

# Lamotrigine for Treating Depression in Borderline Personality Disorder

Ammara Butt<sup>1</sup>, Ambreen Ashraf<sup>2</sup>, Fatima Saleem<sup>3</sup>, Marryam Iftikhar<sup>4</sup>

- <sup>1</sup> Associate Professor, Department of Psychiatry, Allama Iqbal Medical College/Jinnah Hospital, Lahore Pakistan  
*Contribution in the study*
- <sup>2</sup> Resident, Department of Psychiatry, Sir Ganga Ram Hospital, Lahore Pakistan  
*Contribution in the study*
- <sup>3</sup> Senior Registrar, Department of Psychiatry, Jinnah Hospital, Lahore Pakistan  
*Contribution in the study*
- <sup>4</sup> Senior Registrar, Department of Psychiatry, Sir Ganga Ram Hospital, Lahore Pakistan  
*Contribution in the study*

## CORRESPONDING AUTHOR

**Dr. Ammara Butt**

Associate Professor, Department of Psychiatry,  
Allama Iqbal Medical College/Jinnah Hospital,  
Lahore Pakistan  
Email: aamirammar@yahoo.com

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## ABSTRACT

**Background:** Borderline personality disorder is critical and heterogeneous illness specified by mood lability, unstable mutual relationships, distorted self-identity and impulsive behavior. There might be wild resentment and sadness, as associated with severe consequences of psychosocial dissolution and mortality related suicide ventures. **Objective:** The current study intended to determine the efficacy of Lamotrigine for treating depression in patients with borderline personality disorder. **Study Design:** Descriptive case series design. **Settings:** Department of Psychiatry, Sir Ganga Ram Hospital and Jinnah Hospital, Lahore Pakistan. **Duration:** From 1<sup>st</sup> August 2021 to 1<sup>st</sup> August 2022. **Methods:** A sample of 200 participants, between the age range of 18-35 years, with significant depression and borderline personality disorder diagnosis, was recruited by using purposive sampling technique. Depression was diagnosed and rated by Beck Depression inventory (BDI) while borderline personality disorder was diagnosed according to DSM-5 criteria. Patients were started on 25mg Lamotrigine one tablet at night on daily basis and were increased to 200mg maximum in a day in divided doses, depending upon patients' response. Post assessment was conducted after 8 weeks. **Results:** The paired sample t-test reveals a significant difference in pre and post treatment assessment in the depression scores ( $p=.001$ ); patients' ratings in post assessment showed a marked decrease in depression, after taking Lamotrigine for 8 weeks. Independent sample t-test indicated no significant differences in the recovery rate of patients diagnosed with moderate depression and severe depression. Data was stratified for age, gender and educational status; on performing Chi square test, a significant difference was seen in pre and post ratings of depression, with regard to the age and gender. However, results were non-significant for educational status. **Conclusion:** This can help in raising awareness among the treating psychiatrists regarding the use of Lamotrigine at earlier presentations so that further morbidity and health care cost associated with this condition can be decreased by provision of a drug that shows promising results.

**Keywords:** Borderline personality disorder, Depression, Lamotrigine.

## INTRODUCTION

Personality issues are established examples of affect, passionate guideline, conduct, inspiration, self-observation, and cooperation with others present since immaturity or early adulthood that is unbending and rigid and cause noteworthy trouble or impedance in working.<sup>1</sup> Borderline personality disorder is described by passionate dysregulation, insecure relational connections and fragile mental self-portrait. It is a critical and heterogeneous illness specified by mood lability, unstable mutual relationships, distorted self-identity and impulsive behavior.<sup>2</sup> There might be wild resentment and sadness so the form is observable since teens and occurs

across a variety of affairs and conditions. Borderline personality disorder is considered as an apparent endless model and observable under changed conditions; manifests unpredictability in observing someone, self-realization and attitudes that are related with heedlessness. Constant struggle to refuse being left, irregular unsustainable relationships and self-discernment, impulsivity, superfluous execution linked with suicide, rapid changes in mind set, incessant feeling of vacuity, extensive indignation, suspicious ideas in thought content, and occasionally severe conversion signs might be observed peculiar in borderline personality disorder.<sup>3,4</sup> Patients with borderline personality disorder are turned up to endeavor suicide

around 70%, at some stage in their life moreover 5-10% successfully ended in suicide, both rates are sky-higher than the general community.<sup>5,6</sup>

