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ARTICLE



Comorbid personality disorders and their impact on severe dissociative experiences in Mexican patients with borderline personality disorder

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ABSTRACT

Objective: To identify personality disorders comorbid with borderline personality disorder (BPD) that may confer greater risk for the presence of severe dissociative experiences.

Method: Three hundred and one outpatients with a primary diagnosis of BPD were evaluated using the Structured Clinical Interview for DSM-IV Axis I personality disorders, the Borderline Evaluation of Severity Over Time (BEST) and the Dissociative Experiences Scale (DES).

Results: The most frequent personality disorders comorbid to BPD were paranoid (83.2%, $n = 263$) and depressive (81.3%, $n = 257$). The mean BEST and DES total score were 43.3 ($SD = 11.4$, range 15–69) and 28.6 ($SD = 19.8$, range 0–98), respectively. We categorized the sample into patients with and without severe dissociative experiences (41% were positive). A logistic regression model revealed that Schizotypal, Obsessive-compulsive and Antisocial personality disorders conferred greater risk for the presence of severe dissociative experiences.

Discussion: Our results suggest that a large proportion of patients with BPD present a high rate of severe dissociative experiences and that some clinical factors such as personality comorbidity confer greater risk for severe dissociation, which is related to greater dysfunction and suffering, as well as a worse progression of the BPD.

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1. Introduction

Borderline personality disorder (BPD) is a psychiatric condition characterized by affective instability, impulsivity, chaotic interpersonal relationships, and identity disturbances which cause alterations in multiple functioning areas [1]. BPD is considered a common disorder that affects from 0.5% to 5.9% of the general population [2], and is more commonly present in women; however, this evidence has not been consistent [3]. In clinical populations, BPD is the most common personality disorder (PD), with a prevalence of 10% in psychiatric outpatients and from 15% to 25% in inpatients [4,5]. About 80% of patients with BPD have a co-occurring PD [6]. The most frequent PDs reported in patients with BPD are as follows: (1) from cluster A, paranoid PD has been reported in 30–38%; (2) from cluster B, histrionic and antisocial PD have been reported in 15–25% and in 13–19%, respectively; and (3) from cluster C, dependent and avoidant PD in 30–50% and in 20–40%, respectively [2,7,8].

About two thirds of BPD patients report dissociative experiences such as unbidden intrusions into awareness and behavior with accompanying losses of continuity in

subjective experience (e.g. absorption, identity confusion, depersonalization and derealization), and/or an inability to access information or to control mental functions that normally are controlled (e.g. amnesia) [1,9–11]. The level of dissociation is significantly higher in BPD patients than in healthy controls, general psychiatric patients and patients with another PD. In fact, only patients with dissociative disorders (DD) present higher rates of dissociative symptoms than BPD patients [12,13]. It has been suggested that the phenomenon of dissociation within BPD seems to constitute a continuum of severity [11]. Using the Dissociative Experiences Scale (DES), Zanarini et al. [12,14] described BPD inpatients with low, moderate and severe dissociation. The presence of severe dissociation in BPD patients has been correlated with more self-reported traumatic experiences, post-traumatic symptoms, behavioral disturbances, and self-injurious behavior, as well as lower adaptive functioning, including higher frequency and duration of inpatient treatments, as well as lower age of inpatient admission [10,15].

PD and comorbid dissociative experiences may worsen the emotional and behavioral manifestation during the

course of BPD, thus hindering treatments and functional reintegration of these patients to daily life. It is therefore, necessary to increase our knowledge about how PD comorbidity may affect the overt manifestation of severe dissociative experience (SDE) in this population. The aim of the present study was to identify the most important comorbid PDs and to determine if these are predictors of SDE in patients with BPD.

