

## The Relationship Between Insight and Clinical Features in Bipolar Disorder

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### SUMMARY

**Objective:** The aim of this study is to examine the relationship between insight dimensions and clinical features in bipolar disorder.

**Method:** One hundred and four inpatients with bipolar disorder (manic or mixed episodes) diagnosed according to DSM-IV criteria participated in the study. Patients were evaluated both during an acute episode and in remission, prior their discharge from the hospital by the Young Mania Rating Scale (YMRS), Montgomery-Asberg Depression Rating Scale (MADRS), Positive and Negative Syndrome Scale (PANSS), The Scale of Unawareness of Mental Disorders (SUMD), and a questionnaire regarding demographic and clinical characteristics.

**Results:** In remission, 57 patients (54.8%) had insight of their illness while 14 (13.5%) did not have insight. Besides %6.7 of patients did not have the Insight into the effects of medication. We also found that 27.9% of patients were unaware of the social consequences of their illness. Patients with psychotic symptoms had a significantly low level of awareness to the effects of their medication as well as the severeness of their manic episode. We found an unawareness of delusion in these patients. In terms of all SUMD items, female patients had significantly poorer insight compared to men. No correlation was found between the number of hospitalizations, the number of episodes or the first episode type and insight dimensions.

**Conclusion:** Lack of insight in bipolar disorder is not rare. The assesment of insight addresses different components of the illness and the treatment awareness. The severity of illness, aggressive impulse control difficulties, psychotic symptoms especially the presence of delusions, female sex may be important predictors of impaired insight.

**Key Words:** insight, bipolar disorder, clinical features

### INTRODUCTION

Lack of insight is encountered frequently in bipolar disorder, a chronic illness that requires intensive pharmacological and psychosocial support (Amador et al 1994, Michalakeas et al 1994, Ghaemi et al 1995, Cassidy et al 2001). Lack of insight is an important factor as it has adverse effects on the clinical course of the illness, patient's treatment compliance and the ultimate outcome of a patients ability to function in society (Bauer et al 2002, Fennig et al 1996). Studies have shown that there is a decrease in the social functioning of patients during recovery periods (Bauwens et al 1991, Serretti et al

1999). It has also been reported that a patient with bipolar disorder, who does not receive adequate treatment, may have significant losses in their active life due to psychosocial and functional losses arising from their illness (Copeland et al 2008, Department of Health Education and Welfare Policy Research 1979).

Lack of insight, which is characteristic in schizophrenia (McEvoy ve ark.1989), is state dependent in bipolar disorder (Ghaemi et al 2004). This phenomenon correlates with the severity of symptoms. While insight is lacking during an active illness period, follow up studies demonstrate improvement in

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insight when patients are asymptomatic (Ghaemi et al 2004, Yen et al 2007a). However, recent studies evaluating the insight of the patients during mental illness, drug treatment and social consequences of the illness and demonstrates that insight is deficient in one or more of these dimensions (Yen et al 2002, 2007b, Jo'nsdo'ttir et al 2008, Dias et al 2008).

According to Scale to Assess Unawareness of Mental Disorder (SUMD), insight is determined by the awareness of the illness, symptoms, treatment benefits, social consequences and attribution of the symptoms. Insight is determined by the awareness of the illness and its symptoms, his or her opinion about treatment of the social consequences of the illness, view regarding symptoms and attribution of the symptoms. SUMD may be used as a reliable measurement tool to determine various stages of bipolar disorder with psychotic characteristics (Dell'osso et al 2002).

The aim of the present study was to investigate all three components of insight (i.e. awareness of illness, the effect of treatment, and of the social consequences of the illness) in patients with bipolar disorder both in the acute stage and during the clinical improvement period and also to examine the relation of insight level with clinical and sociodemographic data.

