

A comparative study on psycho-socio-demographic and clinical profile of patients with bipolar versus unipolar depression

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ABSTRACT

Background: Several studies have revealed significant differences between bipolar (BP) and unipolar depression (UP). Misdiagnosing BP depression results in suboptimal symptom resolution, induction of manic switch, mixed state, or accelerated cycling. This study compares various psycho-socio-demographic, longitudinal course, and phenomenological factors associated with BP and UP depression.

Materials and Methods: We compared 30 UP and 30 BP depression patients using a specially designed intake proforma, International Classification of Diseases-10 diagnostic criteria for research, Hamilton Rating Scale for Depression-21 (HAM-D-21), Hypomania Checklist-32 Questionnaire (HCL-32), Brief psychiatric rating scale (BPRS), and Kuppaswami's socioeconomic status scale.

Results: BP depression group consisted of mostly males, with earlier age of onset of illness, longer illness duration, frequent episodes, hospitalizations and psychotic symptoms. The total HAM-D score and 4 HAM-D item scores—psychomotor retardation, insight, diurnal variation of symptoms and its severity, and paranoid symptoms were significantly higher in this group. Binary logistic regression identified the age of onset, the total duration of illness, frequency of affective episodes, and presence of delusions as predictors of bipolarity (odds ratio = 1.327; 1.517; 0.062; 0.137).

Conclusions: Identification of clinical markers of bipolarity from large scale prospective studies is needed.

Key words: Bipolar depression, comparative study, unipolar depression

INTRODUCTION

Unipolar (UP) and bipolar (BP) disorders differ in genetics, neurobiology, clinical course, treatment regimens and prognosis. Approximately, 40% of patients with BP affective disorder (BPAD) initially receive an incorrect diagnosis of recurrent depressive disorder (RDD).^[1] Accurate diagnosis of BP depression is complicated by three factors - Assumption

of similar phenomenology for BP and UP depression, failure of therapists to recognize previous hypomanic symptoms, and failure of patients to report them. Use of antidepressant monotherapy for BP depression increases the risk of manic switch, mixed state, rapid cycling, poor or partial response, and resistance to antidepressant therapy.^[2,3] Conversely, patients with UP depression unnecessarily exposed to mood stabilizers would suffer poorer outcomes. Several studies have focused on longitudinal course factors such as age, gender (female: male ratio higher in UP), age at onset (earlier in BP), episode duration (more in UP), and frequency (more

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in BP). Postpartum episodes, co-morbidities (substance use, suicide, anxiety disorders), family loading of bipolarity, affective temperament, frequent job changes, marital discord, and hospitalization rates - All were found to be significantly higher in the BP group.^[4-8] Depressive episodes with sudden onset, psychomotor retardation, diurnal mood variation, worthlessness, anhedonia, pathological guilt, suicidal thoughts, psychotic symptoms, atypical features, and labile mood are important markers for bipolarity.^[9] A study by Singh *et al.*^[10] found significantly increased frequency of blood group O and lesser frequency of blood group A in BP group compared to normal controls and UP group. UP depression is characterized by excessive self-reproach, somatic complaints, more severe appetite and weight loss, loss of energy, and diminished libido.^[11] The primary objective of our study is to compare the phenomenological factors associated with BP and UP depression in in-patients. We also aim to study the psychosocio-demographic and other variables influencing BP and UP depression.

MATERIALS AND METHODS

This is a cross-sectional comparative study conducted between November 2009 and April 2010. After obtaining the Institutional Review Board approval, 60 consecutive subjects (30 each in BP and UP depression group) who sought in-patient treatment from the Psychiatry Department of a Tertiary Care Medical College were recruited.

Inclusion criteria

Patients aged 20–50 years, both genders, who satisfied the diagnostic criteria for research-10 (DCR-10) criteria for either BPAD (F31) or RDD (F33), currently admitted with moderate depression with/without somatic syndrome and severe depression with/without psychotic symptoms were included. Only those patients who are off medications ≥ 2 weeks before the onset of current episode and subjects/informants who gave written informed consent were taken.

Exclusion criteria

Patients with history of mental retardation, seizure disorder, permanent neurological deficits, cognitive impairment and affective illness secondary to general medical condition or psychoactive substance use were excluded. We also excluded UP patients with first or second degree relatives having BPAD or psychotic illnesses, patients with poor physical health and those with informants who cannot provide adequate information.

Instruments

A specially designed intake proforma is used for assessing the psycho-socio-demographic and clinical profile of the patients.

