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CO-OCCURRENCE OF DSM-IV PERSONALITY DISORDERS WITH BORDERLINE PERSONALITY DISORDER

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Co-occurrence among personality disorder (PD) diagnoses is a well known phenomenon with important implications for nosology, models of psychopathology, and for treatment considerations (Grilo and McGlashan, 1999; Grilo et al., 2000). Borderline personality disorder (BPD) has received the most empirical attention, although relatively few studies have used semistructured diagnostic interviews to examine co-occurrence. We are aware of four such studies of DSM-III-R-defined BPD co-occurrence with other PDs (Becker et al., 2000; Oldham et al., 1992; Stuart et al., 1998; Zanarini et al., 1998) and two reports for DSM-IV (American Psychiatric Association, 1994) defined PDs (Grilo et al., 2002; McGlashan et al., 2000).

Oldham and colleagues (1992), in a study of 100 severely ill patients, reported a broad pattern of co-occurrence of PDs with BPD, with an especially strong association for histrionic PD. Stuart and colleagues (1998), in a study of a heterogeneous sample of 1116 patients, found that all other cluster BPD and dependent PD were significantly associated with BPD. Zanarini and colleagues (1998), in a study of 504 inpatients with PD, reported that patients with BPD had significantly higher rates of paranoid, avoidant, and dependent PD than patients without BPD. The Zanarini study—the first to document gender differences in BPD co-occurrence—found that while rates of avoidant and dependent PD in BPD were similar across genders, males with BPD were significantly more likely than females to meet criteria for paranoid, antisocial, narcissistic, and passive-aggressive PDs. Becker and colleagues (2000), in a study of 117 inpatients, found that BPD was significantly comorbid with antisocial PD. McGlashan and colleagues (2000), in a mixed clinical sample of 668 adults, found that BPD significantly co-occurred with antisocial and dependent PD; the specific recruitment and selection procedures in this study, however, did not allow for analyses of BPD co-occurrence with other PDs. Grilo et al. (2002), in a study of 100 Hispanic psychiatric outpatients with substance abuse problems, reported significant co-occurrence with BPD for antisocial, avoidant, and depressive PD. This study was the second to report a gender effect: whereas no significant co-occurrence of any PD with BPD was observed in females, significant co-occurrence of BPD with antisocial, avoidant, and depressive PD was observed in males (Grilo et al., 2002).

The purpose of the present study was to examine the co-occurrence of DSM-IV PD in psychiatric outpatients assessed with a structured diagnostic interview. This represents an attempt to replicate and to extend the Grilo et al. (2002) study with Hispanic psychiatric patients to a general outpatient English-speaking group recruited for participation in studies of personality.

Method

Subjects

Participants were 108 adult psychiatric outpatients who responded to media advertisements and postings to participate in research studies of “borderline personality,” “personality,” and “personality, emotions, and mood.” This recruitment was intended to obtain patients with BPD as well as relevant patient groups (*i.e.*, patients without BPD but with other PDs, and patients with axis I psychiatric disorders but without PDs) to perform comparative descriptive and biological investigations. Eligibility for this study required outpatient treatment status (or active treatment seeking) plus some form of axis I psychiatric and/or axis II personality disorder diagnosis. Participants were excluded from participation if there were psychiatric contraindications (*e.g.*, acute psychosis or a schizophrenia spectrum diagnosis indicative of thought disorder) or mental status issues (*e.g.*, cognitive impairments, substance intoxication or withdrawal) that would preclude a valid assessment.

Of the 108 patients, 31 (29%) were male and 77 (71%) were female. Patients had a mean age of 36.8 years (SD

= 12.1), 80% (N = 86) were white, 52% (N = 56) were single, 75% (N =81) attended or graduated from college, and 44% (N = 47) were employed. These demographic features did not differ by gender.

