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Determining the Impact of Borderline Personality Disorder in the Treatment Outcome of Depression

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Authors' contributions

This work was carried out in collaboration between all authors. Author EDP designed the study, wrote the protocol. Author RM wrote the first draft of the manuscript. Authors WWI, KS, BB, EL, MF, MH, SC, SG and JD managed the literature searches, analyses of the study, and data interpresentations. All authors read and approved the final manuscript.

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Original Research Article

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ABSTRACT

Aim: To evaluate whether Borderline Personality Disorder (BPD) has an impact on the treatment outcome in patients with Major Depressive Disorder (MDD).
Methods: We studied 130 patients who met the DSM-IV criteria for MDD according to the DSM-IV checklist. Patients were assessed for depression and BPD using the Montgomery Asberg Depression Rating Scale (MADRS) and the Structured Clinical Interview for DSM-IV Personality Disorders (SIDP-IV), respectively. Each patient was assessed for depression severity using the MADRS score at the beginning of the study and once again after 8-12 weeks of Selective Serotonin Reuptake Inhibitor (SSRI) treatment. Results derived from MADRS evaluations of patients with MDD comorbid with BPD (MDD+BPD) were analyzed and compared with results from patients with MDD no comorbid BPD (MDDnoBPD). The rates of remission and response to treatment in these two groups were thereby measured and compared.

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Results: Patients with MDD+BPD had statistically significantly lower rates of remission after SSRI treatment compared to patients with MDDnoBPD (*P= .009*). Interestingly, when comparing patients that had single episode of MDD, the difference in remission rates was not statistically significant (*P= .07*) in both groups. In contrast, when comparing patients with recurrent episode of MDD, remission rates were statistically significantly lower in patients with MDD+BPD (*P= .03*).
Conclusion: MDD+BPD patients have lower rates of remission when treated with SSRIs in comparison with MDDnoBPD. Therefore, it is important to assess MDD patients for additional personality disorders in order to structure an optimal treatment plan with clear prognostic indicators.

Keywords: Borderline personality disorder; major depressive disorder; pharmacotherapy; outcome; comorbidity.

1. INTRODUCTION

Borderline Personality Disorder (BPD) was first recognized in 1980 in the Diagnostic and Statistical Manual for Mental Disorders, Third Edition (DSM-III). BPD is a serious psychiatric disorder characterized by emotional dysregulation, impulsivity, unstable sense of self and others, and marked difficulties in interpersonal relationships, which is typically accompanied by suicidal and self-harming behavior [1]. Rarely occurring in isolation, it is estimated that 71-83% of patients with BPD have a lifetime tendency toward depression [2]. Additionally, longitudinal studies utilizing structured diagnostic interviews reported a comparable prevalence of 87% [3-5]. Specifically, longitudinal studies have suggested that Major Depressive Disorder (MDD) comorbid with BPD may be related to interpersonal difficulties, environmental stressors and emotional lability that may be attributable to BPD itself [6,7].

The diagnostic criteria for MDD in patients with MDD comorbid with BPD (MDD+BPD) are the same as those with MDD no comorbid BPD (MDDnoBPD). However, the characteristics of MDD in individuals with MDD+BPD manifest differently and entail: 1) feelings of loneliness and emptiness, 2) a sense of desperation related to the fear of rejection or abandonment by significant others, 3) an unstable, negative affect, 4) increased suicidal ideation, 5) a deep sense of inner wrongdoing, and 6) rare manifestations of melancholic symptoms [8-11]. There is growing empirical data supporting the notion that MDD+BPD patients results in: poor treatment response, increased risk of recurrent depression, self-injurious behavior and substance abuse [12,13]. Recent studies suggest that behavioral inhibition and harm avoidance in patients with BPD are associated with depressive symptoms [10]. MDD is a severe and debilitating illness and it is the most prevalent Axis I mental health disorder, with a lifetime prevalence ranging from 6 to 25% [14-17]. Additionally, the impact of comorbid BPD upon treatment outcomes in MDD is complex; BPD serves as an important risk factor for MDD and significantly impacts treatment outcomes [18,19].

