Original Article

A Cross-sectional, Comparative Study of Insight in Schizophrenia and Bipolar Patients in Remission

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ABSTRACT

Aims: To study insight correlates in schizophrenia and bipolar mood disorder in remission among out-patients attending the Psychiatry Department of a Tertiary Care Hospital. **Settings and Design:** In a cross-sectional, naturalistic study, adult patients with schizophrenia and bipolar mood disorder in remission ($n = 80$; schizophrenia-40, mania-20, bipolar depression-20) were compared on insight measures and clinical correlates. **Materials and Methods:** Scale to Assess the Unawareness of Mental Disorders (SUMD) was used as the main tool to assess current and past measures of insight. Hogan's Drug Attitude Inventory was used to assess the drug attitude and compliance. Positive and Negative Symptom Scale for Schizophrenia, Young's Mania Rating Scale, and HAMD were used to rate psychopathology. Clinical Global Improvement was used as a screening tool for remission. **Statistical Analysis:** For comparison of the three clinical groups, analysis of variance and Chi-square test were used. In the *post-hoc* analysis, the Ryan-Einot-Gabriel-Welsch test was used to find the group difference. **Results:** About 40% in the schizophrenia group were unaware of their mental illness as against none in the bipolar group. The awareness of mental disorder for the current period, the awareness of the achieved effects of medications, and the awareness of social consequence was better in the bipolar group. The drug attitude (compliant positive attitude) increased as the SUMD item scale decreased or in other words, as the insight improved. **Conclusions:** Insight, both current and retrospect, showed significant differences between the schizophrenia and bipolar patients. Insight is significantly correlated with the observed compliance and drug attitude of the patient groups.

Key words: *Bipolar mood disorder, drug compliance, insight, schizophrenia*

INTRODUCTION

Insight is the "conscious recognition of one's own condition." It refers to the conscious awareness and understanding of one's own psychodynamics and symptoms of maladaptive behavior, highly important in effecting changes in the personality, and behavior of a person'. In psychiatry, insight is defined as the degree of personal awareness and understanding of

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illness. However, its overall meaning in psychiatry remains unclear.[1-6] Emerging consensus accepts insight as both multidimensional and continuous construct.[7] The association between dimensions of insight and sociodemographic variables, psychopathology, and severity are active areas of research.[8] McEvoy *et al.* failed to identify any relationship between the degree of insight and severity of psychopathology.[9] Further, the changes in insight scores during the hospital treatment did not vary consistently with the psychopathology scores. However, David *et al.*,[10] in their subsequent study reported a moderate correlation between insight and severity of illness in schizophrenia. Another study by Amador and Strauss, reported a moderate correlation between insight and age at onset, course of illness, and number of hospitalizations. They found moderate correlation between current awareness of mental disorder and positive symptoms.

Studies on insight done in India also reflect such mixed results. Kulhara *et al.*,[11] showed consistent negative correlation between Brief Psychiatric Rating Scale scores and insight as measured with schedule for assessment of insight in schizophrenia and affective disorder. Aga *et al.*[12] showed significant positive association between insight and number of episodes and past treatment. Anna and Saravanan,[13] using the Scale to assess the Unawareness of Mental Disorders (SUMD), reported significant positive correlation between awareness of dimensional measures of abnormal experiences such as hallucination and delusion with psychopathology in schizophrenia. In the study by Armstrongh *et al.*,[14] there was no consistent relationship between the changes in insight and changes in psychopathology among 25 in-patients with schizophrenia.

