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Assessment and Emergency Management of Suicidality in Personality Disorders

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P revious evidence has shown a link between suicidal behavior and a diagnosis of a personality disorder, and the research is most robust regarding borderline personality disorder (BPD). This article examines the association between suicidal behavior and personality disorders in three ways. First, we update the review of epidemiological evidence for the association between suicidal behavior and suicide in individuals who have a personality disorder diagnosis, particularly in BPD. If the epidemiological evidence continues to find a strong correlation between suicide, suicidal behavior, and BPD, then the clinician is left with the challenge of differentiating patients who have BPD who are at high versus low risk of suicide. In the second part of the article, we present new empirical evidence that characterizes suicidal behavior in patients who have BPD, specifically examining patient characteristics that differentiate patients who have BPD with a history of high versus low lethality suicide attempts. Finally, based on the evidence reviewed and our clinical experience, we discuss the approach to a patient who has BPD and presents to the emergency department because of an increased risk of suicide.

EPIDEMIOLOGICAL EVIDENCE
Cluster B
Although significant epidemiological evidence exists to link personality disorders with suicidal behavior, most of this research concentrates on the Cluster B personality disorders. More limited research exists on Clusters A and C, and the evidence is reviewed according to respective clusters rather than

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individual personality disorders. We begin by reviewing the rates of personality disorders in subjects who have died by suicide or made suicide attempts. Then we present the rates of suicide and suicide attempts in samples of individuals with various personality disorders.

Studies have shown evidence suggesting a relationship between antisocial personality disorder (ASPD) and suicidal behavior. The DSM-IV states that individuals diagnosed with ASPD are more likely than members of the general population to die by violent means, including suicide, and ASPD has been linked with adolescent suicide behavior, including suicidal ideation, suicide attempts, and suicide. Marttunen and colleagues [1] from the Comprehensive Psychological Autopsy Study in Finland estimated that 17% of adolescents aged 13 to 19 who died by suicide met criteria for conduct disorder or ASPD. When Marttunen and colleagues [2] examined adolescents with nonfatal suicidal behavior, approximately 45% of boys and one third of girls were characterized by antisocial behavior. Beautrais and colleagues [3] studied individuals who had made medically serious suicide attempts and compared them with community comparison subjects. After controlling for the correlations between mental disorders, it was found that the risk of a serious suicide attempt was 3.7 times higher for individuals who had ASPD than for individuals who did not. When they examined men younger than age 30, the risk of a serious suicide attempt was almost nine times more likely among men with the disorder; for women, the risk of a serious attempt was 2.3 times higher.

Some studies have attempted to document the lifetime risk of suicide in a sample of individuals who have ASPD. Frances and colleagues [4] estimated the base risk of suicide completions among ASPD individuals to be 5%, with an 11% rate of attempts, which confirmed the results from Maddocks and colleagues [5], who estimated a lifetime suicide risk of 5% in a 5-year follow-up of a small sample of individuals who had ASPD.

Oldham [6] suggested that the accepted lifetime risk of 5% is low, because patients who have ASPD tend to engage in risk-taking behavior, which makes it difficult to differentiate between accidental death and suicide. Laub and Vaillant [7] examined causes of death for 1000 delinquent and nondelinquent boys followed up from ages 14 to 65 years. Deaths by violent causes (ie, accident, suicide, or homicide) were significantly more common in delinquent compared with nondelinquent boys; equal proportions of both groups, however, died by suicide.

Patients who have BPD represent 9% to 33% of all suicides [8]. Lesage and colleagues [9], in a sample of 75 men aged 18 to 35 whose deaths were declared suicides, found that 30% had BPD based on psychological autopsies. Among chronically suicidal patients with four or more visits in a year to a psychiatric emergency department, most often these patients met criteria for BPD, and they accounted for 12% of all psychiatric emergency department visits during the year studied [8]. In a study of attempters who presented to an urban hospital emergency department, 39 single attempters and 114 multiple attempters of suicide were compared regarding the diagnosis of BPD. Multiple attempters were significantly more likely to receive this

diagnosis than single attempters (41.2% versus 15.4%; $P < .01$) [10]. Forman and colleagues also found that patients with multiple suicide attempts displayed more severe psychopathology, suicidality, and poorer interpersonal functioning, and these differences existed even after controlling for a diagnosis of BPD. Soderberg [11] followed 64 consecutive admissions to an inpatient unit for parasuicidal behavior (defined as all self-destructive actions with the reported intent of achieving some change in the life situation of a patient, including suicide attempts) and investigated these patients for Axis I and Axis II disorders using structured diagnostic interviews. Fifty-five percent of these patients were found to have BPD as a primary diagnosis.