Procedures

Written informed consent was obtained from all participants prior to entry into the study. Among the assessments conducted, patients were administered the Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini, 1996). The DIPD-IV (Zanarini, 1996) is a semistructured diagnostic interview that assesses the 10 recognized DSM-IV PDs and also includes two research disorders (passive-aggressive and depressive). The DIPD-IV contains several questions to ascertain each PD criterion and includes specific guidelines for determining the presence and clinical significance of the criteria and PD diagnoses (e.g., criteria must be present and pervasive for at least 2 years and be characteristic of the person during his or her adult life). The DIPD-IV has established interrater and test-retest reliability in other samples (Zanarini et al., 2000) and has been used with different patient groups in previous studies of comorbidity (McGlashan et al., 2000; Zanarini et al., 1998). Interviewers for the present study were Ph.D.-level research clinicians with considerable clinical experience with PD patients and who were trained to adequate levels of reliability by the developer of the DIPD-IV (M.C. Zanarini).

Analysis

To determine significant patterns of diagnostic co-occurrence, the study group of patients with BPD was compared to the study group of patients without BPD. Rates of occurrence of other PDs were calculated for the group with BPD and for the group without BPD. The difference between the rates was analyzed by performing chi-square tests with Yates continuity correction. To allow for future metaanalysis, we calculated and report odds ratios wherever possible.

Results

Overall, 47 (44%) of the 108 patients met criteria for at least one PD. Patients met criteria for a mean of 1.3 (SD = 1.6) PD. Of the 108 patients, 24 (22%) met criteria for one PD, 16 (15%) met criteria for two PDs, and 22 (19%) met criteria for three or more PDs.

BPD Co-Occurrence

Table 1 shows the frequencies of each of the other PDs in the overall study group, their rates of occurrence in the groups with and without BPD, and the results of the analyses. With the exception of histrionic PD—which was diagnosed in only one patient—all PD occurred at higher rates in the group with BPD than in the group without BPD. Chi-square analysis with Yates continuity correction revealed that BPD had significant co-occurrence with antisocial and avoidant PD, as well as with the two research categories (passive-aggressive and depressive PDs).

	Frequency		Occurrence Rates (%)				Analysis			
	(N)	(%)	BPD (N = 43)		Non-BPD (N = 65)		χ^2	p	Odds Ratio	95% CI
			(N)	(%)	(N)	(%)				
Paranoid	5	4.6	4	9.3	1	7.6	2.0	NS	6.6	0.8–60.9
Schizoid	0	0.0	0	0.0	0	3.0	—	—	—	—
Schizotypal	3	2.8	2	4.7	1	1.5	0.1	NS	3.1	0.3–35.5
Antisocial	10	9.3	8	18.6	2	6.1	5.7	.017	7.2	1.4–35.8
Histrionic	1	0.9	0	0.0	1	1.5	—	—	—	—
Narcissistic	3	2.8	2	4.7	1	1.5	0.1	NS	3.1	0.3–35.5
Avoidant	31	28.7	23	53.5	8	12.3	19.5	.000	8.2	3.2–21.2
Dependent	8	7.4	5	11.6	3	4.6	1.0	NS	2.7	0.6–12.0
Obsessive-compulsive	11	10.2	7	16.3	4	6.2	1.9	NS	3.0	0.8–10.8
Research category										
Passive-aggressive	5	4.6	5	11.6	0	1.5	5.5	.019	—	—
Depressive	18	16.7	16	37.2	2	12.1	19.3	.000	18.7	4.0–86.9

^a BPD = borderline personality disorder.

^b $df = 1$.

TABLE 1 Frequencies of Other DSM-IV Personality Disorders in 108 Psychiatric Outpatients and Occurrence Rates in Groups with and without BPD^aBPD = borderline personality disorder.^b $df = 1$.

Gender Differences

We also explored for gender differences in the distribution of PD. Overall, males and females did not differ significantly regarding the presence of a PD (58% vs. 56%, respectively; $[\chi^2]^2[1] = .044, p = .833, NS$) or in the number of PDs present ($M = 1.4 [SD = 1.8]$ vs. $M = 1.2 [SD = 1.5]$, respectively; $F [1,107] = .105, p = .747 NS$). In addition, except for narcissistic PD—which was assigned only in three males—we observed no significant differences in the distribution of PDs by gender.