A significant interaction has been noted between MDD and BPD: failure of MDD to improve has been associated with a reduced chance of improvement of BPD [20]. BPD is reported to be a predictor of slowed and reduced remission rates in patients suffering from MDD when other negative prognostic predictors are controlled [21]. MDD+BPD patients have lower rates of remission and more frequent recurrence of depression [22,23]. Additionally, MDD+BPD patients do not respond as well to antidepressant medication as MDDnoBPD patients [24]. Thus, the large population of BPD patients are at increased risk to becoming and staying depressed and do not have an effective and lasting treatment.

The purpose of this study is to evaluate whether BPD has an impact upon the pharmacotherapy treatment outcome of MDD in a naturalistic setting. Our goal is to contribute to the limited literature specifically examining the impact of pharmacotherapy on MDD+BPD patients to ultimately be able to devise a treatment plan that may help this specific population of patients.

2. METHODS

2.1 Study Population

We studied a total of 130 patients who met the DSM-IV criteria for MDD in a community outpatient clinic setting. Patients receiving outpatient psychiatric care at Freedom from Fear Clinical Staten Island NY from 1994 to 2010 were approached to participate in this study. To be eligible to participate in this study, patients had to

be between the ages of 18-80, diagnosed with Major Depressive Disorder (MDD) according to the DSM-IV checklist, without any psychiatric disorders other than BPD or any active substance abuse disorders in the previous 12 months. The Institutional Review Board (IRB), the responsible research ethics committee, approved the study. All research conducted complied with the Declaration of Helsinki for ethical research in humans.

2.2 Study Measures

Two semi-structured interview measures, the Montgomery Asberg Depression Rating Scale (MADRS) and the Structured Clinical Interview for DSM-IV Personality Disorders (SIDP-IV) were used to assess patients with MDD and BPD respectively [25]. MADRS measure the severity of depressive symptoms and it includes 10 items, each of which has a rating scale from 0 (no symptom) to 6 (severe symptom). Remission is defined as MADRS scores of ≤ 8, response as MADRS scores of 9-14 and non-response as MADRS scores above 14. [26]. These assessments are standard to diagnose both BPD and MMD and more information on them have been published elsewhere [27,28].

2.3 Study Procedures

The study patients gave informed written consent in order to participate in this IRB-approved trial. Patients were interviewed by a psychiatrist or a psychologist in order to assess their eligibility for our study, utilizing DSM-IV criteria for MDD according to the DSM-IV checklist. The MADRS was then used to assess the severity of depression and the SIDP-IV was employed to detect the presence or absence of BPD. 52 patients met the criteria for MDD in addition to the criteria for BPD and 78 patients met the criteria for MDD alone, all of whom decided to participate in this study. Demographic variables such as age, sex, and whether it was the first episode of depression, were collected. During the 8-12 weeks of treatment, no patients dropped out of the study, so no data was excluded. Patients were treated with selective serotonin reuptake inhibitors (SSRIs), based on clinical grounds that incorporated factors such as history of previous response to medication, sensitivity to side effects, and the number of episodes of depression experienced, in order to optimize treatment outcomes. In this naturalistic study, there was no standard SSRI used; the best one for each patient was prescribed on an individual basis. After 8-12 weeks of treatment, the Montgomery Asberg Depression Rating Scale (MADRS) was administered again. The results were compared with scores collected at the beginning of the study, and the rates of remission and response to treatment were measured.

2.4 Statistical Analysis

The data was assessed for normality of distribution using the Shapiro–Wilk test. Summary values are expressed as means and standard deviations (SD) for continuous variables and frequencies (%) for categorical variables. The proportions of patients with remission, response, and non-response were calculated and compared. Statistical significance is $p<0.05$. Analyses were performed using SAS software version 9.2 (SAS Institute Inc., Cary, NC, USA).