In studies comparing insight in schizophrenia and bipolar disorder, Michalakeas *et al.*[15] reported that patient with schizophrenia and mania did not differ on insight (using insight and treatment attitudes questionnaire), but both groups had significantly lower insight scores than patients with bipolar depression. Amador *et al.*[16] found no difference in insight measures between schizophrenia and mania. Another study reported that the presence of psychotic features did not significantly affect insight level in manic patients at discharge from the acute ward.[17] Pini *et al.*[18] reported no difference in insight between patients with schizophrenia and bipolar disorder. However, Yen *et al.*,[19] comparing insight in-patients with schizophrenia and bipolar disorder in remission, reported that bipolar patients with psychotic features had lower levels of insight than those without psychotic features. A 1-year European outpatient, observational study of 903 patients, using SUMD to measure insight concluded that insight and medication adherence are closely related.[20]

MATERIALS AND METHODS

The aim was to study insight correlates in schizophrenia and bipolar mood disorder in remission among outpatients attending the Psychiatry Department of a Tertiary Care Hospital. The objectives were (a) to study the clinical correlates of insight in schizophrenia and BPMD, (b) to correlate the insight variables with psychopathology, (c) to correlate insight with compliance and drug taking attitude.

The present study is a cross-sectional study done at the Kasturba Medical College Hospital, Manipal, Karnataka, between February 2011 and August 2011. The Institutional Ethics Committee approval was obtained prior. Written informed consent was obtained both from patients and guardians. All patients who were diagnosed with International Classification of Disease-10 schizophrenia or bipolar mood disorder were screened for the study. The sociodemographic profile and the clinical details were obtained from both the patient and the relative. Subjects were then assessed on the various instruments. Any subject scoring more than 2 on the Clinical Global Improvement (CGI) - "severity of illness" scale was considered actively ill and was excluded from the study. The other exclusion criteria included patients who had any recent admission (within prior 1 month), patients with other comorbid psychiatric diagnoses (except alcohol use and tobacco dependence syndrome), and patients with neurological disorders or organic brain syndrome.

Using purposive sampling, 115 patients were screened. Eleven subjects were excluded as their last episode was well within 1 month. Twenty-four more were excluded, for they had CGI score >2 severity. Finally, a total of 80 patients were included in the study. Among them, 40 were selected with a diagnosis of schizophrenia, and another 40 with the diagnosis of bipolar mood disorder – with 20 patients who had their most recent past episode as mania and another 20 patients who had depression.

Instruments used

A semi-structured proforma was used for collecting the sociodemographic profile and relevant clinical data. We used the Positive and Negative Symptom Scale for Schizophrenia (PANSS) in schizophrenia, the Hamilton Depression Rating Scale (HDRS), and the Young's Mania Rating Scale (YMRS) were used for bipolar disorder. For insight measurement, we used the Scale to Assess Unawareness of Mental Disease (SUMD). The Hogan's Drug Attitude Inventory was used to drug attitude and compliance.

Statistical analysis

The computerized form of SPSS, version 16.0 (SPSS Inc., Chicago, IL, USA) was used for the analysis. Chi-square test and independent *t*-test were used for categorical and continuous data, respectively. For comparison between the three groups-schizophrenia, mania, and depression on the continuous variables, analysis of variance was used. In the *post-hoc* analysis, the Ryan-Einot-Gabriel-Welsch test was used to find the group difference.

RESULTS AND DISCUSSION

The mean age of the study population was 35.2 years (standard deviation [SD] = 9.48) in the schizophrenia group, and in bipolar group, it was 36.02 years (SD = 9.7). The average illness duration is comparable in both the groups. The mean number of admission is 4.2 (SD = 3.4) and 5.5 (SD = 4.1) in the schizophrenia group and bipolar group, respectively.

Table 1 highlights sociodemographic variable, parenteral depot medication use and observed compliance in the study group. Majority of the patients were in the age group of 30-40 years. The schizophrenia and bipolar groups did not vary much in their demographic profile. Males were 21.25%, and females were 28.75% in the schizophrenia group. In the mania group, there were 17.5% males and 7.5% females. In the depression group, 16.25% were males and 8.75% were females. 66.25% of the study group were Hindus. 27.5% were Christians, and the remaining 6.25% were Muslims. Majority belonged to the joint family type, which represents 57.5% of the study population. 58.25% of the study group had at least primary school level of education. 23.75% of the schizophrenia group were employed as against the 20% and 17.5% of people employed in the mania and depression group, respectively. The number of those who were unemployed was significantly high in the schizophrenia group as compared to the other two groups. 51.25% of the study population is from rural areas. About 70% of the study population were married and lived with spouse. 35% belonged to the schizophrenia group, 13.75% from the mania, and 21.25 from the depression group. 23.75% were unmarried, and the remaining 6.25% were single in status either separated or divorced or widowed.