2. Material and methods

2.1. Participants

This was a retrospective design with the use of the institutional clinical databases. We included the demographic and clinical data from all male and female patients between 18 and 65 years of age who entered the BPD Clinic at the *Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz* (INPRF), located in Mexico City, between October 2015 and February 2018, and who had the confirmed diagnosis of BPD according to the Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM-IV-TR) [16]. Patients with diagnoses of psychotic disorders, bipolar disorder, active eating disorder or substance dependence (except nicotine dependence) were excluded. This study was conducted according to the Declaration of Helsinki and was approved by ethics and research committee of the INPRF (INPDSCEC-02-20.1). All patients gave their oral and written consent for the use of their data for research purposes.

2.2. Measurement instruments and procedure

Patients who met the criteria for admission to the BPD Clinic were evaluated according to the Clinic's protocol, which includes obtaining general demographic data and a clinical evaluation through an interview conducted by a psychiatrist at the Clinic. This evaluation was complemented with the administration of several scales and questionnaires. We used the Clinical Interview for DSM-IV Axis II Personality Disorders self-report screening questionnaire (SCID-II-PQ) to explore all PDs. The SCID-II-PQ has 119 items with affirmative or negative answers for determination of whether a feature of any PD is present. Different cutoff points have been suggested to determine the diagnosis of a PD [17]. The overall PD diagnosis agreement reported with the use of the SCID-II-PQ vs. the SCID II interview is adequate, with overall K of agreement of 0.75 [18]. For BPD diagnosis, we used both the SCID-II-PQ and the SCID II interview, while only the SCID-II-PQ was used for the remaining PDs, and were considered as present according to the cutoff scores proposed [17]. The overall severity of BPD symptoms in the 30 days prior to the interview was evaluated with the Borderline Evaluation of Severity Over Time (BEST) scale, a self-report instrument of 15 items rated on a 5-point Likert scale [19]. The score of item 5, 'Feeling paranoid or like you are losing touch with reality', which is a dissociation symptom included in the scale, was removed from statistical analysis to avoid criterion contamination. The DES, which consists of 28 self-report items

evaluated on a visual analog scale from 0 to 100, was used to assess the presence and severity of dissociative experiences [20]. We used a score of 30 or more as an indicator of SDE, following Zanarini et al. [12,14]. This score was used to divide the sample between those with and without SDE.

2.3. Statistical analysis

Demographic and clinical characteristics were described with frequencies and percentages for categorical variables, and means and standard deviations (SD) for continuous variables. The comparisons between patients with and without SDE were done using chi-square tests (χ^2) for categorical variables and with independent sample t -tests for continuous variables.

Variables where significant differences arose in the comparative analyses were included in a logistic regression analysis to determine the risk conferred by demographic variables and the presence of comorbid PD in the presentation of SDE. The Akaike Information Criterion (AIC) was determined to identify which of the models best approximated the data of the present sample. The level of statistical significance was set at $p \leq 0.05$.

3. Results

A total of 316 patients with BPD were included in the study, of which 85.8% ($n = 271$) were female with an average age of 29.7 years ($SD = 10.5$, range 17–62). A large percentage of patients had completed their high-school studies (48.4%, $n = 153$), followed by those with a bachelor's degree (32.6%, $n = 103$). Twelve patients did not complete the BEST scale; therefore, we reported the data obtained from 304 patients, whose average score was 43.3 points ($SD = 11.4$, range 15–69) indicative of moderate symptom severity. Likewise, 14 patients did not complete the DES scale; thus, the average severity score of the dissociative experiences of the remaining 301 patients in the sample was of 28.6 points ($SD = 19.8$, range 0–98). Using the cutoff point of 30, 41.9% ($n = 126$) of the patients were classified with SDE.

The most frequent comorbid PDs were paranoid PD (83.2%, $n = 263$) and depressive (81.3%, $n = 257$), while those with the lowest presentation were schizotypal (25.6%, $n = 81$) and antisocial (37.0%, $n = 117$). The comparisons of demographic characteristics and comorbidity with PDs among patients with and without SDE are displayed in Table 1. Both groups were similar in terms of sex, age and level of education. BPD patients with schizoid, schizotypal, antisocial, obsessive-compulsive, and passive-aggressive comorbidities presented SDE more often. In addition, patients with SDE reported greater severity of BPD symptoms.