3. RESULTS

The demographic and clinical characteristics of the analyzed patient sample (n=130) and the difference between patients with MDD+BPD and MDDnoBPD are detailed in Table 1. Demographic comparisons revealed both groups did not significantly differ in mean age and proportion of females with slightly more females than male. The average age of first episode and single episode were not significantly different between MDD+BPD and MDDnoBPD groups.

The mean dose of each SSRI is presented in Table 2. There were no statistically significant differences between the various treatments prescribed in either the MDD+BPD or the MDDnoBPD group (*P= .14*).

Table 1. Demographic and clinical characteristics of the study sample

	MDD+BPD N=52	MDDnoBPD N=78	P value
Females	31/52 (59.6%)	45/78 (57.7%)	.83 (ns)
Age range	18-80	18-80	
Mean age (SD)	40.1 (15.1)	40.3 (15.5)	.98 (ns)
Average age of first episode	28	29	.89 (ns)
Single episode	17/52 (32.7%)	26/78 (33.3%)	.94 (ns)

Table 2. Medication dosing in patients with MDD+BPD and MDDnoBPD

Medication	Average dose (mg)	Patient count		P value
		MDD+BPD N=52	MDDnoBPD N=78	
Escitalopram	17.4	11 (21.2%)	18 (23.1%)	.80 (ns)
Sertraline	163	18 (34.6%)	28 (35.9%)	.88 (ns)
Paroxetine	45.2	12 (23.1%)	16 (20.5%)	.73 (ns)
Fluoxetine	40	11 (21.2%)	16 (20.5%)	.93 (ns)

The outcome of treatment for single and recurrent episodes within each group are depicted in Fig. 1. Of the 52 patients with MDD+BPD: 13.5% (7 patients) remitted, 32.7% (17 patients) had a response, and 53.8% (28 patients) showed no-response. Of the 78 patients with MDDnoBPD: 34.6% (27 patients) remitted, 34.6% (27 patients) had a response, and 30.8% (24 patients) showed no-response.

The outcome of treatment for single episode within each group are depicted in Fig. 2. Of the 52 patients with MDD+BPD: 24% (12 patients) remitted, 24% (12 patients) responded and 53% (28 patients) showed no-response. Of the 78 patients with MDDnoBPD: 38% (30 patients) remitted, 42% (33 patients) had a response and 19% (15 patients) showed no-response.

The outcome of treatment for the recurrent episode of depression within each group are depicted in Fig. 3. Of the 52 patients with MDD+BPD: 11% (5 patients) remitted, 25% (13 patients) responded and 65% (34 patients) showed no-response. Of the 78 patients with MDDnoBPD: 33% (25 patients) remitted, 31% (24 patients) had a response and 37% (29 patients) showed no-response. Rates of remission and response were detected following 8-12 weeks of treatment in MDD+BPD and MDDnoBPD patients. However, the MDD+BPD group had statistically significantly lower rates of remission compared to the MDDnoBPD group (*P= .009*). Interestingly, in the MDD patients with single episode of depression, differences in remission rates were not statistically significant between patients with MDD+BPD and those with MDDnoBPD (*P= .07*). In contrast, in the MDD patients with recurrent depressive episode, remission rates were statistically significantly lower for patients with MDD+BPD (*P= .03*) as seen in Fig. 3.