On comparing the sociodemographic variables, it was found that both schizophrenia and bipolar patient groups were similar in most variables except sex and employment. The study population shows a slightly over-representation of females in the schizophrenia group and males in the mania group. Furthermore, the employment status was significantly better in the bipolar group (37.5%) compared to schizophrenia group

(23.8%). About 18.8% in the schizophrenia group were dependents as against the bipolar group in which only 7.5% were dependent. This difference was statistically significant.

About 23.75% of the schizophrenia group had been under parenteral depot medication at least once during their course of treatment, whereas only 6.25% and 3.75% of the mania and depression group, respectively, had received depot medication at least once in the past. This is in agreement with previous studies such as by Mahadun and Marshall,[21] in schizophrenia wherein those who were on oral antipsychotics had better insight than those on depot medications.

With regard to the observed compliance, as reported

Table 1: Group difference in sociodemographic and clinical variables in categorical variables between schizophrenia and bipolar patients

Variable	Mean ± SD ($n = 40$)		χ^2 (df = 1)	P
	Schizophrenia n (%)	Bipolar n (%)		
Sex				
Male	17 (21.2)	27 (33.8)	5.0	0.025
Female	23 (28.8)	13 (16.2)		
Education				
Primary	27 (33.8)	20 (25)	2.5	0.112
Secondary and above	13 (16.2)	20 (25)		
Occupation				
Unemployed	6 (7.5)	4 (5)	6.7	0.035
Employed	18 (23.8)	30 (37.5)		
Dependents	15 (18.8)	6 (7.5)		
Socioeconomic status				
Lower	12 (15)	8 (10)	2.4	0.295
Middle	25 (31.2)	31 (38.8)		
Higher	3 (3.8)	1 (1.2)		
Domicile				
Rural	19 (23.8)	22 (27.5)	2.38	0.303
Semi urban	14 (17.5)	8 (10)		
Urban	7 (8.8)	10 (12.5)		
Religion				
Hindu	27 (33.8)	26 (32.5)	0.40	0.818
Christian	10 (12.5)	12 (15)		
Muslim	3 (3.8)	2 (2.5)		
Marital status				
Single	12 (15)	12 (15)	0.00	1.000
Married	28 (35)	28 (35)		
Family type				
Nuclear	6 (7.5)	4 (5)	0.46	0.499
Extended	34 (42.5)	36 (45)		
Depot use				
Never	21 (26.2)	32 (40)	6.8**	0.009
Received	19 (23.8)	8 (10)		
Compliance				
Refuses	18 (22.5)	6 (7.5)	9.9**	0.007
Takes if given	5 (6.2)	13 (16.2)		
Takes voluntarily	17 (21.2)	21 (26.2)		

*$P < 0.05$; **$P < 0.01$; ***$P < 0.001$. SD – Standard deviation

by the caregiver, 21.25% of the schizophrenia group, 12.5% in mania group, and 13.75% in the depression group took the medications on their own. 6.25% in schizophrenia group, 7.5% of mania group, and 8.75% of depression group took the medications regularly only if and when given by the caregiver. 22.5% of the schizophrenia group, 5% in mania, and 2.5% in depression group refuse to take drugs regularly.