Five comorbid PDs and the total score of the BEST scale were included in an initial logistic regression model. After adjustments, the final logistic regression equation correctly classified 67.0% of the cases and was significant for the present sample according to the Hosmer and Lemeshow statistical value ($p = 0.84$). As shown in Table 2, the main predictors of SDE were schizotypal PD, obsessive-compulsive

Table 1. Demographic and clinical characteristics between patients with and without severe dissociative experiences (SDE).

	Total ^a		Without SDE <i>n</i> = 175		With SDE <i>n</i> = 126		Statistics
<i>Demographic</i>			<i>n</i>	%			
Sex - Women	257	85.4	148	84.6	109	86.5	Fisher = 0.74
Education - High-school	145	48.2	84	48.0	61	48.4	Fisher = 1.00
<i>Personality disorder</i>			<i>n</i>	%			
Avoidant	229	76.1	129	73.7	100	79.4	Fisher = 0.27
Dependent	124	41.2	65	37.1	59	46.8	Fisher = 0.09
Obsessive-compulsive	236	78.4	125	71.4	111	88.1	Fisher = 0.001
Passive-aggressive	241	80.1	129	73.7	112	88.9	Fisher = 0.001
Depressive	249	82.7	139	79.4	110	87.3	Fisher = 0.08
Paranoid	250	83.1	139	79.4	111	88.1	Fisher = 0.06
Schizotypal	79	26.2	27	15.4	52	41.3	Fisher < 0.001
Schizoid	189	62.8	99	56.6	90	71.4	Fisher = 0.01
Histrionic	144	47.8	80	45.7	64	50.8	Fisher = 0.41
Narcissistic	205	68.1	112	64.0	93	73.8	Fisher = 0.08
Antisocial	113	37.5	51	29.1	62	49.2	Fisher < 0.001
			<i>Mean</i>	<i>SD</i>			
Age	29.7	10.5	30.4	10.6	28.2	9.7	<i>t</i> = 1.7, <i>p</i> = .07
BEST scale ^b	41.7	11.1	40.0	10.8	44.0	11.1	<i>t</i> = -3.1, <i>p</i> = .002

^a*n* = 301 patients completed the DES.^bTotal score without item 5 'Feeling paranoid or like you are losing touch with reality'.**Table 2.** Logistic regression models for the prediction of severe dissociative experience (SDE) in BPD patients.

	β	OR	95% C.I.	<i>p</i>
<i>Initial model: AIC value 357.33</i>				
Higher BEST scoring	0.01	1.01	0.99–1.04	0.11
Schizoid PD	0.41	1.51	0.88–2.62	0.13
Passive-Aggressive PD	0.47	1.60	0.77–3.29	0.20
Antisocial PD	0.60	1.83	1.08–3.10	0.02
Obsessive-compulsive PD	0.79	2.22	1.12–4.39	0.02
Schizotypal PD	1.20	3.32	1.85–5.96	<0.001
<i>Final model: AIC value 302.96</i>				
Higher BEST scoring	0.02	1.02	1.01–1.04	0.04
Antisocial PD	0.64	1.91	1.13–3.20	0.01
Obsessive-compulsive PD	0.92	2.52	1.29–4.91	0.007
Schizotypal PD	1.24	3.48	1.96–6.18	<0.001

PD, antisocial PD and more severe BPD symptomatology. This model was adequate according to the reduction observed in the AIC values.