Depression commonly co-occurs with borderline personality disorder; around 41–83% of borderline personality patients reported a history of major depression, while lifetime prevalence of dysthymia ranged between 12–39%.<sup>7</sup> However, the mechanisms and implications of their co-occurrence remain unclear. Data from standpoint of biology, phenomenology, course of illness, family history, coexisting designs and therapy effect have been brought to bear on the question. A review established on the studies conducted from 1985 to 1991, reached at variable interpretation:

1. Both disorders share familiar but broad origin.
2. These two diseases are independent but coexist because of the high-level prevalence of each disease.

It was concluded that they share some common biological features and because the psychosocial condition of each can cause to the development of the other.<sup>8</sup>

The treatment of patients with borderline personality disorder is very difficult because no specific medications are recommended for use in it. So, majority of the medications are used off label by the clinicians.<sup>2</sup> In the previous decade, evidence from various systematic reviews have made a shift noticeably in the opinion of the experts and practice carried out clinically from using antidepressants to mood stabilizers and second-generation antipsychotics for treating borderline personality disorder.<sup>9</sup> The guidelines by American Psychiatric Association (2001) recommend the use of pharmacotherapy for treating state symptoms during crisis in borderline personality disorder.<sup>9, 10</sup> Antidepressants as well as mood stabilizers are recommended for managing the affective instability.<sup>11</sup> A hallmark feature of borderline personality disorder is frequent mood change. This has created interest in evaluating the role of mood stabilizers for treating the mood symptoms. Lamotrigine has been approved for the treatment of mood disorders.<sup>9-11</sup> Therefore, it has been postulated that it may be of some benefit in treating depressive symptoms in patients with borderline personality disorder. However, the current study aimed to gauge the efficacy of Lamotrigine in treating depression among patients suffering from borderline personality disorder.

## METHODS

Using a descriptive case series design, the current study was conducted at the outpatient and inpatient department of Psychiatry, Sir Ganga Ram Hospital,

Lahore and Jinnah Hospital Lahore. The duration of the study was one year; from 1<sup>st</sup> August 2021 to 1<sup>st</sup> August 2022. A sample of 200 patients, between the age range of 18-35 years, with significant depression and borderline personality disorder diagnosis, was taken through purposive sampling technique. A detailed history and mental state examination was conducted at initial phase. Depression was diagnosed and rated by Beck Depression inventory (BDI)<sup>12</sup> while borderline personality disorder was diagnosed according to DSM-5 criteria. Patients were started on 25mg lamotrigine one tablet at night on daily basis and was increased to 200mg maximum in a day in divided doses, depending upon patients' response. The patients were evaluated again after 8 weeks, and scores were again recorded according to the scale. The scores were then analyzed statistically to look for efficacy of Lamotrigine. The efficacy of Lamotrigine was assessed by a reduction in the scores of BDI by > 60% from baseline at the end of 8 weeks of treatment. All the collected data was stored and analyzed in SPSS version 21.

## RESULTS

The present study focused on evaluating the efficacy of Lamotrigine for treating depression among patients suffering from borderline personality disorder. Results were analyzed in two sections: the descriptive statistics were reported in the first section, while the latter part involved inferential statistics, including paired sample t-test, independent sample t-test and chi square test.

**Section 1:** The average depression score of the participants on BDI, was 38.01 with standard deviation of 2.52. The actual range of the scale indicated that all the participants fall in the moderate to severe category of depression. However, the range of Lamotrigine' dose was between 25mg to 200mg in a day, with a mean of 100mg and a standard deviation of 5.1. The demographic characteristics of the patients are mentioned in table 1.