BPD is the only personality disorder in the DSM-IV to have recurrent suicidal or self-injurious behavior as one of the diagnostic criteria. A history of suicidal behavior is found in 60% to 78% of patients who have BPD, with an even higher percentage engaging in self-injurious behavior. Recent research has examined risk factors for suicide and suicide behavior in patients who have BPD. In a case-control study, McGirr and colleagues [12] investigated 120 subjects who met DSM-IV criteria for BPD, 50 controls, and 70 patients who died by suicide between 2001 and 2005 and found that suicide in patients who had BPD was associated with higher levels of current and lifetime Axis I comorbidity, novelty seeking, impulsivity, hostility, and comorbid personality disorders and lower levels of harm avoidance. McGirr and colleagues [12] also determined that individuals who had BPD who suicided had fewer psychiatric hospitalizations and suicide attempts than BPD controls but were more likely to meet criteria for current and lifetime substance dependence disorders and have Cluster B comorbidity.

In a prospective trial that followed 621 patients who were assessed in semi-structured interviews and followed over 2 years, Yen and colleagues [13] showed that certain diagnostic criteria of this disorder, including impulsivity, identity disturbance, and affective instability, were also significantly associated with suicidal behavior. Patients at higher risk for suicide seemed to be young, ranging from adolescence into the third decade, which likely reflects a decrease in severity of symptoms later in adulthood in most patients [8]. A recent meta-analysis by Pompili and colleagues [14] compared eight studies from 1980 to 2005 composed of 1174 patients with a diagnosis of BPD, 94 of whom died by suicide. The risk of suicide was significantly higher compared with the general population. The study also showed higher rates of suicide in short-term versus long-term follow-up, which suggested that suicide risk is highest in the initial phases of the illness rather than the chronic period [14].

The lifetime risk of suicide for patients who have BPD has been quoted to be between 3% and 10%; Paris [15] suggested that a rate of 10% has been confirmed by several cohorts, including a 15-year follow-up from the New York Psychiatric Institute and a follow-up of patients over 15 to 27 years at a Montreal general hospital but also pointed out that another major follow-up study of BPD had a much lower rate at 3%. Yoshida and colleagues [16] conducted a retrospective review of Japanese patients who received treatment in an inpatient

facility from 1973 to 1989 and found that 5 of 72 patients (6.9%) had suicided, which was in keeping with the lifetime risk found in North American and European studies. Links and colleagues [17] followed 130 former inpatients with either the traits or the diagnosis of BPD and found that 6 of 130 (4.6%) died by suicide over 7 years' follow-up. In another prospective study that followed patients who had BPD over 10 years, Zanarini and colleagues [18] found a suicide rate of 4%. This lower rate may have been caused by examining a sample that agreed to follow-up and received regular treatment.

Narcissistic personality disorder is an uncommon diagnosis in community samples compared with ASPD and BPD, and the data regarding the risk of suicide in individuals who have this disorder are scarce. In samples of suicide victims studied with the psychological autopsy method, narcissistic personality disorder is infrequently identified. Apter and colleagues [19] studied 43 consecutive suicides by Israeli men aged 18 to 21; the suicides occurred during their compulsory military service. Psychological autopsies were performed using preinduction assessment information, service records, and extensive postmortem interviews. Based on this methodology, the most common Axis II personality disorders were schizoid personality in 14 of 43 men (37.2%) and narcissistic personality in 10 of 43 men (23.3%). Stone's [20] follow-up study of 550 patients admitted to the New York State Psychiatric Institute provided some information on this outcome for individuals hospitalized with narcissistic personality disorder. According to a 15-year follow-up, patients with the disorder or narcissistic traits were significantly more likely to have died by suicide compared with patients without the disorder or traits [20]. These results should be treated with caution, however, because the researcher was aware which patients had suicided when he scored them for narcissistic traits, and he did not use a standardized measure with established reliability. In more recent work, Heisel and colleagues [21] suggested that narcissistic personality has been implicated as a potential risk factor for late-life suicide. In a retrospective study, 20 patients who met criteria for narcissistic personality disorder or narcissistic traits were rated significantly higher on the Hamilton Depression Inventory suicide item than patients without, controlling for age, sex, depression, and cognitive function.