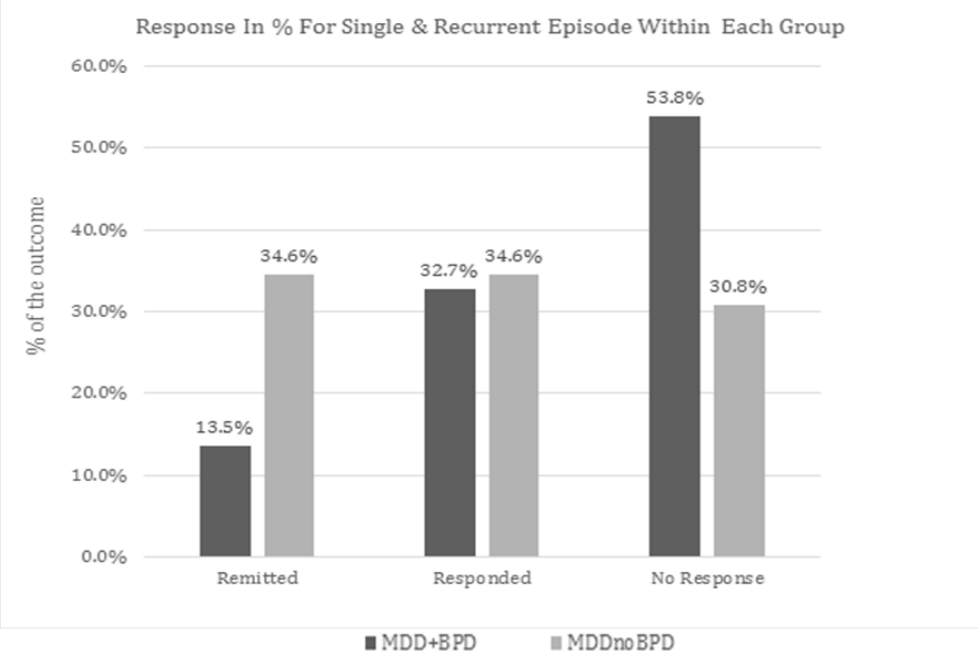

Fig. 1. Outcome of treatment in each group in percentage

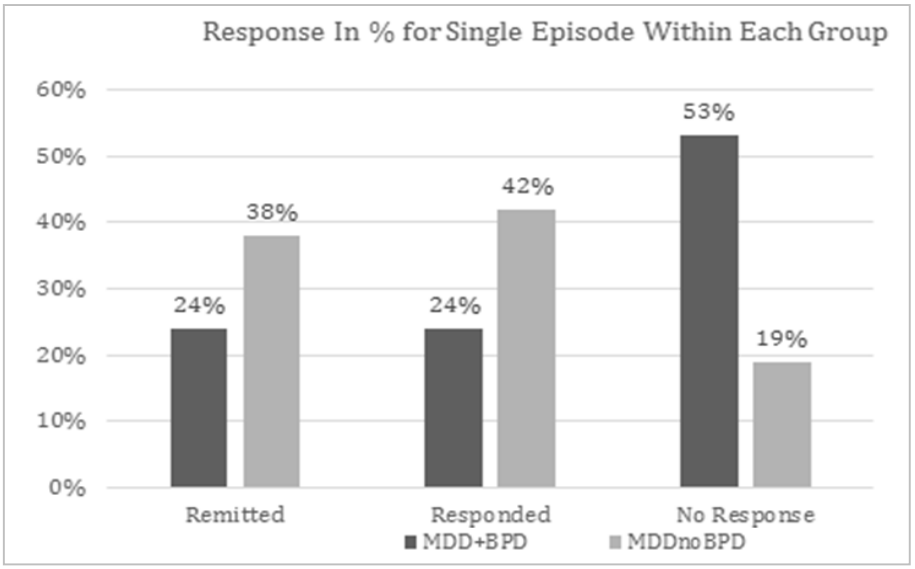

Fig. 2. Outcome of treatment in patients with MDD+BPD compared with MDDnoBPD

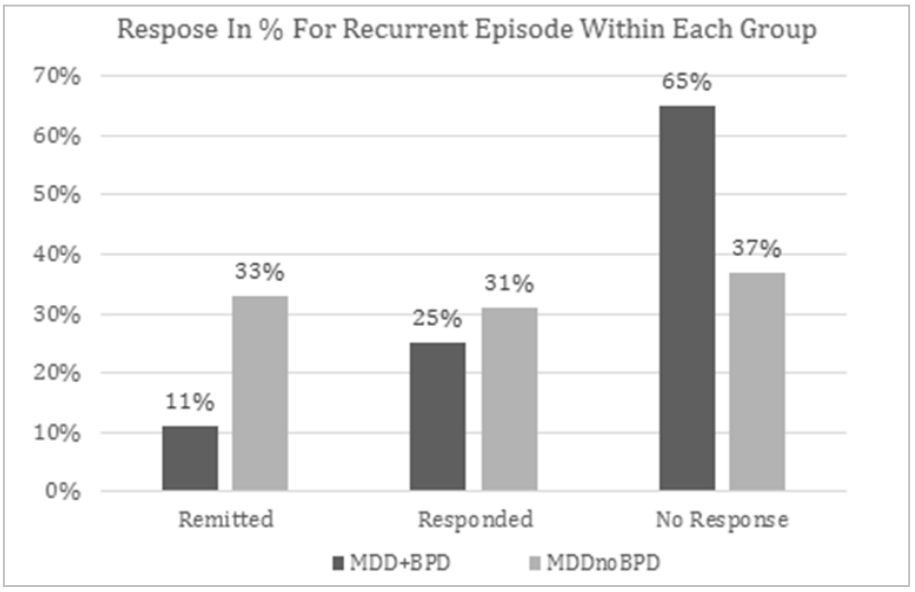

Fig. 3. Outcome of treatment in patients with MDD+BPD compared with MDDnoBPD

4. DISCUSSION

Our study found remission rates of depression in MDD+BPD patients following 8-12 weeks of pharmacotherapy is lower than MDDnoBPD patients. Recurrent episode of depression severely impact MDD+BPD patient's chances of remission further.

Co-morbid BPD have already been found to influence the prognosis and treatment of MDD by significantly slowing the time to remission [22]. BPDs are strong predictors of this slowing of remission even when early age at onset of MDD, recurrent MDD, or other Axis I comorbidity are controlled [29]. This is consistent with the findings of our study, in which patients with recurrent MDD+BPD were noted to face the greatest challenges in terms of achieving remission. MDD+BPD is correlated with ongoing interpersonal impairment, contributing to the chronic nature of depression in these

patients [30]. Therefore, assessment of personality pathology is critical and crucial in the treatment approaches and outcomes in MDD. Some have suggested that patients with a BPD were more likely than those without a BPD to need additional therapy to achieve remission of depression, but studies have yielded inconsistent and conflicting results [20,21,31].

5. LIMITATIONS AND STRENGTHS

Because this was a naturalistic study, it is a more realistic representation of typical outpatient treatment, in contrast with a controlled research setting. As such, bias, undue influence and lack of generalizability due to limited sample representativeness may be present. Additionally, specific traits shared by BPD and MDD, which may have had clinical utility regarding treatment outcomes, were not investigated. The study was conducted during the acute treatment phase ranging from 8 to 12 weeks, which is