with other mental disorders and BPD patients vs controls) were similar in age, sex, socioeconomic status, and SF-36 physical summary score. As we did not have information on visits to other primary care facilities in our data, we could not rule out the possibility that BPD patients attend additional clinics more than patients without BPD.

Four other limitations of this study include the relatively small sample size; the exclusion of patients older than 70 years (although BPD symptoms tend to wane with advancing age[3,55]); sample selection bias that may have affected the results, although eligible nonrespondents shared similar basic demographic characteristics with the respondents; and inherent limitations in documenting the enduring longitudinal pattern of a personality disorder by means of an interview performed at a single point in time.[17]

CLINICAL IMPLICATIONS

Unrecognized personality disorders may underlie difficult patient-physician relationships. Awareness of the existence of such disorders may enhance understanding and treatment of difficult patients.[56] Primary care physicians seldom have the time or training to provide formal psychotherapy to patients with BPD. However, physicians might develop rapport, feel less frustrated, and perhaps even have a therapeutic effect by acquiring a working knowledge of BPD and following available recommendations[1,7,57-59] (**Table 3**).

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

Table 3. Recommendations for Treatment of Patients With BPD in Primary Care Setting*

Stress continually interest and concern, but do not get too close to patients
Balance between empathic recognition of fear of abandonment and a clear limit setting
Acknowledge verbally patient's strong feelings, but at the same time demand appropriate behavior in the office
Avoid responding to provocations; try to remain emotionally neutral
Consider scheduling brief, structured, frequent visits
Provide clear, nontechnical answers to counter scary fantasies
Have a nurse present when conducting physical examination
Coordinate care with the mental health care professional and other coworkers to avoid problems of splitting (ie, opposing one physician to the other), and discuss feelings with your colleagues

*Adapted from Oldham,[1] Searight,[7] Goldman and Hahn,[57] Feder and Robbins,[58] and Marlowe and Sugarman.[59]

Awareness of BPD in primary care, familiarity with its clinical features, and better clinical recognition of the disorder may also help to develop an effective treatment strategy for coexisting conditions. Borderline personality disorder complicates the diagnosis and treatment of depression and anxiety,[7,49] and most of those seeking help for depression in the United States go to a primary care physician.[60] Borderline personality disorder can also mask the clinical picture of bipolar disorder. This finding bears special clinical importance because of the frequent cooccurrence of the two, as our results show, and the hazards of improperly treated bipolar disorder.

The primary care physician should also be aware of the high rates of suicidal ideation among BPD patients. Up to two thirds of patients who attempt or commit suicide see their physician shortly before their attempt or death.[61,62] Impulsivity, a common and prominent symptom in BPD patients, plays a key role in suicide, suicide attempts, self-harm, and unstable relationships. Impulsivity-moderating drugs are among the more beneficial pharmacological treatments of BPD.[63,64] Recognizing this symptom may improve diagnosis of and therapy for BPD and help prevent suicide attempts.

Finally, impaired functioning and disability in patients with mental disorders may change accordingly with improvement in psychiatric symptoms.[29] Half of the BPD patients in our study reported that they had not received mental health treatment during the past year, and patients with BPD visited their primary care clinic less frequently than other patients. The latter may reflect BPD patients' tendency toward noncompliance with medical treatment and follow-up,[1] and could reduce the primary care physician's ability to recognize depressive episodes and suicidal intent on time. Scheduling brief, structured, frequent visits for these patients may prove helpful. In light of recent studies showing that various pharmacological treatments, especially mood stabilizers (eg, valproic acid)[63-66] and psychological interventions,[67-70] are effective in treating BPD symptoms, prompt referral for a mental health evaluation on suspecting BPD should be the rule.

Accepted for publication April 30, 2001.

This study was supported by investigator-initiated grants from Eli Lilly & Co, Indianapolis, Ind, and Pharmacia-Upjohn, Peapack, NJ (Dr Weissman); by grant 5T32-MH13043 from the National Institute of Mental Health, Rockville, Md (Dr Gross); and by grant P30-AG15294 from the National Institutes of Health, Bethesda, Md (Drs Shea and Lantigua).

Presented in part as a poster at annual meetings of the American Psychopathological Association, New York, NY, March 2, 2000, and the American Psychiatric Association, Chicago, Ill, May 15, 2000.

We thank Priya Wickramaratne, PhD, for statistical advice and review.