Few studies have reported on the risk of suicide or suicide attempts in individuals who have histrionic personality disorder, and studies that do comment on the relationship between this diagnosis and suicidal behavior have rarely controlled for the presence of BPD. In a psychological autopsy study of individuals aged 60 years or older, Harwood and colleagues [22] found that 4 out of 77 (5.2%) suicides in their sample had histrionic personality disorder based on ICD-10 personality disorder diagnoses, and 44% of the sample showed evidence of personality disorders or personality trait accentuation. Although the high prevalence of personality disorders in general was of interest, their method of diagnosis was not rigorous or standardized for reliability. Ferreira de Castro and colleagues [23] noted that histrionic personality disorder was the most common personality disorder diagnosis (22% of all subjects) in their

sample, which was composed of individuals who engaged in self-injurious behavior but whose intent was not death.

Clusters A and C

Epidemiological evidence for the risk of suicide or suicide attempts among individuals with either Cluster A or Cluster C personality disorders is relatively scarce. Most studies do not control for coexisting BPD mediating the observed suicidal behavior of the subjects examined. Depending on the study, the prevalence of Cluster A or C personality disorders in adults who presented to an emergency department after a suicide attempt or self-injury ranges from 3% to 5% for schizoid personality disorder, 9% for schizotypal personality disorder, 8% to 10% for paranoid personality disorder, 6% to 20% for avoidant personality disorder, 1% to 9% for dependent personality disorder, and 6% for obsessive-compulsive personality disorder [8]. In their study of inpatient suicide attempters between the ages of 13 and 19, Brent and colleagues [24] reported that 27% fulfilled criteria for any Cluster A and 70% for any Cluster C personality disorder. Only a diagnosis of borderline or any personality disorder, however, was significant in this sample compared with a group of psychiatric nonsuicidal control subjects.

Analyzing data from the National Suicide Prevention project in Finland, Isometsa and colleagues [25] established personality disorder diagnoses in a random sample of 229 of the 1397 suicides studied. Isometsa and colleagues [25] determined that 1% of their entire sample of persons with a personality disorder fulfilled criteria for paranoid personality disorder, 6% for avoidant personality disorder, 7% for dependent personality disorder, 3% for obsessive-compulsive personality disorder, and 18% for Cluster C personality disorders not otherwise specified. Individuals with Cluster C personality disorders made up approximately 10% of the total random sample of 229 subjects. These patients were seemingly overrepresented considering the estimated 2% to 4% prevalence of Cluster C personality disorders in the general population [25]. Ninety-six percent of these patients experienced either comorbid depressive symptoms (74%) or substance use disorders (30%). Using a comparison group matched for age and sex, subjects with or without Cluster C personality disorders who suicided were not significantly different with respect to mood disorders, substance abuse, or previous suicide attempts [25].

Chioqueta and Stiles [26] measured the risk for suicide attempts in psychiatric outpatients with specific Cluster C personality disorders by assessing 142 patients in a psychiatric outpatient clinic for personality disorders using a structured clinical interview and correlating these findings with a history of suicide attempts. Among the Cluster C personality disorders, dependent personality disorder (35%) had the highest percentage of suicide attempts compared with avoidant (18%) and obsessive-compulsive (14%) personality disorders [26]. After logistic regression analysis to control for the presence of lifetime depressive disorder and depressive severity, these results were not statistically significant. They concluded that the assessment of suicide risk in patients with Cluster C

personality disorders is less relevant than an appropriate assessment of comorbid depressive disorder history and current depression severity [26].

Studies also have reported on rates of attempted suicide and suicide among individuals diagnosed with Cluster A personality disorders. Fenton and colleagues [27] located patients from the Chestnut Lodge Follow-Up study who were originally diagnosed with schizotypal personality disorder and found that 3% had suicided, 24% had attempted suicide, and 45% had expressed suicidal ideation at some point during the previous 19 years. Among patients admitted to the psychiatric department of a German hospital between 1981 and 1994 who were assigned a primary diagnosis of personality disorder upon admission, Ahrens and Haug [28] found that 44% of individuals diagnosed with schizoid personality disorder displayed suicidal tendencies, as did 47% of the patients with paranoid personality disorder or anakastic personality disorder.

In summarizing the recent evidence, several studies have examined the link between personality disorders and suicidal behavior. Although there is some evidence for Clusters A and C and Cluster B personality disorders to be related to suicidal behavior and suicide, the strongest link still exists with the diagnosis of BPD.

CHARACTERISTICS OF SUICIDAL BEHAVIOR IN PATIENTS WHO HAVE BORDERLINE PERSONALITY DISORDER: EMPIRICAL EVIDENCE

In working with patients who have BPD, clinicians have the unwieldy challenge of differentiating patients at high risk for suicide versus patients not at high risk. In this section, we use data from a randomized controlled clinical trial of 180 participants who had BPD and recurrent suicidal behavior and present the features of suicidal behavior that typify a sample of patients who have BPD. We also partially replicate an earlier investigation by Soloff and colleagues [29] to define predictors of high-lethality suicidal behavior within a sample of patients who have BPD.