4. Discussion

We observed a high rate of PD comorbidity, confirming that BPD as a unique personality diagnosis is infrequent. In this study, we found paranoid, depressive and passive-aggressive PDs were the most common comorbidities in patients with main diagnosis of BPD, and antisocial and schizotypal PD were the least common ones. This finding contrasts with other studies where schizotypal, narcissistic and dependent were the most frequent PDs comorbid with BPD [21]. We found rates of PD comorbidity higher than others reported in the literature, which could be explained by the fact that we used a self-report questionnaire to establish comorbidity. Methodological factors such as the kind of instrument used for assessment may inflate diagnosis estimates, and self-report questionnaires are more prone to this bias [22]. In this respect, the SCID-II-PQ presents an overrating of 19%, and therefore, our results should be interpreted with caution [18].

We observed antisocial PD comorbidity as one of the less common PD comorbidities, which could be the result of a selection bias. Perhaps some patients with BPD and intense antisocial symptoms are not sent to the clinic because they are diagnosed with an antisocial PD as main diagnosis. However, antisocial PD was present in 37% of the sample, which represents a higher rate compared to other investigations that report ranges between 13% and 19% [2,7]. As stated before, this could be a result of the use of a self-report measure, but it also suggests the possibility that we were dealing with a group of patients with severe psychopathology.

The mean DES total score in our study (28.6) is higher than means reported in other studies where BPD patients presented a mean DES score from 17.8 to 27.4 [23] but lower than other studies (44.4 total score) where 64% of the BPD sample met criteria for an additional diagnosis of DD [24]. More than 40% of our patients presented SDE, which represents a higher percentage than the ones reported in other studies. For example, Zanarini et al. [12,14] found that 26% of a sample of inpatients with diagnosis of BPD presented SDE. This is interesting since our sample were outpatients and SDE has been correlated with higher stress and poorer functioning, features associated with the clinical presentation of inpatients [9]. One possible explanation could be that Zanarini et al. [12,14] used an instrument based on DSM-III-R, a diagnostic system that did not include item 9 about *transient, stress-related dissociative symptoms*, which was added to the diagnostic criteria for BPD in the DSM-IV. Perhaps a significant proportion of our sample could present a DD comorbid with BPD and not only intense dissociative experiences [16,25]. However, BPD criterion 9 in the DSM-IV and DSM-5 mentions that dissociative symptoms are generally of insufficient severity or duration to warrant an additional diagnosis. For some authors, this is an unspecific rule for deciding when dissociative symptoms represent a separate DD diagnosis or can be considered as a BPD criterion [1,11,16].

We found that higher severity of borderline personality symptoms increases the risk for SDE ($OR=1.02$). This is consistent with D'Ambrosio and Vacca [26], who reported that the presence of BPD, regardless of trauma antecedent or personality comorbidity, increases the risk for dissociative symptom 4.41 times, which suggests that BPD syndrome itself represents a risk factor for the occurrence of dissociative phenomena [12,14]. Contrary to D'Ambrosio and Vacca [26], we found that PD comorbidity is an important predictor of SDE. Antisocial ($OR=1.91$), obsessive-compulsive ($OR=2.52$) and schizotypal ($OR=3.48$) PDs were the most important predictors of SDE in patients with main diagnosis of BPD. Consistent with others' reports, we found that one PD of each cluster predicts SDE. For example, it has been reported that any type of PD confers a higher risk for dissociation; cluster B PDs had the highest risk ($OR=7.23$), followed by cluster A PDs ($OR=4.39$) and finally, cluster C PDs ($OR=3.47$) [27]. Specifically, Semiz et al. [28] investigated the association between antisocial PD and dissociative symptoms in a sample of Turkish recruits, observing a mean of 32.6 ($SD\pm22$) in the DES, which represents a similar score to those observed in individuals with a BPD diagnosis. Also, there is evidence that the level of dissociation that occurs in individuals with schizotypal PD is similar to that observed in those with a BPD diagnosis [29]. In fact, some investigations have shown an association between schizotypal personality traits and dissociative symptoms, suggesting that both constructs could be a manifestation of a superordinate trait, openness to experience [11,30]; however, other studies have shown that this personality factor is not related to the level of dissociation [31]. Interestingly, we found that obsessive-compulsive PD predicts SDE, a finding not observed in other studies [26]. Nevertheless, it is important to keep in mind that information about dissociation and PDs other than BPD is scarce, and most studies of dissociation and BPD do not explore the effect of the PD comorbidities or use different instruments to assess dissociative experience, and therefore, our results are difficult to extrapolate.