Corresponding author: Raz Gross, MD, MPH, Department of Epidemiology, Mailman School of Public Health, Columbia University, 600 W 168 St, PH-18, Room 303, New York, NY 10032 (e-mail: rg547@columbia.edu).

REFERENCES

1. Oldham J. Personality disorders. *JAMA.* 1994;272:1770-1776.
2. Gunderson JG, Zanarini MC. Current overview of the borderline diagnosis. *J Clin Psychiatry.* 1987;48(suppl):5-11.
3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition.* Washington, DC: American Psychiatric Association; 1994.
4. Oldham JM, Skodol AE, Kellman HD, et al. Comorbidity of Axis I and Axis II disorders. *Am J Psychiatry.* 1995;152:571-578.
5. Zanarini MC, Frankenburg FR, Dubo ED, et al. Axis I comorbidity of borderline personality disorders. *Am J Psychiatry.* 1998;155:1733-1739.
6. Brodsky BS, Malone KM, Ellis SP, Dulit RA, Mann JJ. Characteristics of borderline personality disorder associated with suicidal behavior. *Am J Psychiatry.* 1997;154:1715-1719.
7. Searight HR. Borderline personality disorder: diagnosis and management in primary care. *J Fam Pract.* 1992;34:605-612.
8. Nowlis DP. Borderline personality disorder in primary care. *J Fam Pract.* 1990; 30:329-335.
9. Magill MK, Garrett RW. Borderline personality disorder. *Am Fam Physician.* 1987; 35:187-195.
10. Sansone RA, Sansone LA. Borderline personality disorder: interpersonal and behavioral problems that sabotage treatment success. *Postgrad Med.* 1995;97: 169-179.
11. Widiger TA, Weissman MM. Epidemiology of borderline personality disorder. *Hosp Community Psychiatry.* 1991;42:1015-1021.
12. Lyons MJ. Epidemiology of personality disorders. In: Tsuang MT, Tohen M, Zahner GEP, eds. *Textbook in Psychiatric Epidemiology.* New York, NY: John Wiley & Sons Inc; 1995:407-436.
13. Sansone RA, Sansone LA, Wiederman MW. Borderline personality disorder and health care utilization in a primary care setting. *South Med J.* 1996;89:1162-1165.
14. Sansone RA, Wiederman MW, Sansone LA. Borderline personality symptomatology, experience of multiple types of trauma, and health care utilization among women in a primary care setting. *J Clin Psychiatry.* 1998;59:108-111.
15. Hueston WJ, Mainous AG, Schilling R. Patients with personality disorders: functional status, health care utilization, and satisfaction with care. *J Fam Pract.* 1996; 42:54-60.
16. Parsons S. The epidemiology and effects of borderline personality disorder in primary health care. *J Psychiatry Ment Health Nurs.* 1997;4:145-146.
17. Weissman MM. The epidemiology of personality disorders: a 1990 update. *J Personal Disord.* 1993;7(suppl 1):44-62.
18. Skodol AE, Oldham JM. Assessment and diagnosis of borderline personality disorder. *Hosp Community Psychiatry.* 1991;42:1021-1028.
19. Zimmerman M. Diagnosing personality disorders. *Arch Gen Psychiatry.* 1994; 51:225-245.
20. Zimmerman M, Coryell WH. Diagnosing personality disorders in the community. *Arch Gen Psychiatry.* 1990;47:527-531.
21. Olfson M, Shea S, Feder A, et al. Prevalence of anxiety, depression, and substance abuse in an urban general medicine practice. *Arch Fam Med.* 2000;9:876-883.
22. Spitzer RL, Kroenke K, Williams JBW, and the Patient Health Questionnaire Primary Care Study Group. Validation and utility of a self-report version of PRIME-MD. *JAMA.* 1999;282:1737-1744.
23. Sheehan DV, Lecrubier Y, Sheehan KH, et al. The Mini-International Neuropsy-