Psycho-socio-demographic profile

To record age, gender, education, occupation, marital status, religion, socioeconomic status, family type, place, and informant details.

Age of onset, total duration, mood chart, hospitalizations, substance abuse/dependence, deliberate self-harm, postpartum/perimenstrual behavioral disturbances, history of electroconvulsive therapy and family history of psychiatric illness in first and second degree relatives were included.

Clinical profile

Details regarding psychomotor activity, depressive cognitions, catatonic features, suicidal thoughts, anhedonia, pseudodementia, dissociative features, panic attacks, delusions, first rank symptoms, auditory hallucinations, and affective reactivity were recorded.

The ICD-10 classification of mental and behavioral disorders: Diagnostic criteria for research is derived from chapter V(F) of International Classification of Diseases, tenth revision.^[12] The criteria being deliberately restrictive are intended to maximize homogeneity of study groups and comparability of findings in various studies.

The Hamilton Rating Scale for Depression-21 item^[13] (HAM-D) developed by Max Hamilton in 1960, is the most widely used assessment scale in depressed patients. The strengths include its excellent validation/research base, and ease of administration. Total scores range from 0 to 53 (the sum of the first 17 items).

The Hypomania Checklist-32 Questionnaire^[14] (HCL-32) is a self-rating questionnaire developed by Jules Angst and Thomas Myer for assessing lifetime history of hypomanic symptoms. Individuals with a total score of ≥ 14 are potentially BP.

The Brief psychiatric rating scale^[15] (BPRS) developed by Overall and Gorham, is a relatively brief scale that measures major psychotic and nonpsychotic symptoms in major psychiatric disorders. Strengths of the scale include its brevity, ease of administration, wide use, and well-researched status.

Kuppuswami's socioeconomic status scale^[16] takes account of education, occupation and income of the family to classify study groups into high, middle, and low socioeconomic status. The income scores require modification using All India Average Consumer Price Index for Industrial Workers.

Procedure

Psycho-socio-demographic and longitudinal course details were collected from patients, informants and clinical records. Patients diagnosed as BPAD-current episode moderate depression with/without somatic syndrome (F31.31/F31.30) and severe depression with/without psychotic symptoms

(F31.5/F31.4) were grouped under BP depression (BP). Those who met the criteria for RDD-current episode moderate depression with/without somatic syndrome (F33.11/F33.10) and severe depression with/without psychotic symptoms (F33.3/F33.2) were grouped under UP depression. Hypomania Checklist-32 (HCL-32) Questionnaire was applied to both the groups (preferably during a second sitting to avoid the scoring being colored by the psychopathology). The cut-off value assigned was 14. Current episode details were obtained using semi-structured clinical interview and rated with HAM-D and BPRS scales.

Statistical analysis

Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS for Windows, Version 16.0. Chicago, SPSS Inc.). Results on continuous measurements are presented as mean ± standard deviation and are compared using independent *t*-test. Discrete data are expressed as number (%) and are analyzed using Chi-square test. The statistical significance was fixed at 5% level (*P* < 0.05). Binary logistic regression analyses were performed with those psycho-socio-demographic and clinical variables of patients diagnosed with BP and UP, which showed significant difference as independent variables and odd's ratios were determined.

RESULTS

30 UP patients were compared with 30 BP patients and the results were analyzed.

Psycho-socio-demographic variables

The mean age of UP group was 43.1 ± 5.3 years while that of BP group was 39.1 ± 8.8 years (*P* = 0.036). With regard to the current episode, 80% of the BP group consisted of severe depression with psychotic symptoms, whereas in the UP group, 60% had severe depression without psychotic symptoms. This may be accounted for by the fact that both the samples were recruited from inpatients.

56.7% of the total sample consisted of females – 73.3% of UP group versus 40% of the BP group (*P* = 0.009). No significant differences could be obtained between the educational status of the two groups. 80% of the UP group and 63.3% of the BP group were married. BP group consisted of manual labourers and other skilled workers, while housewives and skilled workers predominated the UP group. More than half of both the groups hailed from lower middle class families. 60% of UP group and 53.3% of BP group resided in nuclear families.

Illness-related variables

Statistically significant differences were observed between the UP and BP groups with respect to age of onset, total duration of illness, number of affective episodes and frequency of hospitalizations [Table 1]. The average length

of hospital stay was higher in the UP group (26.1 ± 20.4 days versus 18.3 ± 11.5 days; *P* = 0.074).

