Insight and Outcome in Bipolar, Unipolar, and Anxiety Disorders

S. Nassir Ghaemi, Erica Boiman, and Frederick K. Goodwin

We performed a study to assess the relationship between impairment of insight and the long-term outcome in affective and anxiety disorders. Standardized insight assessments were made using the Scale to Assess Unawareness of Mental Disorder (SUMD) in 101 outpatients with psychiatric disorders, mostly affective and anxiety disorders, treated over 1 year in a university-based clinic. Outcome was prospectively assessed with the Clinical Global Impression (CGI) and Global Assessment of Functioning (GAF) rating scales. The mean follow-up period was 3.9 months. Initial impairment of insight did not correlate with poor outcome. However, improvement in insight correlated with good outcome, particularly in bipolar disorder type I (r = .56 to .67, P = .0005). Insight was similarly impaired in bipolar and unipolar major depressive disorders, and more so than in anxiety disorders (P = .002). An association between a lack of improvement in insight and a poor outcome, most significantly in bipolar disorder type I, was observed in this sample. We found a greater relative impairment of insight in mood versus anxiety disorders.

LACK OF INSIGHT is a clinical problem in psychotic, affective, and anxiety disorders.[1] Patients who lack insight appear to do poorly. Yet while empirical studies on insight and long-term outcome exist in schizophrenia,[2-5] minimal data are available in affective and anxiety disorders.[6]

There are no published studies of validated assessments of insight and long-term outcome in mood disorders, including bipolar disorder. A review of the MEDLINE database identified only one report that may provide some preliminary data on this issue. Kukopulos et al.[7] reported that 82% of affectively ill patients with "good" insight experienced complete recovery as compared with 47% of patients with "poor" insight ($P < .05$). However, the authors did not define how they established or denoted good versus poor insight; they appeared to use a categorical approach to insight, which is less supported psychometrically or clinically than a continuous approach. They also did not specify how they defined recovery beyond clinical assessment of mood episodes. They did not use any standardized, validated, or reliable rating scales of insight or symptoms of bipolar disorder. Nor did they differentiate outcome based on improvement in symptoms versus improvement in functioning. Also, they did not differentiate between bipolar and unipolar disorders, lumping the two groups together as affective illness. Yet there is evidence from the DSM-IV field trials[8] and other studies[9,10] to suggest that unipolar major depressive disorder is associated with relatively intact insight compared with bipolar disorder, and thus the deleterious effect on outcome might be more severe in bipolar disorder.

Insight itself has proven difficult to study. Recent research suggests that insight is a multidimensional phenomenon.[11-14] Among the dimensions of insight are insight into the symptoms of mental illness, insight into the need for treatment, recognition of the social consequences of illness,[11] and the ability to relabel psychotic experiences as pathological.[12] At least 3 different clinician-administered continuous multidimensional measures of insight exist with acceptable psychometric properties.[12,15,16] Of these, the Scale to Assess Unawareness of Mental Disorders (SUMD)[16] was applied to large samples in the DSM-IV field trials.[8]

This report prospectively assesses insight and outcome in bipolar disorder, unipolar major depressive disorder, and anxiety disorders using the SUMD. We hypothesized that an initial lack of insight would be associated with poor outcome, primarily in bipolar disorder, and that insight would be impaired more in bipolar versus unipolar or anxiety disorders.

METHOD

Charts for all outpatients (N = 103) treated by the first author (S.N.G.) over 1 year in the Massachusetts General Hospital Clinical Psychopharmacology Unit were reviewed. Assessments of insight and clinical outcome were made prospectively as part of routine clinical care. Patients were evaluated for 15 to 25

From the Harvard Bipolar Research Program, Massachusetts General Hospital, Consolidated Department of Psychiatry, Harvard Medical School, Boston, MA; and Department of Psychiatry, The George Washington University, Washington, DC.

Address reprint requests to S. Nassir Ghaemi, M.D., Harvard Bipolar Research Program, Massachusetts General Hospital, 15 Parkman St, WAC-812, Boston, MA 02114.

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minutes; the appointments were symptom-focused and oriented toward making medication decisions. Two patients were excluded from the study due to the absence of a documented assessment of insight, leaving 101 patients for the final sample. Their diagnoses were bipolar disorder type I (n = 37), nonpsychotic unipolar major depressive disorder (n = 34), anxiety disorders (n = 13), bipolar disorder type II (n = 8), psychotic unipolar major depressive disorder (n = 5), schizoaffective disorder, bipolar type (n = 3), and dysthymia (n = 1). The following information was obtained from the charts: age, gender, duration of illness, age at onset of illness, number of hospitalizations, current substance abuse, educational level, employment status, duration of treatment, withdrawal from treatment, family history, and diagnosis based on DSM-IV criteria prospectively at the time of initial evaluation for each patient.