Soloff and colleagues [29] used a prospective design to assess risk factors in a sample of 113 subjects who had BPD. Their purpose was to differentiate high versus low lethality suicide attempters based on demographic, diagnostic, clinical, and psychosocial variables. Based on a median split on scores from the Medical Lethality Scale, subjects were classified as high lethality attempters for any lifetime attempt (attempts such as a sedative drug overdose defined as ''comatose'' or requiring hospitalization) versus low lethality attempters. The authors examined for significant predictor variables based on univariate analyses and separate regressions using variables from each content area. Then they entered the variables found to be significant into a final multivariate logistic regression model. The model was further challenged by adding back each significant variable from the content category regressions one variable at a time. The final logistic regression model found the following risk factors significantly associated with high versus low lethality status: low socioeconomic status (SES), comorbidity with ASPD, extensive treatment histories, and a high

score on the Suicide Intent Scale. Soloff and colleagues [29] stressed the importance of developing predictors of high-risk suicidal behavior within a sample of patients who have BPD because this dilemma often faces clinicians in an outpatient or emergency department setting.

The purpose of the current study was to partially replicate Soloff and colleagues' [29] investigation of demographic, diagnostic, clinical, psychosocial, and treatment history characteristics that significantly differentiate high versus low lethality attempters within a sample of patients who have BPD. The participants were assessed as part of a multi-site, randomized controlled comparison of dialectical behavior therapy to a control condition, general psychiatric management, for parasuicidal adults diagnosed with BPD. Participants received continuous treatment for a period of 1 year with evaluation of outcomes every 4 months, followed by a 2-year follow-up period with evaluation every 6 months.

The primary objective of this randomized controlled trial was to assess the clinical and cost effectiveness of dialectical behavior therapy compared with that of general psychiatric management. The primary outcome measures were the frequency and severity of parasuicidal behaviors (defined as behaviors involving nonfatal self-harm that results in tissue damage, illness, or risk of death) in each of the two groups during the treatment interval and the follow-up period. Secondary clinical outcome measures included psychiatric hospitalization, psychiatric symptomatology, BPD Axis II criteria, anger expression, treatment retention, and social and global functioning.

Based on the baseline assessments of the study participants, we examined the demographic, diagnostic, clinical, psychosocial, and treatment variables that differentiated high versus low lethality attempters.

METHOD

Eligible participants met the following inclusion criteria: BPD diagnosis by International Personality Disorder Examination (IPDE) [30], at least two parasuicides within the past 5 years, at least one parasuicide in last 3 months, more than 17 years of age, and not meeting the exclusion criteria; psychotic disorder, bipolar I disorder, current active substance dependence, organic brain syndrome or mental retardation, and chronic or serious physical health problem.

Based on the rating of medical risk of death taken from the Parasuicidal History Interview (M.M. Linehan, A.W. Wagner, G. Cox, unpublished data, 1983), we divided the groups into high and low lethality categories based on maximum lifetime rating: the high lethality group scored 4 or more on the medical risk of death scale, which indicated that the risk was considered "high" (eg, "overdose of over 50 pills or 11-30 pills potentially lethal in low doses or combined with large amount of alcohol, stabbing to body; pulling trigger of a loaded gun aimed at limb etc") versus acts considered low lethality based on a score of 3 or less defined as "moderate" medical risk of death (eg, "overdose of 11-50 pills…deep cuts anywhere but neck, shoot BB gun into limb etc"). The two groups were compared on characteristics captured

as part of their baseline assessments: demographics (age, sex, marital status, number of years of education, number of children), lifetime diagnoses (major depressive disorder), substance abuse, bipolar II, dysthymia, panic disorder, social phobia, special phobia, obsessive-compulsive disorder, posttraumatic stress disorder (PTSD), anorexia nervosa, bulimia nervosa, Axis II diagnoses, and the total number of Axis II disorders; clinical state and personality (Beck Depression Inventory [31], Zanarini Rating Scale for Borderline Personality Disorder) [32], number of BPD criteria, IPDE dimensional score, schizotypal dimensional score, Global Assessment of Functioning (GAF) at baseline and Social Adjustment Scale–R [33]; history of childhood abuse; and suicidal and treatment history (age of first attempt, frequency of self-harm in last 4 months, number of psychotropic medications at baseline, number of nonpsychotropic medications at baseline, number of psychiatric hospitalizations in the last 4 months, and number of medical hospitalizations in the last 4 months). Continuous variables were compared using Student's t-test (two-tailed), and categorical variables were assessed using chi-square tests. From the univariate analyses, we chose all variables that significantly differentiated the high versus low lethality attempters as independent variables for a final multiple regression analysis. For the final multiple regression analysis, we treated the rating of medical risk of death as a continuous variable (range from 1 to 6) and used this score as the dependent variable in the multiple regression analysis.

