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# Self Harm / DSH Episodes in BPAD – Study in a Rural Setup

Authors
**Dr Moushumi Purkayastha Mukherjee[1], Dr Ena Sharma[2], Mr Tilak Bhandari[3]**
[1]Professor & HOD, Department of Psychiatry, M M Medical College and Hospital, Kumarhatti, Solan
[2]Associate Professor, Department of Dentistry, M M Medical College and Hospital, Kumarhatti, Solan
[3]M.Sc Clinical Pharmacology Department of Pharmacology, Devdaha Medical College, Rupandehi, Nepal
Corresponding Author
**Dr Ena Sharma**
Email: *dr.sharma_ena@yahoo.co.in*, Mob.8847696076

**Abstract**
*Patients with Bipolar disorder have high rates of medical, psychiatric and substance abuse disorders which contribute to self harm, reduced life expectancy and decreased quality of life. Lithium effective treatment was an effective treatment for reducing the risk of suicide in people with mood disorders. Also important is the duration of disorder and number of episodes and associated self harm episodes.*
**Background:** *Bipolar disorder comprises of manic, hypomanic and depressive episodes. Bipolar disorder is the 6th leading cause of medical disability worldwide among people 15-44 years of age. Bipolar disorder has been deemed the most expensive behavioural health care diagnosis costing more than twice as much as depression per affected individual. Total costs largely arise from indirect costs and are attributable to lost productivity, in turn arising from absenteeism. Apart from lithium a recent study showed that Interpersonal and Social Rhythm Therapy (IPSRT) delayed Bipolar affective disorder recurrence in adults by stabilizing daily routines and sleep/wake cycles.*
**Keywords:** *Bipolar disorder, self harm.*

## Introduction

Bipolar disorder is characterized by two or more episodes in which the patient's mood and activity levels are significantly disturbed; consisting of either mania or hypomania or depression[1]. It has been deemed the most expensive behavioural health care diagnosis costing more than twice as much as depression per affected individual[2].

As a part of study on the therapeutic response to lithium carbonate prophylaxis in relation to dose and serum concentration with side effects in bipolar disorder patients, data was also collected on duration and number of Bipolar episodes and self harm episodes[3].

In 2013, Cipriani A, et al published whether lithium had a specific preventive effect for suicide and self harm in people with unipolar and bipolar mood disorders. No clear benefits were observed for lithium compared with placebo in preventing deliberate self harm. In unipolar depression, lithium was associated with a reduced risk of suicide and also the number of total deaths. They concluded that Lithium was an effective treatment for reducing the risk of suicide in people with

mood disorders[4]. Baldessarini RJ, et al in 2013 mentioned Lithium as the best-established mood-stabilizing treatment for bipolar disorder as well as it having strong evidence of suicide-preventing effects[5]. A recent study showed that Interpersonal and Social Rhythm Therapy (IPSRT) delayed Bipolar affective disorder recurrence in adults by stabilizing daily routines and sleep/wake cycles[6].

## Material and Methods

This prospective, randomized, open group study was conducted by the Department of Pharmacology in association with Psychiatry Department of MMIMSR, Mullana. Out of 43 patients registered, 39 patients fulfilled criteria and only 30 patients completed the study with 09 dropouts. Patients meeting DSM-IV-TR, ICD -10 criteria for Bipolar disorders ,of either sex and within the age group of 15 to 65 years were enrolled. Patients with either a Young Mania Rating Scale total score $\geq 12$ or Hamilton Depression Rating Scale (HDRS$_{17}$), total score $\geq$ 15 were included in the study. Both in and out patients were included in the study.

Exclusion criteria were Seizure disorders, Organic Brain syndrome, Mental Retardation, Diabetes mellitus, Hypertension, AIDS, Cancer, Thyroid disorders and $2^{nd}$ or $3^{rd}$ degree heart block. Electro-Convulsive therapy within the previous 3 months, a history of substance abuse or alcohol abuse, State of imbalanced electrolytes, Hyponatremia, Females planning contraception, pregnant females and nursing mothers, Concomitant administration of other psychiatric medication (except anxiolytics like lorazepam, alprazolam, antipsychotics like olanzapine, haloperidol, hypnotics and laxatives) and patients withdrawing their written informed consent. The study protocol was approved by the IEC.