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013

chiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for *DSM-IV* and *ICD-10. J Clin Psychiatry.* 1998;59 (suppl 20):22-33.
24. Sheehan DV, Harnett-Sheehan K, Raj BA. The measurement of disability. *Int J Clin Psychopharmacol.* 1996;11(suppl 3):89-95.
25. Leon AC, Olfson M, Protera L, Farber L, Sheehan DV. Assessing psychiatric impairment in primary care with the Sheehan Disability Scale. *Int J Psychiatry Med.* 1997;27:93-105.
26. Spitzer RL, Williams JBW, Gibbon M, First MB. *Structured Clinical Interview for* DSM-III-R *Personality Disorders (SCID-II, Version 1.0).* Washington, DC: American Psychiatric Press; 1990.
27. World Health Organization. *Composite International Diagnostic Interview, Version 2.1.* Geneva, Switzerland: World Health Organization, Division of Mental Health; 1997.
28. Andrews G, Peters L. The psychometric properties of the Composite International Diagnostic Interview. *Soc Psychiatry Psychiatr Epidemiol.* 1998;33:80-88.
29. Ormel J, VonKorff M, Ustun B, Pini S, Korten A, Oldehinkel T. Common mental disorders and disability across cultures: results from the WHO Collaborative Study on Psychological Problems in General Health Care. *JAMA.* 1994;272:1741-1748.
30. Ware J, Sherbourne CD. The MOS 36-item Short-Form Health Survey (SF-36), I: conceptual framework and item selection. *Med Care.* 1992;30:473-483.
31. McHorney CA, Ware JE, Raczek AE. The MOS 36-item Short-Form Health Survey (SF-36), II: psychometric and clinical tests of validity in measuring physical and mental health constructs. *Med Care.* 1993;31:247-263.
32. Brazier JE, Harper R, Jones NMB, et al. Validating the SF-36 Health Survey questionnaire: new outcome measure for primary care. *BMJ.* 1992;305:160-164.
33. Wells KB, Stewart A, Hays RD, et al. The functioning and well-being of depressed patients: results from the Medical Outcomes Study. *JAMA.* 1989;262: 914-919.
34. Weissman MM, Bothwell S. Assessment of social adjustment by patients self-report. *Arch Gen Psychiatry.* 1976;33:1111-1115.
35. Bosc M, Dubini A, Polin V. Development and validation of a social functioning scale, the Social Adaptation Self-evaluation Scale. *Eur Neuropsychopharmacol.* 1997;7(suppl 1):S57-S70.
36. Weissman MW, Olfson M, Gameroff M, Feder A, Fuentes M. A comparison of three scales for assessing social functioning in primary care. *Am J Psychiatry.* 2001;158:460-466.
37. Swartz M, Blazer D, George L, Winfield I. Estimating the prevalence of personality disorders in the community. *J Personal Disord.* 1990;4:257-272.
38. Hyler SE, Skodol AE, Kellman D, Oldham JM, Rosnick L. Validity of the Personality Diagnostic Questionnaire–Revised: comparison with two structured interviews. *Am J Psychiatry.* 1990;147:1043-1048.
39. Brodsky BS, Malone KM, Ellis SP, Dulit RA, Mann JJ. Characteristics of borderline personality disorder associated with suicidal behavior. *Am J Psychiatry.* 1997; 154:1715-1719.
40. Kjellander C, Bongar B, King A. Suicidality in borderline personality disorder. *Crisis.* 1998;19:125-135.
41. Soloff PH, Lis JA, Kelley T, Cornelius J, Ulrich R. Risk factors for suicidal behavior in borderline personality disorder. *Am J Psychiatry.* 1994;151:1316-1323.
42. Blais MA, Hilsenorth MJ, Fowler JC. Diagnostic efficiency and hierarchical functioning of the *DSM-IV* borderline personality disorder criteria. *J Nerv Ment Dis.* 1999;187:167-173.
43. Miller FT, Abrams T, Dulit R, Fyer M. Psychotic symptoms in patients with borderline personality disorders and concurrent Axis I disorder. *Hosp Community Psychiatry.* 1993;44:59-61.
44. Dowson JH, Sussams P, Grounds AT, Taylor J. Associations of self-reported past "psychotic" phenomena with features of personality disorder. *Comp Psychiatry.* 2000;41:42-48.
45. Olfson M, Weissman MM, Leon AC, Faber L, Sheehan DV. Psychotic symptoms in primary care. *J Fam Pract.* 1996;43:481-488.