Alcohol dependence was diagnosed in 16.7% of BP group versus 10% of UP group. 20% of BP group and 13.3% of UP group had tobacco dependence (*P* = 0.054). 53.3% of the BP group had family history of BPAD while 33.3% of the UP group had family history of depression. Suicides were reported among the families of 46.7% of UP group patients versus 36.7% of BP group patients. 46.7% of the BP group and 40% of UP group reported family history suggestive of psychoactive substance dependence.

Axis I co morbidity, exclusively contributed by psychoactive substance dependence, was higher in BP group (56.7% versus 33.3%). 46.7% of UP group had Axis III co morbidity, in contrast to 40% of BP group. Hypertension, Diabetes mellitus and Hypothyroidism were the commonly reported Axis III co morbidities.

Table 1: Psycho-socio-demographic and clinical profile of unipolar and bipolar groups

Variables	Mean (SD)/n (%)		Test statistic	Significance <i>P</i>
	Unipolar	Bipolar		
Age	43.1 (5.3)	39.1 (8.8)	<i>t</i> =2.151	0.036*
Gender				
Male	8 (26.7)	18 (60)	$\chi^2=6.787$	0.009*
Female	22 (73.3)	12 (40)		
Age of onset (years)	30.9 (7)	21.4 (5.6)	<i>t</i> =5.798	0.001*
Total duration (years)	12.6 (6.8)	17.3 (7.1)	<i>t</i> =2.623	0.011*
Number of episodes	3.9 (1.2)	7.8 (2.7)	<i>t</i> =7.091	0.001*
Number of hospitalizations	2.1 (1.5)	5.7 (2.8)	<i>t</i> =6.243	0.001*
Depressive cognitions	27 (90)	30 (100)	$\chi^2=3.158$	0.076
Catatonic features	1 (3.3)	4 (13.3)	$\chi^2=1.964$	0.161
Suicidal thoughts, ideations and plans	22 (73.3)	22 (73.3)	$\chi^2=0.000$	1
Anhedonia	18 (60)	18 (60)	$\chi^2=0.000$	1
Pseudodementia	3 (10)	1 (3.3)	$\chi^2=1.071$	0.301
Dissociative features	2 (6.7)	2 (6.7)	$\chi^2=0.000$	1
Panic symptoms	6 (20)	12 (40)	$\chi^2=2.857$	0.091
Delusions	9 (30)	23 (76.7)	$\chi^2=13.125$	0.001*
FRS	1 (3.3)	6 (20)	$\chi^2=4.043$	0.044*
Auditory hallucinations	6 (20)	15 (50)	$\chi^2=9.892$	0.020*
Second person	4 (13.3)	10 (33.3)		
Third person	2 (6.7)	5 (16.7)		

**P*<0.05; SD – Standard deviation; *n* – Frequency; FRS – First rank symptoms

Table 2: Logistic regression analysis of predictors of bipolarity

Variables	<i>B</i>	SE	<i>P</i>	OR	95% CI	<i>R</i> ²
Number of hospitalizations	-0.501	0.532	0.347	0.606	0.213-1.720	0.848
Age of onset	0.283	0.140	0.043*	1.327	1.009-1.745	
Total duration	0.417	0.172	0.015*	1.517	1.084-2.123	
Number of episodes	-2.782	0.998	0.005*	0.062	0.009-0.437	
FRS	-1.019	1.188	0.391	0.361	0.035-3.702	0.278
Auditory hallucinations	-0.080	0.997	0.936	0.923	0.131-6.512	
Delusions	-1.988	0.589	0.001*	0.137	0.043-0.435	

**P*<0.05. *B* – Co-efficient for the constant; SE – Standard error around *B*; OR – Odd's ratio; CI – Confidence interval; *R*² – Nagelkerke *R*²; FRS – First rank symptoms

Phenomenological factors

Considering psychopathology in both the groups, psychotic symptoms were significantly higher in the BP group [Table 2]. Second person auditory hallucination was the most common perceptual abnormality elicited (33.3% of BP group versus 13.3% of UP group). Different types of delusions – persecutory (70% in BP and 20% in UP), referential (33.3% in BP and 16.7% in UP), guilt (13.3% in UP and 3.3% in BP), infidelity (20% in BP), hypochondriacal (6.7% in BP), and nihilistic (3.3% in BP) were elicited.

Binary logistic regression analysis identified four variables as predictors of bipolarity – Age of onset, total duration of illness, frequency of affective episodes and presence of delusions [Table 2].