RESULTS

The 180 participants were typical of most study samples of outpatients who have BPD. They were mainly women (86% female), average age 30 years (SD = 9.7), unmarried (only 15% married or in a relationship), with at least high school education (only 12% had less than grade 12), and most were unemployed (66% were currently unemployed). Based on our definition of high versus low lethality, 89 (49.4%) participants were considered to have a lifetime history of high lethality attempts, and 91 (50.6%) were classified as having a lifetime history of low lethality attempts.

Across the whole sample, the suicidal behavior (including suicidal and self-harm acts) on average began at age 15.8 years (SD = 6.71). From the baseline assessment, only 1.67% (16/954 acts) of suicidal acts were characterized as carefully planned; the chance of intervention was usually present because only 37.7% of the acts considered the chances of intervention as remote or improbable and less than 12% of the acts were considered to have a clear expectation of a fatal outcome. According to the whole sample, only 28% of the suicide attempts in the past 4 months involved the writing of a suicide note, and 25% of the attempts in the past 4 months were accompanied by suicide threats. Somewhat surprisingly, in 61% of the suicide attempts in the past 4 months the participants endorsed hearing voices at the time of the attempt.

In Tables 1–5, we displayed the univariate comparisons of the high versus low lethality attempters. Table 1 indicates that the high lethality attempters were significantly older and had more children than the low lethality

Table 1
Characteristics of high versus low lethality attempters with borderline personality disorder: demographics

Risk factors	High lethality (n = 89)	Low lethality (n = 91)	T value/chi square, P
Age (y)	32.02 (10.69)	28.74 (8.75)	t (178) = 2.26, P = .025
Sex (females)	75 (84.3%)	80 (87.9%)	Chi square = 0.499, P = .52
Marital status (single)	57 (64.0%)	69 (75.8%)	Chi square = .97, P = .10
No. of years of education	13.44 (2.53)	13.68 (2.73)	t(178) = 0.59, P = .56
No. of children	0.68 (1.32)	0.34 (0.88)	t (178) = 2.03, P = .04

attempters. In terms of lifetime diagnoses, the high lethality attempters were significantly more likely to be diagnosed with PTSD and specific phobia and had a greater number of Axis II diagnoses. There was a trend for the high lethality attempters to be diagnosed with ASPD and anorexia nervosa more frequently than the low lethality attempters. The low lethality attempters were significantly more likely to be diagnosed with bulimia nervosa than the high lethality attempters. Although not displayed in Table 2, there were no significant differences between the groups related to bipolar II disorder, dysthymia, panic disorder, social phobia, obsessive-compulsive disorder, or other specific personality disorder diagnoses.

The high lethality attempters scored significantly higher on the total IPDE dimensional score and on the schizotypal dimensional subscale score of the IPDE than the low lethality attempters (Table 3). There were no differences between the groups in terms of depressive symptom scores or overall severity of BPD. The high lethality attempters scored significantly lower on their current GAF than the low lethality attempters, as shown in Table 3. Table 4 indicates that the high lethality attempters were characterized by more evidence of a history of childhood abuse (across all types of abuse) than the low lethality attempters.

Table 2
Characteristics of high versus low lethality attempters with borderline personality disorder: diagnoses

Lifetime diagnosis	High lethality (n = 89)	Low lethality (n = 91)	T value/chi square, P
Major depressive disorder	74 (83.1%)	70 (76.9%)	Chi square = 1.09, P = .35
Substance abuse	29 (32.6%)	27 (29.7%)	Chi square = 0.18, P = .75
PTSD	52 (58.4%)	33 (36.3%)	Chi square = 8.87, P = .004
Bulimia nervosa	6 (6.7%)	16 (17.6%)	Chi square = 4.93, P = .04
Anorexia nervosa	18 (20.2%)	9 (9.9%)	Chi square = 3.77, P = .06
Specific phobia	25 (28.1%)	14 (15.4%)	Chi square = 4.28, P = .05
Antisocial personality	8 (9.0%)	2 (2.2%)	Chi square = 3.96, P = .06
No. of axis II diagnoses	0.98 (1.12)	0.67 (0.97)	T(178) = 1.96, P = .05

Table 3
Characteristics of high versus low lethality attempters with borderline personality disorder: clinical state and personality