## METHOD

### Sample

In total 104 patients, (55 female 49 male) who were admitted to Bakırköy Prof. Mazhar Osman Psychiatric and Neurological İllness Training and Investigation Hospital between a three month period and were diagnosed with bipolar disorder, had manic or mixed episode according to DSM IV-TR criteria as judged by at least by two independent psychiatry consultants and consented to participate in the study and in whom mood disorder dependent on a general medical condition, dependent on alcohol or substance abuse, were ruled out and who did not have mental retardation, dementia or other organic illnesses were included in the study.

### Evaluation tools and their application

At the first stage, within three days after their admission, patients were administered a questionnaire form prepared by the investigators to evaluate sociodemographic data and clinical characteristics. In addition Young Mania Rating Scale (YMRS) (Young et al 1978, Karadağ et al 2002), Montgomery Asberg Depression Rating scale (MADRS) (Montgomery and Asberg 1979, Özer et al 2001), Positive and Negative Syndrome Scale (PANSS) (Kay et al. 1987, Kostakoğlu et al 1999) positive syndrome and aggressiveness subscales and Scale to Assess Unawareness of Mental Disorder (SUMD) (Bora et al 2006) were administered.

At the second stage, at the time of discharge, YMRS and MADRS were administered again determining that there was no remnant psychopathology. Besides by SUMD, awareness of the illness, awareness of the effect of treatment and awareness of the social consequences of treatment and insight into specific symptoms were investigated.

### Scales used in the study

**Sociodemographic data form:** The questionnaire was prepared by the authors and used to evaluate demographic information (age, sex, marital status, education status etc.), and clinical information (the age of the onset of the illness, the age of referral for treatment, the number and type of past episodes, the type of first episode, the number of admissions, regular employment in the last six months). In addition to the information obtained from the subjects, previous admission file records were also evaluated.

**Young Mania Rating Scale (YMRS):** This scale includes 11 items, each of which measures the severity of symptoms in five grades (Young ve ark. 1978). The rating based upon the interview with the patient according to his/her condition within the last 48 hours and observations made during interview. In the reliability and validity study of the scale for Turkish (Karadağ et al 2002) the coefficient of inner consistency was found to be 79% and Kappa values between 0.114-0.849.

**Positive and Negative Syndrome scale (PANSS):** The scale evaluates general psychopathology and positive and negative syndromes in schizophrenia and other psychotic disorders and measures the severity of these symptoms. Scale includes overall 30 items and rating of severity with seven grades (Kay et al 1987). Its reliability and validity in Turkish was tested by Kostakoğlu et al (1999).

**Montgomery - Asberg Depression Rating Scale (MADRS):** The MADRS was developed to measure the level and changes in severity of the core symptoms of depression (Montgomery and Asberg 1979, Davidson et al 1986). Ten items were included, each was tested by Özer et al (2001) .

**Scale to Assess Unawareness of Mental Disorder (SUMD):** Amador XF et al developed the scale to asses unawareness of mental disorder in 1993. In this scale, all questions are scored separately for the past and current. The scale has three introduction and 17 symptom questions. The first three questions, six scores (past and current) are calculated separately. The first three questions of the scale inquire about the awareness of the illness, awareness of the effect of drug treatment and awareness of the social consequences of the illness. The answers of the patients are scored between one and five. Then, the awareness of symptoms and their attributions are asked. These questions are also scored between one and five for the past and current separately. For awareness of symptoms and attribution, four scores are calculated. As awareness decreases,

the score increases. The scale may be used in partial form as well. Amador et al (1994) published the shortened form of the scale with nine questions. It is difficult to show reliability for rare symptoms such as stereotypical behavior and the reliability of these symptoms are doubtful even in the original scale. herefore, in the Turkish adaptation of SUMD, only the questions in shortened form were used (Bora E et al 2006). Scale, in this form, includes three introduction and seven symptom questions. Questions are scored between one and five separately for past and current like in the original scale. For all seven symptoms, attribution and awareness are evaluated separately.