the average duration of most studies of depression. However, because MDD+BPD patients takes longer to improve, BPD participants may have been evaluated prematurely in the course of their depression for an accurate demonstration of the effects of treatment. Lastly, future studies should consider using the Revised Diagnostic Interview for Borderlines (DIB-R) instead of the SIDP-IV to achieve improved clarity, as this assessment offers a more thorough evaluation of BPD symptomatology [2,3].

This study contributed to a field that is still relatively unexplored, yet is of crucial importance to relevant patients and clinicians. No patients dropped out during the study, adding to the robustness of the research sample and findings.

6. CONCLUSION

MDD+BPD is associated with lower rates of remission in response to a standard treatment of antidepressants, in comparison with MDDnoBPD patients. These differences highlight the importance of assessing borderline personality disorders in depressed patients for prognostic factors and treatment outcomes. Since MDD is the most ubiquitous disorder associated with BPD, clinicians may have a tendency to focus on treating depressive symptomatology, with the hope that BPD pathology may remit as well, but research has repeatedly found treating BPD as the primary diagnosis results to a better prognosis, as MDD shares many overlapping features of this borderline personality disorder, such as chronic dysphoria, sadness, and worthlessness. Therefore, remedies used exclusively to treat MDD may not be as efficacious without including treatment that specifically targets BPD symptomatology as well [32,33]. This study may help to provide insight leading to improved quality of life and functioning in patients struggling with these two disorders. Future work should focus on determining if extended pharmacotherapy in MDD+BPD is an effective treatment and if cognitive behavioral therapy is more helpful for the patients.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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