Measure	High lethality (n = 89)	Low lethality (n = 91)	T value/chi square, P
Beck Depression Inventory	37.10 (11.47)	35.42 (11.62)	t(165) = 0.94, P = .35
ZAN-BPD: total score	16.07 (7.02)	14.40 (5.56)	t(177) = 1.77, P = .08
No. of BPD criteria	7.11 (1.30)	7.29 (1.31)	t(178) = 0.89, P = .37
IPDE dimensional score	51.79 (21.23)	44.29 (17.56)	t(178) = 2.59, P = .01
Schizotypal dimensional score	0.79 (1.15)	0.27 (0.58)	t(178) = 3.77, P = .000
GAF baseline	49.93 (8.10)	54.81 (9.89)	t(178) = 3.47, P = .001
Social Adjustment Scale-R	2.82 (0.56)	2.79 (0.50)	t(171) = 0.32, P = .75

Abbreviations: GAF, Global Assessment of Functioning; IPDE, International Personality Disorder Examination, ZAN-BPD, Zanarini Rating Scale for Borderline Personality Disorder.

Finally, the high lethality attempters had more extensive histories of exposure to psychiatric and nonpsychiatric medication and more hospitalizations in the last 4 months (psychiatric and medical) than the low lethality attempters (Table 5). The two groups were also significantly differentiated on the maximum expectation of a fatal outcome from their suicidal behavior, with the high lethality attempters more likely to expect a fatal outcome than the low lethality group.

Table 6 summarizes the multiple regression and indicates the independent variables that explain a significant amount of the variance in the rating of medical risk of death from lifetime suicidal behavior: maximum expectation of a fatal outcome, schizotypal dimensional score, PTSD lifetime diagnosis, lower GAF at baseline, specific phobia lifetime, and the number of psychiatric admissions in the last 4 months. The independent variables were found to explain approximately 37% of the observed variance in the rating of medical risk of death from lifetime suicidal behavior.

DISCUSSION

The current findings partially replicate the findings of Soloff and colleagues [29]. In the current sample, variables related to more extensive treatment

Table 4
Characteristics of high versus low lethality attempters with borderline personality disorder: history of childhood abuse

Childhood trama questionnaire	High lethality (n = 89)	Low lethality (n = 91)	T value/chi square, P
Sexual abuse	12.93 (8.07)	10.67 (7.03)	t(175) = 2.0, P = .05
Emotional abuse	17.36 (6.61)	15.43 (5.75)	t(176)=2.08, P = .04
Physical abuse	11.85 (6.64)	9.54 (5.21)	t(176) = 2.58, P = .01
Emotional neglect	16.51 (5.44)	14.82 (5.04)	t(176) = 2.15, P = .03
Physical neglect	10.07 (4.29)	8.78 (4.02)	t(176) = 2.07, P = .04

Table 5
Characteristics of high versus low lethality attempters with borderline personality disorder: suicidal and treatment history

History	High lethality (n = 89)	Low lethality (n = 91)	T value/chi square, P
Age of first attempt	15.23 (6.90)	16.34 (6.51)	$t(176) = 1.11$, $P = .27$
Frequency of self-harm in last 4 mo	25.20 (46.72)	21.27 (31.09)	$t(178) = 0.67$, $P = .51$
No. of psychotropic medications	2.95 (1.83)	2.24 (2.03)	$t(176) = 2.46$, $P = .02$
No. of nonpsychotropic medications	1.74 (2.03)	1.07 (1.42)	$t(176) = 2.56$, $P = .01$
No. of psychiatric hospitalizations in last 4 mo	0.91 (1.34)	0.33 (0.76)	$t(178) = 3.59$, $P = .00$
No. of medical hospitalizations in last 4 mo	1.12 (1.57)	0.40 (0.82)	$t(178) = 3.93$, $P = .00$
Maximum expectation of fatal outcome	1.66 (0.59)	1.23 (0.68)	$t(178) = 2.95$, $P = .004$

histories (more exposure to medications and hospitalization), more evidence of psychosocial dysfunction, and evidence for greater suicide intent are convergent with Soloff and colleagues' findings. Soloff and colleagues [29] found more extensive treatment histories; lower SES and greater intent to die remained in the final model, explaining high versus low lethality status. Our results regarding differences in diagnoses between high and low lethality attempters were not consistent with Soloff and colleagues' findings. Soloff and colleagues [29] reported that ASPD was the strongest predictor of high versus low lethality attempters, which increased the risk of high lethality attempts threefold. In the current analyses, high versus low lethality attempters were more likely to demonstrate schizotypal features, be diagnosed with lifetime PTSD, and have specific phobias.