46. Pope HG, Jones JM, Hudson JI, Cohen BM, Gunderson JG. The validity of *DSM-III* borderline personality disorder. *Arch Gen Psychiatry.* 1983;40:23-30.
47. Koenigsberg HW, Kaplan RD, Gilmore MM, Cooper AM. The relationship between syndrome and personality disorder in *DSM-III*: experience with 2462 patients. *Am J Psychiatry.* 1985;142:207-212.
48. Weissman MM, Bland RC, Canino GJ, et al. Cross-national epidemiology of major depression and bipolar disorder. *JAMA.* 1996;276:293-299.
49. Comtois KA, Cowley DS, Dunner DL, Roy-Byrne PP. Relationship between borderline personality disorder and Axis I diagnosis in severity of depression and anxiety. *J Clin Psychiatry.* 1999;60:752-758.
50. Koenigsberg HW, Anwunah I, New AS, Mitropoulou V, Schopick F, Siever LJ. Relationship between depression and borderline personality disorder. *Depress Anxiety.* 1999;10:158-167.
51. Kohn R, Dohrenwend BP, Mirotznik J. Epidemiological findings on selected psychiatric disorders in the general population. In: Dohrenwend BP, ed. *Adversity, Stress, and Psychopathology.* New York, NY: Oxford University Press; 1998: 235-284.
52. Weich S, Churchill R, Lewis G, Mann A. Do socio-economic risk factors predict the incidence and maintenance of psychiatric disorders in primary care? *Psychol Med.* 1997;27:73-80.
53. Akhtar S, Byrne JP, Doghramji K. The demographic profile of borderline personality disorder. *J Clin Psychiatry.* 1986;47:196-198.
54. Taub JM. Demography of *DSM-III* borderline personality disorder (PD): a comparison with Axis II PDs, affective illness and schizophrenia convergent and discriminant validation. *Int J Neurosci.* 1995;82:191-214.
55. Cohen BJ, Nestadt G, Samuels JF, Romanoski AJ, McHuge PR, Rabins PV. Personality disorder in later life: a community study. *Br J Psychiatry.* 1994;165: 493-499.
56. Schafer S, Nowlis DP. Personality disorders among difficult patients. *Arch Fam Med.* 1998;7:126-129.
57. Goldman LS, Hahn SR. Difficult patient situations. In: Goldman LS, Wise TN, Brody DS, eds. *Psychiatry for Primary Care Physicians.* Chicago, Ill: American Medical Association; 1998:290-306.
58. Feder A, Robbins SW. Personality disorders. In: Feldman MD, Christensen JF, eds. *Behavioral Medicine in Primary Care: A Practical Guide.* Stamford, Conn: Appleton & Lange; 1997:212-226.
59. Marlowe M, Sugarman P. Personality disorders. *BMJ.* 1997;315:176-179.
60. Goldman LS, Nielsen NH, Champion HC, for the Council on Scientific Affairs, American Medical Association. Awareness, diagnosis, and treatment of depression. *J Gen Intern Med.* 1999;14:569-580.
61. Cooper-Patrick L, Crum RM, Ford DE. Identifying suicidal ideation in general medical patients. *JAMA.* 1994;272:1757-1762.
62. Hirschfeld RMA, Russell J. Assessment and treatment of suicidal patients. *N Engl J Med.* 1997;337:910-915.
63. Hirschfeld RMA. Pharmacotherapy of borderline personality disorder. *J Clin Psychiatry.* 1997;58(suppl 14):48-52.
64. Soloff PH. Psychopharmacology of borderline personality disorder. *Psychiatr Clin North Am.* 2000;23:169-192.
65. Hori A. Pharmacotherapy for personality disorders. *Psychiatry Clin Neurosci.* 1998; 52:13-19.
66. Benedetti F, Sforzini L, Colombo C, Maffei C, Smeraldi E. Low-dose clozapine in acute and continuation treatment of severe borderline personality. *J Clin Psychiatry.* 1998;59:103-107.
67. Perry JC, Banon E, Ianni F. Effectiveness of psychotherapy for personality disorders. *Am J Psychiatry.* 1999;156:1312-1321.
68. Bateman A, Fonagy P. Effectiveness of partial hospitalization in the treatment of borderline personality disorder: a randomized controlled trial. *Am J Psychiatry.* 1999;156:1563-1569.
69. Roller B, Nelson V. Group psychotherapy treatment of borderline personalities. *Int J Group Psychother.* 1999;49:369-385.
70. Linehan MM. *Cognitive-Behavioral Treatment of Borderline Personality Disorder.* New York, NY: Guilford Publications; 1993.

©2002 American Medical Association. All rights reserved.

Downloaded From: http://jamanetwork.com/ on 05/20/2013