A total number of 30 patients eligible as per the inclusion and exclusion criteria were given Lithium carbonate. Before starting lithium carbonate, the assessment of the patients was done including weight, Thyroid profile, Renal function tests, Liver function tests, Complete Hematological counts, ECG, lipid profiles and routine urine examination.

Only slow release tablets of 300 & 400 mg were prescribed. The dose was determined according to the severity of illness presented as well as the weight of the patient at baseline level.

Starting dose of lithium carbonate ranged 600-900 mg/day. Serum lithium levels were assessed on the 7th day. Concomitant treatment with antipsychotics was given after admission for highly aggressive patients. The therapeutic level of lithium dose was maintained according to the clinical presentations of the patient. The patients then were kept on a follow up of 3 months along with monitoring the dose, serum lithium levels, weight and responses on Scales at the end of $1^{st}$, $4^{th}$, $8^{th}$, and $12^{th}$ weeks.

Apart from sociodemographic data, data was collected on age at onset, number of episodes, number of self harms, diagnosis and duration of current episode, past history and any treatment in the past**.**

## Observation and Results

The average age of patients was 37. 03 year with majority of males (53.33%). The average age at which the first symptom of the illness presented was 29.13 years with majority of patients showing 1st episode at the age of 20- 29 years.15 patients were diagnosed with BPAD-I with maximum number of male patients, 7 patients were diagnosed with BPAD-II, and 8 patients were diagnosed with BPAD- mixed episode. Average duration of current Episodes of bipolar disorders was 1.087 months. The maximum duration of illness was found to be 4 months.

The mean dose of Lithium prescribed at baseline was 786.66 mg/day (600-900 mg/day), serum concentration of 0.57mE qL (0.39-0.72mEq/L). The mean dose prescribed on 4th week was 880 mg/day (800-1100 mg/day), serum concentration of 0.66mEq/L (0.51- 0.91mEq/L).

**Table -1** Relationship between Total Number of Episodes and Number of Self/ Harms

| Total No. of Episodes | No. of Self Harms | | | P value |
|---|---|---|---|---|
| | ≤2 | ≥2 | | |
| ≤2 | 5 | 3 | 8 | |
| 3 | 5 | 2 | 7 | Pearson's: 7.929 p= 0.09423 |
| 4 | 4 | 3 | 7 | |
| 5 | 1 | 1 | 2 | |
| ≥ 6 | 0 | 6 | 6 | |
| Total | 15 | 15 | 30 | |

Table no.1 shows that there was no significant relationship of number of episodes with the number of self harms. The patient with only two or less episodes too had more number of episodes whereas the patient having 6 or more episodes in his/ her life time obviously had more no. of self harms but the ratio was not found to be significant. (p = 0.09423)

**Table-2** Relationship of Duration of Current Episode and no of Self Harms

| Duration of Current Episode in Months | No. of Self Harms | | | P value |
|---|---|---|---|---|
| | ≤ 2 | ≥2 | Sum | |
| < 1/2 | 6 | 2 | 8 | |
| ½ - 1 | 10 | 4 | 14 | |
| 2 – 3 | 5 | 1 | 6 | Pearson: 0.901 (p= 0.82519) |
| ≥ 4 | 1 | 1 | 2 | |
| Sum | 22 | 8 | 30 | |

Table no.2 shows regarding the relationship of duration of current episode and the number of self harms. As the duration of illness increases, the number of self harms did not increase in the same fashion. Their relation was not statistically significant Pearson: 0.901 (p= 0.82519).