At this point, it is necessary to state the limitations of our replication of Soloff and colleagues' investigation. Our study attempted to address a similar issue differentiating within a sample of patients who have BPD at risk for high versus

Table 6
Regression model to explain variance in maximum lethality of suicide lifetime

Independent variables	b	Beta	T	P value
Maximum expectation of fatal outcome	0.379	0.260	3.456	.000
Schizotypal dimensional score	0.126	0.244	3.811	.000
PTSD lifetime	0.459	0.177	2.833	.005
GAF baseline	−0.018	−0.137	−2.155	.033
Specific phobia lifetime	0.610	0.195	3.017	.003
No. of psychiatric inpatient admissions	0.243	0.201	2.865	.005

$R^2 = 0.396$ (adjusted $R^2 = 0.374$); F change $(1,160) = 8.210$, $P = 0.005$

low lethality attempts. Our study differed from that of Soloff and colleagues [29] in many important ways, however. First, our definition of high versus low lethality was similar to–but not the same as–that used in the study by Soloff and colleagues, and different measures were used to assess medical risk of death. Second, although similar categories of risk factors were included, the measures used in the two studies are not equivalent. Finally, we chose to model our findings using a multiple regression analyses rather than logistic regression analyses.

Despite the methodological differences, some important inferences might be drawn from the two studies. Soloff [34] suggested that patients who have BPD who are at high risk for suicide might be suffering the "cumulative consequences of chronic illness" such as impaired psychosocial functioning, extensive treatment exposure without success, and a progression of suicidal behavior moving to more and more intent to die [35]. Our findings seem to paint a similar picture of patients at high risk for lethal suicidal behavior. The differences between the two studies regarding the risk of comorbid diagnoses are harder to resolve. Soloff and colleagues [29,34] suggested that comorbid ASPD might represent a synergy of multiple risk factors coming together in the same individuals: impulsivity and aggression, substance abuse, and the social and vocational consequences of antisocial lifestyle. Many risk factors for high lethality suicide attempts resembled those found in patients who have BPD who died by suicide [12]. Our findings regarding the influence of schizotypal features and perhaps lifetime PTSD may reflect that cognitive-perceptual symptoms, including dissociative features, might characterize patients who have BPD who are at high risk for highly lethal suicidal behavior. Previous evidence has found an association between schizotypal features and suicides in patients who have BPD, and some studies have found that patients who have BPD and have comorbidity for PTSD have more frequent histories of suicidal behavior than non comorbid patients [36,37].

In summary, patients at risk for high lethality suicidal behavior within a sample of patients who have BPD may characterize patients who are suffering a chronic illness course with significant psychosocial impairment. These patients may be demonstrating an escalating series of suicide attempts with more and more suicide intention. Clinicians remain challenged to decide which patients who have BPD require the greatest levels of care (eg, more frequent outpatient visits, involuntary hospitalizations) because of their level of risk. Further prospective research that establishes predictive variables that define the highest risk patients who have BPD are urgently needed.

MANAGEMENT OF SUICIDALITY IN THE EMERGENCY DEPARTMENT

In the first two sections of this article, we established the strong epidemiologic link between suicide, suicidal behavior, and BPD and the need for clinicians to differentiate between patients at high and low risk of suicide. Based on this evidence and our clinical experience, we turn our attention to the clinical

management of suicidality in patients who have BPD who present to the emergency department. The American Psychiatric Association practice guidelines for the assessment and treatment of suicidal behavior [38] recommend conducting a complete psychiatric evaluation, assessing for suicide risk (specifically for thoughts, plans, and behaviors), establishing a multi-axial diagnosis, and estimating suicide risk. We use this framework to discuss the assessment and management of patients who have BPD who present with acute exacerbation of suicidal ideation or suicidal behavior to the emergency department.

When assessing suicidal behavior in the emergency department in a patient with chronic suicidality, it is useful to consider a model that describes "acute-on-chronic" risk [8]. This model suggests that acute stressors can increase a patient's baseline level of suicide risk. Comorbidities such as a past or current major depressive episode, substance use disorders, and history of sexual abuse can provide important information about a patient's chronic level of risk, whereas a current major depressive episode or increasing substance use can indicate acute-on-chronic risk. A thorough history of previous suicide attempts, including methods, lethality, and the context in which they occurred, aids in estimating a patient's ongoing suicide risk. A careful assessment of a plan for suicide and access to means is of utmost importance.

The epidemiological and empirical evidence outlined in the first two sections of this article are useful in assessing patients who have BPD for suicidal behavior. Clinicians should consider additional risk for suicide in patients with Cluster B comorbidity as discussed by McGirr and colleagues [12]. Comorbid ASPD, schizotypal features, lifetime PTSD, and cognitive-perceptual symptoms also may heighten suicide risk, as found in the empirical evidence presented in the second section.