### Statistical evaluation

NCSS (Number Cruncher Statistical System) 2007 & PASS 2008 Statistical Software (Utah, USA) programs were used for statistical analysis. In the evaluation of data, in addition to descriptive statistical methods (mean, standard deviation), the Tukey HSD test was used for the detection of the groups causing a difference. As SUMD was scored between one and five, it was thought that non-parametric tests would yield better results. In the inter group comparison of the parameters, which are not distributed normally, the Kruskal Wallis test was used. In the identification of the group causing difference, Mann Whitney U test was used. In the comparison of parameters which are not distributed normally between two groups, Mann Whitney U was used. In the intragroup comparison of the same parameters the Wilcoxon sign test was used. In the comparison of qualitative data, a chi square test was used. For the relation between not normally distributed parameters, Spearman's coefficient of correlation was used. P value of <0.05 was considered significant.

## RESULTS

### Clinical and demographic characteristics

52.9% of the patients were female (n=55) and 47.1% (n=49) were male. 57.7% were graduated from (n=60) primary school, 21.2% (n=22) secondary school and, 21.2% (n=22) high school. The age range was between 21-64 (mean 37.56±11.30) and 73.1% of the patients (n=76) had no stable employment within the last 6 months (table 1).

The age of first referral for treatment varied between 14 and 58 years of age (mean 25.08±8.66). Patients who had their first episode between the ages of 10-20 constituted 40.4% of the sample, those between 21-30, 42% those between 31-40 11.5% and those at and over 41 %5.8.

The number of hospitalizations varied between 1-20 (mean 4.25±3.99), the number of manic episodes between 1-19 (mean 4.56±3.95), the number of depressive episodes 0-15 (mean 1.97±2.55) and the number of mixed episodes be-

tween 0-9 (mean 0.67±1.58). 61 (58.7%) of the patients first episode was manic type and the first episode of the remaining 43 patients (41,3%) was depressive. Within the last year, 35.58% of patients were (n=37) on antipsychotics and mood stabilizers while 34,62% (n=36) had no regular treatment history.(table2)

### The evaluation of insight

When patients were evaluated at discharge, it was established that 57 patients (%54.8) were aware of their illness, 33 (31.7%) were partially aware and 14 (13.5%) were unaware. While the score of awareness of mental disorder was 4.12 ± 1.31 at admission (unaware), it was found to be 1.93 ± 1.22 at discharge (partial insight). 29 patients (27.9%) had no insight at the time of discharge of the social consequences of their psychiatric disorder. It was established at discharge that 59 patients (56.7%) were aware of the treatment response 38 (36.5%) were partially aware and 7 (6.7%) were unaware of treatment effects. While the score of awareness of drug effect was 3.90±1.42 at admission (unaware), it was found to be 1.70±1.0 at discharge (partially aware) with a difference of 2.20±1.5. A decrease of two units at discharge in awareness score of psychiatric illness and drug treatment (p<0.01), and a decrease of one unit in awareness of social consequences of their disorder (p<0.01), was found to be statistically significant (table3).

When investigating insight in relation to symptoms, awareness of symptoms, the description and explanation by the patients was considered. Hallucination, irrelevant mood, difficulty in controlling aggressive impulses, lack of difficulty in controlling sexual impulses and attention deficit symptoms were found to be significantly improved at discharge (p<0.01).

### Insight and sociodemographic variables

In the present study, no relation was found between age, education level and insight. No statistically significant relation was found between the types of first episode, the age of first episode, the number of episodes and the number of admissions and awareness of mental disorder, effects of the treatment and that of social consequences of their psychiatric disorder. (p>0.05).

It was also determined that those without employment had a lower awareness of their mental disorder retrospectively. (p<0.05)(table4)

### Insight and clinical characteristics

It was established that there was a direct relationship between over all PANSS positive score and awareness score of the past mental disorder, and awareness score of the past and present social consequences of mental illness (p<0.05). Namely, as