Comparison of unawareness of mental disorder

In this study, it was found that 60% of schizophrenia patients were aware of the mental disorder in the current period. Among this, 30% were aware, and the other 30% were somewhat aware of their illness. The remaining 40% were unaware of the mental illness. Literature data on the prevalence of unawareness of illness ranged from 40% to 85% in various studies.[2-7] The prevalence of unawareness in this study also falls within this range. In the bipolar group, 67.5% were aware of the mental illness, and 32.5% were somewhat aware of their illness, with none reporting unawareness of mental illness. In the study by Yen *et al.*, 39.09% of schizophrenic, 36.36% of psychotic bipolar, and 9.37% of nonpsychotic bipolar patients were found to have impaired insight even during remission. It is also noted that although 40% of schizophrenia patients are unaware of mental disorder only 27.5% are unaware of medication effects, and 37.5% are unaware of social consequences. This means that a person may be unaware of mental disorder still be aware of medication effects and social consequences. Though patients may fail to acknowledge the presence of mental illness at a conceptual level, they may still be aware of the beneficial effects of the drugs in the past, which could possibly explain this.

Comparison of insight dimensions in schizophrenia and bipolar groups

The awareness of mental disorder for the current period [Table 2] was better in the bipolar group as compared to the schizophrenia group. Furthermore, the awareness of achieved effects of medication and the awareness of social consequence of mental disorders was also better in the bipolar group as compared to the schizophrenia group. This trend was found true when the total scores of SUMD were computed wherein the total awareness was significantly better in the bipolar group as compared to the schizophrenia group, and this difference was statistically significant.

The dimensional awareness of mental illness in the past [Table 3] as measured by the general items of the SUMD show that the bipolar group had a better awareness of mental illness in the past as compared to the schizophrenia group. Furthermore, the awareness of achieved effects of medication in the past along with

the awareness of social consequence in the past was statistically significant.

Comparison of the subscale items of Scale to assess the Unawareness of Mental Disorders between the schizophrenia and bipolar group

When the SUMD subscale items are compared, the awareness of hallucinations (item 4), poor control of aggressive impulses (item 11), and poor social relationships (item 20) showed statistically significant difference between the groups with the awareness being poorer in the schizophrenia group. Similar studies including Braw *et al.* show that schizophrenia patients displayed poorer insight, and they were also less aware of their anhedonia-asociality.

Difference of insight scale among the three groups

When the SUMD general items were compared among groups [Table 4], there was significant difference between the schizophrenia group and the other two

Table 2: Group characteristics on SUMD current items in schizophrenia and bipolar groups

Variable	Schizophrenia n (%)	Bipolar n (%)	χ^2 (df = 2)	P
SUMD 1C (awareness of mental illness)				
Aware	12 (30)	27 (67.5)	21.8*	<0.001
Somewhat aware	12 (30)	13 (32.5)		
Unaware	16 (40)	0 (0)		
SUMD 2C (effects of medication)				
Aware	14 (35)	25 (62.5)	14.10*	0.001
Somewhat aware	15 (37.5)	15 (37.5)		
Unaware	11 (27.5)	0 (0)		
SUMD 3C (social consequences)				
Aware	13 (32.5)	22 (55.0)	15.43*	<0.001
Somewhat aware	12 (30)	17 (2.5)		
Unaware	15 (37.5)	1 (2.5)		

SUMD – Scale to assess the unawareness of mental disorders. *$P <$ 0.05; **$P <$ 0.01; ***$P <$ 0.001

Table 3: Group characteristics on SUMD past items in schizophrenia and bipolar groups

Variable	Schizophrenia n (%)		Bipolar n (%)		χ^2 (df = 2)	P
SUMD 1C (awareness of mental illness)						
Aware	16	40	32	80	17.13***	<0.001
Somewhat aware	10	25	7	17.5		
Unaware	14	35	1	2.5		
SUMD 2C (effects of medication)						
Aware	16	40	19	47.5	13.16**	0.001
Somewhat aware	11	27.5	20	50		
Unaware	13	32.5	1	2.5		
SUMD 3C (social consequences)						
Aware	14	35	22	55	16.83***	<0.001
Somewhat aware	10	25	17	42.5		
Unaware	16	40	1	2.5		