The framework for suicide assessment includes the consideration of known risk factors to determine a level of risk, including age, sex, psychiatric diagnosis, and past suicide attempts. In patients who have BPD who present with an acute-on-chronic suicide risk, it is important to consider factors that are specific to the current emotional state of the patient and suggest a proximal relationship to suicidal behavior. Rudd and colleagues [39] defined a suicide warning sign as "the earliest detectable sign that indicates heightened risk for suicide in the near-term (ie, within minutes, hours or days)." Hendin and colleagues [40] described three signs that immediately precede the suicide of a patient: a precipitating event, intense affective state other than depression (eg, severe anxiety or extreme agitation), and recognizable changes in behavior patterns, including speech or actions that suggest suicide, deterioration in occupational or social functioning, and increased substance abuse.

The literature indicates that these events in patients who have BPD are often related to romantic or family relationships and legal or financial issues, and Brodsky and colleagues [41] showed that most initial suicide attempts in patients who have BPD and comorbid depression are triggered by interpersonal crises. Our research has shown that patients with high lethality attempts score significantly lower on their current GAF scale than patients with lower lethality

attempts. It is important not only to assess patients who have BPD for risk factors relating to suicide but also take a history of recent events and functioning and observe for affective instability or intensity. Clinicians should observe for levels of aggression and impulsivity in patients, as discussed earlier in this article. Although many psychiatric assessment scales for suicidal ideation exist and are useful for tracking chronic levels of suicidality, their use in an acute setting to determine proximal risk of suicide is negligible.

The American Psychiatric Association [38] stresses the importance of establishing and maintaining a therapeutic alliance with patients who present with increasing suicidal ideation or behavior. Patients who have BPD, however, can present a challenge even to experienced clinicians in terms of building rapport. Bergmans and colleagues [42] discussed the emotions faced by health care providers responsible for treating patients in the emergency department who have BPD, including anxiety, anger, an absence of empathy, and frustration over repetitive behavior and a perception that patients are not appropriately using the emergency department. Patients who have BPD who present in crisis are faced with overwhelming internal stimuli; when patients are in distress, their ability to articulate how they are feeling and their problem-solving abilities are compromised. Clinicians can help de-escalate patients through the validation of emotional distress and modeling of appropriate behavior, reinforcing that seeking help was a good decision and treating the patient with respect, dignity, and empathy. When the patient has de-escalated, the clinician and the patient can begin the process of problem solving and establishing a plan of safety [42].

Patients who have BPD who present in crisis with significant anxiety or extreme agitation can be difficult to assess or de-escalate. Although studies have shown no evidence that long-term, low-dose antipsychotics are more effective than placebo for reducing self-harm behaviors, these medications can be helpful in reducing a patient's anxiety and agitation in the emergency department, facilitating assessment, de-escalation of the patient, and development of a treatment plan [43].

Patients with a known diagnosis of BPD often have access to clinicians and support in the community. Patients frequently have a treatment plan with their primary caregiver that recommends going to the emergency department if the patient feels unsafe or is in crisis. In the emergency department, it is important to connect with a patient's health care team to inform them of the situation, arrange appropriate follow-up for the patient if admission is not indicated, and coordinate care with other professionals on the team.

Patients may benefit from family involvement in a crisis situation. A clinician can ask the patient which family members are helpful in times of crisis and can provide support in addressing interpersonal conflicts. Links and Hoffman [43] recommended that educating family members about restricting access to means should be incorporated into the care of all mental health patients. Hoffman and Fruzzetti [44] suggested that family psychoeducation and other interventions show early promise in the treatment for BPD.

Although it is clearly beneficial to develop a safety plan with a patient who has BPD, the evidence for contracting for safety remains mixed. It is our belief that contracting should be used only if a long-term therapeutic alliance already has been established and regular follow-up can be arranged. In the emergency department, a clinician is often meeting a patient for the first time and will not be the patient's primary caregiver in the future, which eliminates any benefit conferred by the contract.

Although patients who have BPD have a chronically higher risk of suicide than the general population, it is important to characterize their acute risk in an emergency setting and manage the risk appropriately.

SUMMARY

Several studies have illustrated a link between personality disorders, suicidal behavior, and suicide. The research is most robust in the field of BPD. BPD is a common and challenging diagnosis characterized by chronic suicidality, and we have attempted to differentiate between patients at risk for high versus low lethality suicide attempts. Although assessing and managing suicidality in patients who have BPD can be frustrating for even the most experienced clinicians, it is possible to recognize acutely elevated risk and use techniques to help create a therapeutic alliance and de-escalate the crisis situation.

Acknowledgments

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