**Table 1.** Sociodemographic and clinical characteristics of the patients participating in the study

		Min-Max	Mean±SD
Age		21-64	37.56±11.30
The age of the onset of illness		14-58	24.53±8.55
		N	%
Sex	female	55	52.9
	Male	49	47.1
Place of birth	Rural	37	35.6
	Urban	67	64.4
Place of residence	Rural	3	2.9
	Urban	101	97.1
Education level	Primary school	60	57.7
	Secondary school	22	21.2
Marital status before illness	High school	22	21.2
	single	63	60.6
Marital status after illness	Married	41	39.4
	Single	33	31.7
Work Status	Married	58	55.8
	Divorced	15	12.5
Regular employment in last six months	House wife	36	34.6
	Works	38	36.5
Substance abuse	Unemployed	19	18.3
	Income from the family	11	10.6
Present	Present	28	26.9
	Absent	76	73.1
Absent	Present	38	36.5
	Absent	15	14.4
Smoking	Smoking	51	49

overall scores of PANSS positive subscale increase, the insight score of awareness of social consequences of mental illness and awareness past mental illness increase such that there is a decrease in awareness levels. A direct relation was found also between score of awareness and explanation of hallucinations and delusions and overall score of PANSS positive sub scale. ( $p<0.01$ ) i.e.as PANSS positive subscale scores increase, the awareness of patients' experience of hallucinations and delusions decrease.

## DISCUSSION

In the present study which investigates three components of lack of insight in patients with bipolar disorder both in acute stage and in clinical improvement stage, a significant increase in insight levels at discharge was demonstrated. Lack of insight is evaluated as a part of symptom presentation specific to manic episode, it is defined as state dependent (Ghaemi 2004).

Patients with bipolar disorder are usually considered to have recovered when their symptoms improve. Michalakeas et al (1994) report that typically patients are considered to have insight between episodes. However, in the present study, it was demonstrated that when evaluated with SUMD, com-

**Table 2.** The distribution of the parameters of the illness

		Min-Max	Mean±SD (Median)
The age of referring for treatment		14-58	25.08±8.65
The number of hospitalizations		1-20	4.25±3.99 (3)
The number of manic episodes		1-19	4.56±3.95 (3)
The number of depressive episodes		0-15	1.97±2.55 (1)
The number of mixed episodes		0-9	0.67±1.58 (0.9)
		N	%
The type of first episode	Manic	61	58.7
	Depressive	43	41.3
Drugs used within last one year	Antipsychotics	8	7.69
	Antidepressants	6	5.77
Mood stabiliser	Mood stabiliser	9	8.65
	AP + MS	37	35.58
No treatment history	No treatment history	36	34.62
	AD + MS	1	0.96
AP + AD+ MS	AP + AD+ MS	2	1.92
	AP + MS	2	1.92
AP + MS+ ECT	AP + MS+ ECT	3	2.88

ponents of insight were shown to be undeveloped (figure 1).

When the factors determining the lack of insight were investigated, it was found that the number of admissions, the number of previous episodes, and the type of first episode and characteristics of the episode have no effect on the lack of insight. Consistent with our findings, it was reported by Dell'Osso et al that many specific manic symptoms were not determinants of insight level and further that there is no correlation between insight and the number of admissions (Dell'osso et al 2002). Yet, there are also studies suggesting that the patients with lack of insight have a higher number of admissions (Kulhara et al 1999, Robinson et al 1999) or that they are admitted for longer periods (Haywood et al. 1995, Caton et al. 1985).

Yen et al reported (2007) that among patients with bipolar disorder who had different clinical courses during two years of follow up, in those with a single manic episode, insight returned to pre attack levels while in those who have recurrent episodes, insight did not show such an improvement. They also emphasized that multiple episodes have adverse effects on insight through cognitive functions. However, in our sample, the number of patients who had a single episode was less and then the majority had multiple episodes, which does not allow us to make a comparison.