Gender Differences in BPD Co-Occurrence

We performed chi-square analysis with Yates continuity correction separately for males and for females to test for significant PD co-occurrence with BPD. In males, patients with BPD had significantly higher co-occurrence rates than did patients without BPD for three PDs: antisocial (37.5%vs. 4.3%; Fisher exact test $p = .043$), avoidant (62.5%vs. 13.0%; Fisher exact test $p = .013$), and depressive (50.0%vs. 8.7%; Fisher exact test $p = .026$). In females, patients with BPD had significantly higher co-occurrence rates than did patients without BPD for three PDs: avoidant (51.4%vs. 11.9%; Fisher exact test $p = .000$), obsessive-compulsive (17.1%vs. 0%; Fisher exact test $p = .007$), and depressive (34.3%vs. 0%; Fisher exact test $p = .000$).

Discussion

Our study examined DSM-IV axis II PD co-occurrence with BPD in adult psychiatric outpatients. Overall, we observed significant diagnostic co-occurrence with BPD for antisocial, avoidant, passive-aggressive, and depressive PD. Analyses conducted separately by gender, however, revealed significant BPD co-occurrence with avoidant and depressive PD in both men and women, with antisocial PD only in men, and with obsessive-compulsive PD only in women.

The observed overall association between BPD and antisocial PD is well established (Becker et al., 2000; Grilo et al., in press; McGlashan et al., 2000; Stuart et al., 1998), particularly for males (Grilo et al., 2002; Zanarini et al., 1998). The observed broad pattern of co-occurrence with BPD encompassing cluster C “anxious” PD and a research “depressive” PD category is also consistent with four previous DSM-III-R/DSM-IV studies using semistructured interviews (Grilo et al., 2002; McGlashan et al., 2000; Oldham et al., 1992; Stuart et al., 1998; Zanarini et al., 1998).

While our findings for males replicate those we recently reported for Hispanic psychiatric outpatients with substance abuse problems (Grilo et al., 2002), our findings for females do not. In our previous study, we observed no significant BPD co-occurrences in females. In that report, it is possible that the relatively small sample size of females may have not allowed for differences to be detected. Nonetheless, one emerging theme from this report and our previous inpatient DSM-III-R study (Grilo et al., 2002) is that the BPD diagnosis may signal the presence of a broader range of psychopathology in males than in females. Whereas a significant proportion of both males and females with BPD are quite likely to also struggle with significant anxious (avoidant) and salient depressive personality features, a significant proportion of males seem to be characterized by antisocial (externalizing) features.

The generalizability of our findings may be limited to psychiatric outpatients who respond to media advertisements and volunteer to participate in research on personality. We note that the average number of PD diagnoses was roughly 1.3, which is similar to Torgersen and colleagues' (2001) mean number of 1.48 PD diagnoses for a community-based study in Norway and with other diverse clinical studies (Oldham et al., 1992; Stuart et al., 1998). Recruitment strategies may influence study group composition and treatment-seeking effects are also thought to represent potential sources of confounds in comorbidity research (du Fort et al., 1993). However, the present replication and extension of the Grilo et al. (2002) findings to a generic outpatient English-speaking group suggest that the patterning may reflect psychopathological processes, rather than simply represent artifacts of treatment seeking and comorbidity specific to a particular study group.

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Personality Disorder	Prevalence (%)		N	95% CI
	Axis I	Axis II		
Borderline	15.0	15.0	15	9.0-21.0
Bipolar	0.0	0.0	0	0.0-0.0
Depressive	10.0	10.0	10	5.0-15.0
Manic	0.0	0.0	0	0.0-0.0
Obsessive	5.0	5.0	5	2.0-8.0
Paranoid	0.0	0.0	0	0.0-0.0
Schizophrenic	0.0	0.0	0	0.0-0.0
Substance	5.0	5.0	5	2.0-8.0
Total	30.0	30.0	30	20.0-40.0

 Table 1

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