The Five-Factor Model (FFM) is a dimensional model for the assessment of the general structure of personality [32]. This model divides personality into five domains or factors: neuroticism, extraversion, openness to experience, agreeableness and conscientiousness. All of them include various facets related to specific traits. There is evidence that all DSM-5 PDs can be understood as maladaptive variants of the general personality structure described through the FFM [33]. Studies conducted to assess the relationship between the FFM and dissociation have shown that neuroticism, highly associated with borderline and schizotypal PDs, predicts dissociation [31,34,35]. This could explain why we observed that high severity of borderline symptoms and schizotypal PD comorbidity predicted SDE in our study. The dimension of extraversion, related to antisocial PD, and conscientiousness, a characteristic factor observed in obsessive-compulsive PD, have been shown to be negatively correlated with dissociative symptoms in several studies [31,35]. However, we observed that both PDs' comorbidities predict SDE. These findings could suggest that traits of extraversion and conscientiousness predict dissociation when

they occur in patients who also present traits of neuroticism or that neuroticism has a stronger relationship with the presence of dissociation than other FFM domains. Other PDs such as narcissistic and histrionic have also been found to be related to extraversion, and one might expect that comorbidity with these PDs would also predict SDEs, as is the case of patients with antisocial PD comorbidity; however, this was not the case. Similarly, the avoidant and dependent PDs have been related to high levels of neuroticism, as well as schizotypal PD, and they also did not predict SDE. Future studies in BPD patients, taking into account comorbidity and the FFM model, including the specific facets of each domain, could offer more specific information about why PDs related to the same FFM domain present a different risk for dissociation.

4.1. Limitations

Some study limitations should be noted. One of the main limitations in this study is the use of a self-report instrument to establish the presence of PDs other than BPD, which possibly caused an overrating. Other investigations could be conducted using more reliable diagnostic methods. The DES scale is an adequate self-report questionnaire to assess severity of dissociation; however, it explores only the psychological component of the phenomenon [36]. A complete exploration of dissociation could include a somatoform dimension and, in this sense, our approach towards the dissociative phenomenon could be partial. We did not explore some Axis I disorders with potential impact on the results. Patients with DD and posttraumatic stress disorder presents high levels of dissociation, and both disorders present high comorbidity with BPD. Therefore, exploring these comorbidities would have been important for results interpretation. Similarly, previous research has found dissociative experiences in BPD patients to be positively correlated with higher co-occurrence of alcohol abuse and traumatic events during childhood; that connection was also not explored in the present study. Despite these limitations, our study provides further evidence regarding the complexity and heterogeneity of the dissociative phenomenon presented in BPD, increasing knowledge about the clinical factors, such as PD comorbidity, that confer greater risk for dissociation.

4.2. Conclusions

SDE are associated with severe dysfunction and suffering, as well as a worse clinical course and prognosis in patients with BPD. Comorbidity with other PDs may represent additional prognostic factors for BPD patients that is necessary to identify during daily clinical consultation. Future research should include the evaluation of BPD from a broader perspective. In addition to the assessment of BPD symptoms and functional impairment, the impact of comorbidity with other disorders, including PDs, should be closely monitored. The above should not only increase our knowledge about BPD but also may increase the possibility of carrying out early interventions and make more specific treatment decisions for these patients based on research results, improving their prognosis in terms

of symptom severity, global functioning, quality of life and well-being.

Disclosure statement

No potential conflict of interest was reported by the authors.

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