Although there are studies demonstrating a relationship between the severity of manic symptoms and lack of insight (Copeland et al 2008), in our present study, no relation was found between the severity of manic symptoms and the three

**Table 3.** Evaluations according to general items of SUMD

mean±SD (Median)		Admission mean±SD (Median)	Discharge Mean±SD(Median)	Difference	Test change; p
Awareness of mental illness	Present	4.12±1.31 (5)	1.93±1.22 (1)	2.18±1.50 (2)	Z:8.039; p:0.001**
	Past	3.87±1.36 (4.5)	1.90±1.19 (1)	1.96±1.6 (2)	Z:7.719; p:0.001**
Awareness of the effect of medication	Present	3.90±1.42 (5)	1.70±1.0 (1)	2.20±1.5 (2)	Z:7.989; p:0.001**
	Past	3.76±1.38 (4)	1.72±1.01 (1)	2.03±1.5 (2)	Z:7.842; p:0.001**
Awareness of the social consequences of the illness	Present	4.23±1.21 (5)	2.84±1.40 (3)	1.39±1.2 (1)	Z:7.427; p:0.001**
	Past	4.18±1.18 (5)	2.77±1.38 (3)	1.41±1.3 (1)	Z:7.363; p:0.001**

Wilcoxon Signed Ranks test was used. \*\*p<0.01  
 0: Could not assessed 1:Full awareness 2:Partial awareness  
 3:Partial unawareness 4:Unawareness 5: Complete unawareness

components of insight. Nonetheless, in the present study, in 29.2% of those having high scores on YMRS, awareness of the presence of delusion was found to be poor. In 28.3% of these patients, there was poor insight on awareness of delusion and in 45.4% of patients poor insight on attribution of delusion was found, which is consistent with the literature (Michalakeas et al. 1994, Weiler et al. 2000).

In another study by Yen et al, lack of insight was reported at the rate of 36.36% in psychotic bipolar cases at recovery period while it was 9.37% in those with bipolar disorder without psychotic characteristics, supporting the idea that psychotic symptoms, especially delusions, rather than the severity of mania is related to lack of insight.

In the present study, the presence of all three insight components were compared in patient groups with or without psychotic symptoms and awareness of treatment response was found to be significantly different, which suggests that these findings may be the cause of lack of treatment compliance in these patients.

In another study evaluating insight levels using SUMD which

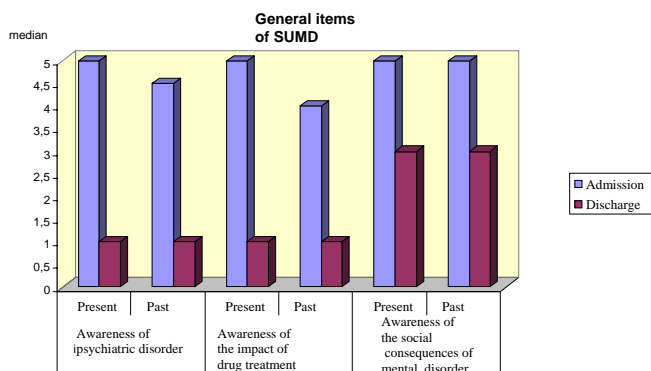
presents results similar to ours, it was found that in patients with the diagnosis of psychotic mania, the difference in the lack of awareness of the social consequences of the psychiatric illness was found to be statistically significant. Consistent with our results, in a study evaluating insight levels with SUMD, significant lack of insight on the social consequences of the illness was found in patients with psychotic mania (Pini et al 2004).

The study of Dell’Osso et al used a similar method, it was reported that patients with severe psychotic symptoms had lower insight in terms of the awareness of treatment response and awareness of the social consequences of the illness (Dell’Osso et al 2002). In their study, they also argued that the presence of hallucination was the determinant of the lack of awareness of the social consequences of the illness.

Psychotic characteristics were related especially with their effect on cognitive capacity and cognitive deficiency and hence deficiency in insight (Albus et al 1996). In some studies, it was reported that the presence and the severity of psychotic symptoms was strongly correlated with lack of insight (Michalakeas et al 1994; Fennig et al 1996)

In the present study, when the relation between overall PANSS scores and insight was evaluated, it was established that awareness of the social consequences of mental illness was found to be inversely related to awareness of hallucination and delusion and their attributions, which is similar with reports in the literature (Dell’Osso et al. 2002, McEvoy et al 2006). Especially delusions on the PANSS scale were found to be negatively correlated with insight. The findings of our study was found to be in agreement with the idea that psychosis in general limits insight (Peralta 1998, Cassidy F 2001).