DISCUSSION

Psycho-socio-demographic variables

The BP group was found to be significantly younger than the UP group. Females constituted the vast majority in UP group. Majority from either groups had at least secondary education. Unemployed subjects were more in the BP group (16.7%). Higher number of BP patients remained single/divorced/separated (26.7% vs. 10%) probably due to the earlier age of onset of the illness and the greater disability in marital and interpersonal relationships consistent with the earlier studies.

53.3% of the UP group and 56.7% of the BP group belonged to lower middle class (Class III). Chopra *et al.*^[17] have attempted to study the socioeconomic status and manic depressive psychosis in a private psychiatric hospital setting at Ranchi and concluded that there is a higher representation of middle class in this group. In both groups, higher number of patients reported residing in nuclear families, which would result in higher care-giver burden.

Illness-related variables

BP group was characterized by lower age of onset, longer duration of illness, more frequent episodes and hospitalizations [Table 1]. The first episode was depression in 66.7% of BP patients. Harmful use or dependence of alcohol and/or nicotine was more frequent among BP patients (63.3% vs. 30%; $P = 0.054$). Deliberate self-harm, postpartum episodes, peri-menstrual behavioral disturbances, and history of electroconvulsive therapy all were reported more by BP patients, though the differences were not statistically significant.

83.3% of BP patients had positive family history against 76.7% of the UP group. Family history of depression was found to be significantly higher in the UP group (33.3% vs. 10%). Family history of substance abuse/dependence was higher in the BP group. Similar findings were replicated in previous studies.^[4-6]

Phenomenological factors

Psychotic symptoms – Delusions, auditory hallucinations, Schneider's First rank symptoms were significantly high in the BP group. Persecutory and referential delusions were the most common. The only delusion elicited from more number of UP patients was pathological guilt. Suicidal thoughts, dissociative symptoms, and anhedonia had more or less similar distribution in both the groups. Catatonia was reported more in the BP group (13.3% vs. 3.3%); while pseudodementia was more in the UP group (10% vs. 3.3%). Panic symptoms were reported by 40% of BP group, against 20% of UP group.

Contrary to Mitchell *et al.*'s^[9] findings, the mean total scores of HAM-D, BPRS and HCL-32 yielded significantly higher values in BP depression in our study. The four HAM-D items with significant higher scores in the BP group were psychomotor retardation (H8: $P = 0.001$), insight (H17: $P = 0.001$), paranoid symptoms (H20: $P = 0.001$) and diurnal variation of symptoms (H18A: $P = 0.001$) and the severity of the variation (H18B: $P = 0.047$).

Binary logistic regression was performed to identify variables significantly predictive of bipolarity [Table 2]. With each year increase in total duration of illness, the probability of transition to BP disorder is 1.5 times ($P = 0.015$). As the age of onset drops down, the chance of bipolarity increases by 1.3 times ($P = 0.043$). The other predictors identified were number of affective episodes and presence of delusions. These findings are in accordance with certain previous studies.^[8,9,11]

Limitations

The sample consisted of in-patients who differ from general population. A larger sample size would have aided in better generalization of the results. We focused on certain selected variables only. The study did not include BP II subjects as a separate group. However, all patients were screened using HCL-32 Questionnaire and 3 patients, in whom the history of hypomania was vague, but the HCL-32 score was > 14 , were included in the BP group to minimize confounding. In patients with psychoactive substance use, even though the evaluation was done after ensuring that the patient is not under intoxication or withdrawal state, their undue influence on psychopathology could not be prevented.

CONCLUSION

Depressive episodes of BPAD are more severe and incapacitating than that of RDD. With the advent of the BP spectrum concept, it becomes all the more important not to miss bipolarity in patients with first episode depression. Adequate measures should be taken to understand the clinical markers of bipolarity. Newer rating scales should be developed which can quantify bipolarity. Findings from prospective and functional neuro-imaging studies should enrich this awareness, so that the disability associated with bipolarity could be minimized. More and more research is

warranted to unravel the exact etiology and neurobiology and thus, to predict the future of bipolarity. To conclude with the words of Prof. Venkoba Rao as rightly quoted by Murthy RS^[18] – “To be satisfied with the glory of the past is to turn into a fossil; but to interpret the old from a new point of view is to revitalize the past and bring in a current of fresh air into the monotonous present.”

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Conflicts of interest

There are no conflicts of interest.

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