**Table-3** Association of Patients as Diagnosed and Gender Distribution

| Patients Diagnosed | Gender | | | percentage | P value |
|---|---|---|---|---|---|
| | Males | Females | Sum | | |
| BPAD I | 9 | 6 | 15 | 50% | |
| BPAD II | 3 | 4 | 7 | 23.33% | |
| BPAD M | 5 | 3 | 8 | 26.66% | |
| Sum | 17 | 13 | 30 | | Pearson: 0.722 (p= 0.69685) |

Table no.3 shows the relationship of number of patients as diagnosed with the gender distribution. It was seen that type of bipolar disorders was related with the gender but the relation was not statistically significant (p= 0.69685). Most of the patients diagnosed were bipolar disorder type I cases with maximum number being of male patients.

Regarding the educational status, 60% were educated with varying degree of educational levels and 40% were illiterate.

Regarding the age of onset of first episode in bipolar disorders, majority of patients had their first episode of the illness at the age range of 20-29 years. Maximum patients showed their first episode of the illness in their twenties. The average age at which the first symptom presented was 29.13 years. There was no significant relationship between total no. of episodes and the no. of self or harms to others including the society (p = 0.09). The average duration of current episode for all the cases was 1.08 months ranging from 7 days to 4 months. The duration of current illness had no significant relation with the total no of self harms (p = 0.82).

## Discussion

Regarding baseline demographic characteristics, of this study the mean age of patients was 37.03 years. The incidence of bipolar disorder was highest in both the 30-39 and 40-49 age groups which coincide with study by Markowitz GS et al[7]. Regarding the age of onset of first episode in bipolar disorders, the majority of patients had their first episode of the illness at the age range of 20-29 years. Maximum patients showed their first episode of the illness in their twenties. The average age at which the first symptom presented was 29.13 years. Similar results were also reported by Joyce PR in his study[8].

Though there was no significant relationship between total no. of episodes and the no. of self harms (p = 0.09) (Table no.1). However in our study we concluded that out of 30 patients (as a small sample) 21 patients attempted self harm, which shows that approximately 2/3rd patients had attempted self harm between 2-6 times. However study done on similar topic by Oquendo MA et al concluded that Bipolar subjects with a history of self harm, experience more episodes of depression, and react to them by having severe suicidal or self harm ideation. Their diathesis for acting on feelings of anger or suicidal ideation is suggested by a higher level of lifetime aggression and a pattern of repeated suicide attempts[9,10]. In our observation during study period patients diagnosed were more for BPAD-I disorder with more number of episodes of self harms, followed by BPAD-Mixed and BPAD-II (Table no. 3).

In context to gender wise distribution of patients, 53.33% patients were males whereas 46.66% patients were females. Though male patients outnumbered female patients, there was no significant distinction between male and female patients (p =0.977). Similar result was reported by Markowitz et al (2000) in which they reported 50% were male patients[7]. Our result was consonant with the fact that gender distribution does not vary consistently among the male and female population and there is not much differentiation of sex and occurrence of bipolar disorders.

Regarding the educational status, majority of the patients were educated 60% with varying degree of educational levels. The educational status of patients in our study was quite like a study by Atkinson M et al[11]. He reported that most of the patients had not completed high school (45%, N=63), while 25% (N=36) had at least a high school diploma and 30% (N=42) reported some post-secondary education. Dissimilar results were put forward by Weiss RD et al (2005) with 82.3% patients having had college education[12].

73.33% of patients in our study were married with only one divorcee reported. Our result was in contrast to the results reported by Weiss RD et al (2005) in which they report 39.8% patients were married or were living as married[12]. This difference could be due to difference in religious as well as cultural aspects between two geographically distinct areas where the studies were conducted.

## Conclusion

As this study had a small sample and the various treatment aspects were not separately studied in relation to self harm, the results cannot be generalized. Also the pattern of self harm or methods have to be assessed in detail along with gender and age to suggest better prevention and safety techniques to family members, as sometimes deliberate self harm can occur in response to stressors and life events along with interaction of other personal factors.

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