Studies investigating the relation between insight and positive symptoms associated insight typically with delusions



**Figure 1.** Evaluation of SUMD

**Table 4.** Evaluation of SUMD score at discharge according to work life in the last six months

SUMD scale		Work life within last six months				<i>p</i>	
		Present		Absent			
		Mean±SD	Median	Mean ±SD	Median		
General items	Awareness of mental illness	Present	1.57±0.9	1	2.07±1.3	1.5	<i>Z:1.781;</i> <i>p:0.075</i>
		Past	1.50±0.9	1	2.05±1.3	1.5	<i>Z:2.098;</i> <i>p:0.036*</i>
	Awareness of the effect of medication	Present	1.39±0.7	1	1.82±1.1	1	<i>Z:1.775;</i> <i>p:0.076</i>
		Past	1.54±0.8	1	1.79±1.1	1	<i>Z:1.047;</i> <i>p:0.295</i>
	Awareness of the social consequence of the illness	Present	2.68±1.4	3	2.89±1.4	3	<i>Z:0.661;</i> <i>p:0.508</i>
		Past	2.57±1.3	3	2.84±1.4	3	<i>Z:0.741;</i> <i>p:0.459</i>

Z: Mann Whitney u test

\**p*<0.05

(Dickerson 1997, Debowska 1998). In the present study, lack of insight of delusions was observed in the recovery period as well, supporting the idea that the presence of delusions influence the belief systems of the person about his or her illness (Sanz et al 1998, Langdon et al 2006).

Jaspers et al (1963) report that typically both lack of insight (wrong ideas that the patient has about his or her illness) and delusions (impaired ideas on the external world) reflect a disconnect from reality and they may involve overlapping pathological processes.

In the present study, the number of patients who were on single drug within the last year was 23, the number of those who are on two or more drugs was 45, and the number of those who do not use drugs at all was 36. As our study was a naturalistic study, we did not consider the potential effect of pharmacotherapy.

Lack of treatment compliance (Smith et al 1999), and disturbance of psychosocial function (Amador et al 1994, Lysaker et al 1998), were reported to be important clinical indicators of lack of insight (Yen et al 2007).

It has been suggested that one of the determinants of the lack of treatment compliance in bipolar patients is lack of insight (Yen et al 2005). In the present study, awareness of the treatment response was found to be significantly lower in the patient group with psychotic characteristics. This finding may support the idea that the patients for whom treatment maintenance with antipsychotics is recommended may be the ones with lack of insight. However, in a study by McEvoy et al, it was reported that insight was improved in the patients who received antipsychotics for long term than those who did not do so (Mc Evoy et al 2006).

In the present study, it was determined that 73.1 % of the patients had no regular employment within the last six months.

This group was found to have low levels of awareness of the past psychiatric illness. It was also established that the attribution of delusion was worse in those without regular employment. In the view of these findings, thus lack of insight may lead to impairment of function. As shown in our study, it was stated that 30-60% of the patients with bipolar disorder cannot regain their functionality in professional and social areas (MacQueen et al 2001, Yen et al 2007b).

The lack of follow up may be among the limitations of our study. Insight levels were evaluated just before discharge and in order to show changes in insight level, long term follow up studies should be planned.

The presence of psychotic symptoms and the effect of treatment compliance of these patients on prognosis and insight may be evaluated more accurately with prospective studies. Thus, information which will be useful in the solving of psychosocial problems caused by the illness and in preventing relaps may be obtained.

## CONCLUSION

Insight is a complex, multifaceted phenomenon which has an important role in the treatment and the prognosis of psychiatric disorders. The lack of insight is common among bipolar patients with manic episode. The level of insight may be found to be poor even in recovery period. It may be stated that the majority of patients with bipolar disorders experience problems in treatment compliance due to lack of insight. It should be considered that unawareness of treatment response may be a particular feature in patients with psychotic symptoms.

Sociodemographic and clinical characteristics

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