SUMD – Scale to assess the unawareness of mental disorders. *$P <$ 0.05; **$P <$ 0.01; ***$P <$ 0.001

Table 4: *Post-hoc* analysis of group differences in sociodemographic and clinical variables among schizophrenia, mania, and depression patients

Variables	Mean ± SD			F	P	Post-hoc
	Schizophrenia (1)	Bipolar-M (2)	Bipolar-D (3)	(df = 2,77)		(REGWR test)
Age	35.2±9.5	33.4±8.38	38.7±10.6	1.60	0.209	—
Illness duration	11.8±8.6	9.6±6.8	13.8±10.1	1.17	0.316	—
Past admissions	4.2±3.5	5.2±3.3	5.9±4.8	1.40	0.252	—
SUMD 1C	3.2±1.7	1.6±0.9	1.7±0.98	12.75***	<0.001	1>2, 3
SUMD 1P	2.9±1.8	1.3±0.7	1.6±1.1	10.69***	<0.001	1>2, 3
SUMD 2C	2.9±1.6	2.0±1.0	1.5±0.8	7.67**	0.001	1>2>3
SUMD 2P	2.9±1.7	2.0±1.0	2.2±1.2	2.764	0.069	—
SUMD 3C	3.1±1.7	1.9±1.0	2.0±1.2	6.413**	0.003	1>2, 3
SUMD 3P	3.1±1.7	1.8±1.0	2.1±1.2	6.320**	0.003	1>2, 3
SUMD_C_T	79.7±4.4	75.5±4.4	77.3±3.7	6.946**	0.002	1>2
SUMD_P_T	76.5±6.0	75.3±4.1	76.0±3.7	0.373	0.690	—
HDAI_C	31.9±15.5	34.0±11.3	40.5±13.1	2.495	0.089	—

SUMD – Scale to assess the unawareness of mental disorders; SD – Standard deviation; REGWR – Ryan-Einot-Gabriel-Welsch; HDAI – Hogan's Drug Attitude Inventory; *$P < 0.05$; **$P < 0.01$; ***$P < 0.001$

bipolar groups in almost all the three dimensions of the general item, both in the current and in the retrospective. It showed that insight was poorer in schizophrenia group and bipolar group, and within the bipolar group it was poorer in the depression group. This is in contrast to the few studies that have compared the levels of insight in these disorders had found no substantial difference between patients with bipolar disorder and schizophrenia. However, in the recent study by Yen *et al.*, in schizophrenia, bipolar I, and depressive disorder patients, patients with depressive disorder had higher levels of insight than did patients with schizophrenia.

Comparison of psychopathology with insight

When general psychopathology, as measured by the PANSS scale, is analyzed with the clinical variables, it shows a significant positive correlation between age and the PANSS negative subscale. Increase in age is correlated with increase in the negative symptoms. in addition, the illness duration and total number of past admissions were positively correlated with PANSS negative and PANSS total score, which is in agreement with most of the studies done in schizophrenia course and outcome. In the mania group, when YMRS was compared it did not show any significant correlation with the clinical variables. In contrast, the depression group, as measured by HDRS, shows significant positive correlation with age, illness duration, and total number of past admissions. The study done by Peralta and Cuesta, and McEvoy *et al.* showed only modest correlation between insight and psychopathology as ours.

Limitations and strengths

A single point assessment, as done in this study, fails to throw more light on the dynamic nature of the insight. Sample has been collected only from the out-patients,

and hence, the results may not be generalizable to all patients. However, this being a naturalistic study design, it shows the real world scenario of insight in-patients under remission. The study also looked into the drug taking attitude which is considered a different construct from insight.

CONCLUSION

This study result shows that there is significant difference in the insight, both current and the past, in the schizophrenia and the bipolar group of patients even during remission. Insight is significantly correlated with the observed compliance and drug attitude of the study participants.

Conflicts of interest
There are no conflicts of interest.

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