**Section 2:** Using paired sample t-test, the results for Lamotrigine treatment demonstrated that there was a significant difference ( $p < .001$ ) in pre and post treatment assessment. Patients' ratings showed a marked decrease in depression scores with a 95% confidence level and 5% alpha value, after taking Lamotrigine for 8 weeks. The effect size was large (Cohen  $d = 1.16$ ). Independent sample t-test indicated no significant differences in the recovery rate of patients diagnosed with moderate depression and severe depression ( $p > .05$ ), as both categories of patients exhibited almost equal recovery in depression. Data was stratified for gender, age and educational status. Regarding age and gender, the results for chi square test revealed significant differences in pre and post treatment assessment, showing a marked decrease in depression scores. Regarding educational status, results of chi square test were not significant.

**Table 1: Demographic characteristics of participants (N=200)**

Variables		f (%)	M (SD)
Age (in years)		-	29.43 (5.89)
Education (in years)		-	8.25 (3.37)
Total duration of illness (in years)		-	7.28 (8.73)
Gender	Male	60 (30)	-
	Female	140 (70)	-
Birth Order	First born	48 (24)	-
	Middle born	90 (45)	-
	Last born	62 (31)	-
Marital Status	Married	130 (65)	-
	Unmarried	66 (33)	-
	Divorced	4 (2)	-
Family System	Nuclear	74 (37)	-
	Joint	126 (63)	-
Family Background	Rural	144 (72)	-
	Urban	56 (28)	-

Note. f= Frequencies of variables, %= Percentage, M= Mean, SD= Standard Deviation

## DISCUSSION

A number of researches support the results of our study. Crawford *et al*<sup>13</sup> examined the therapeutic efficacy and cost-effectiveness of Lamotrigine for treating depressive symptomatology of the patients suffering from borderline personality disorder. A blind randomized controlled trial was used and 276 adult patients were recruited in the study who met DSM-5 diagnostic criteria for borderline personality disorder. Patients were randomly assigned to control group (receive an inert placebo) and experimental groups (receive up to 400 mg/day of Lamotrigine). The results of 52 weeks showed that Lamotrigine group is equally effective to placebo group for treating depressive symptoms. Moreover, costs of direct care were also similar in both groups.

An exploratory review and meta-analysis conducted by Pahwa *et al*<sup>14</sup> explored the efficacy and tolerance of Lamotrigine for the treatment of borderline personality disorder, from the inception of databases to September 2019. Findings showed Lamotrigine has no statistically significant difference at 12 weeks and at study endpoints as compared to placebo. However, Lamotrigine was found well tolerated. This study also narrated that there is little data concerning efficacy of Lamotrigine in borderline personality disorder and there was no consistent evidence. So, our study contributes to the literature by proving the clinical utility of Lamotrigine for treating borderline personality.

Reich *et al*<sup>15</sup> also evaluated the efficacy of Lamotrigine in reduction of emotional uncertainty in borderline personality disorder by conducting a blind trial of 12 weeks. Patients were randomly allocated to medication with flexible-dose regimen of Lamotrigine or placebo. Patients in the Lamotrigine group had significant reduction in the total emotional uncertainty scores, also significant decrease in scores on impulsivity items of the assessment measure. Reid *et al*<sup>16</sup> also mentioned that Lamotrigine is overall well tolerated, with the testimony for the maintenance medication of bipolar disorder, especially as precaution of depressive episodes. In acute bipolar depression, meta-analyses proposed a modest benefit, especially for patients suffering from severe major depressive episode. All these mentioned findings about Lamotrigine are parallel to our study.

## CONCLUSION

It was concluded that Lamotrigine is highly effective for treating depression in the patients suffering from borderline personality disorder. This can help in raising awareness among the treating Psychiatrists regarding the use of Lamotrigine at earlier presentations so that further morbidity and health care cost associated with this condition can be decreased by provision of a drug that shows promising results.

## LIMITATIONS

This study is conducted in only two tertiary care hospitals of Punjab.

## SUGGESTIONS / RECOMMENDATIONS

The inclusion of other Tertiary care Hospitals all over the Pakistan can be involved to get larger sample. This can help in developing national Guidelines.

## CONFLICT OF INTEREST / DISCLOSURE

No conflict of interest

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