Insight ratings were made prospectively at each visit using the clinician-administered SUMD.[16] The SUMD is a 3-part scale for the assessment of insight used extensively in the DSM-IV field trials and other studies, based on clinician interview of the patient to obtain perspectives on 3 dimensions of insight: (1) insight into psychiatric symptoms or mental illness, (2) insight into the need for treatment, and (3) insight into the social consequences of psychiatric symptoms or mental illness. With the SUMD, the clinician assesses the patient's views regarding these 3 dimensions—the scale does not reflect the clinician's views. Patients receive a score for each dimension of insight from 1 (complete insight) to 5 (absence of any insight). In the original formulation, SUMD scores were given for both insight into current symptoms and insight into past symptoms. Since this is a longitudinal study, we used the SUMD only for insight into the 3 dimensions for the current period at each visit. In addition to the insight score for each dimensional subscale of the SUMD, we also report the overall mean insight score, the average of the 3 dimensional subscales.

Clinical ratings recorded at each visit prospectively included the Clinical Global Impression (CGI) scale and the Global Assessment of Functioning (GAF) scale. SUMD, GAF, and CGI ratings were compared in all patients based on their first and last scores. Final scores for these scales were not available in 4 patients due to patient dropout after the first visit, and in 19 patients due to relocation of the treating psychiatrist before the second follow-up visit. Thus, 78 patients were included in the final sample available for data analysis requiring paired data sets.

Assessment of the distribution of insight and outcome scores indicated a non-normal distribution; thus, nonparametric statistical tests were used. Kruskal-Wallis and Mann-Whitney *U* tests were used to compare insight in the different diagnostic groups. Wilcoxon signed-rank tests were used to evaluate the change between initial and final scores within diagnostic groups. Spearman correlation coefficients were used to assess associations between insight and outcome. Bonferroni corrections were used for all tests to correct for multiple comparisons.

RESULTS

Demographic and clinical characteristics of the sample are shown in Table 1. Most patients had an illness duration of about 15 years. The vast majority of the sample (79%, 66 of 84) were never previously hospitalized.

Table 1. Demographic and Clinical Characteristics of the Sample (N = 101)

Variable	Value
Age, yr (mean ± SD)	38 ± 11
Gender ratio (male:female)	33:68
Duration of follow-up, mo (mean ± SD, range)	3.9 ± 3.5 (0-12)
Bipolar disorder type I (n)	37
Nonpsychotic unipolar major depressive disorder (n)	34
Anxiety disorders (n)	13
Other disorders (bipolar disorder type II, psychotic depression, schizoaffective disorder, dysthymia) (n)	17
Duration of illness, yr (mean ± SD)	14.8 ± 11.6
Age of onset of illness, yr (mean ± SD)	22.8 ± 13.0
No. of hospitalizations (mean ± SD)	1.4 ± 3.0
Current substance abuse, % (n)	12.6 (12)
More than high school education, % (n)*	65 (55)
Currently employed, % (n)	40 (39)
Treatment dropouts, % (n)	17 (17)
Positive family history of psychiatric illness, % (n)*	74 (61)
CGI for total sample (mean ± SD)	
Initial	3.5 ± 1.0
Final	2.9 ± 1.2
GAF for total sample (mean ± SD)	
Initial	59.6 ± 9.3
Final	62.1 ± 13.1

*Sample size for these characteristics was 84 and 82, respectively.

A Kruskal-Wallis test with Bonferroni correction for *P* values showed significant differences between diagnoses for the initial insight ratings (for SUMD-initial, N = 101, Kruskal-Wallis H = 26.78, $P = .0006$). The main difference among diagnoses is that insight was more impaired initially in bipolar disorder type I and unipolar major depressive disorder versus anxiety disorders. Insight was similarly impaired initially in bipolar disorder type I as in unipolar nonpsychotic major depressive disorder, with a mild improvement in insight in each condition that was not statistically significant. Analysis by gender or the presence of substance abuse did not affect these findings. There was a mild clinical improvement based on CGI and GAF scales in all diagnoses (Fig 1).

Contrary to our hypothesis, poor initial insight did not correlate with poor outcome (Table 2). Rather, change in insight correlated with outcome. In bipolar disorder type I, improvement in the dimension of insight into symptoms was associated

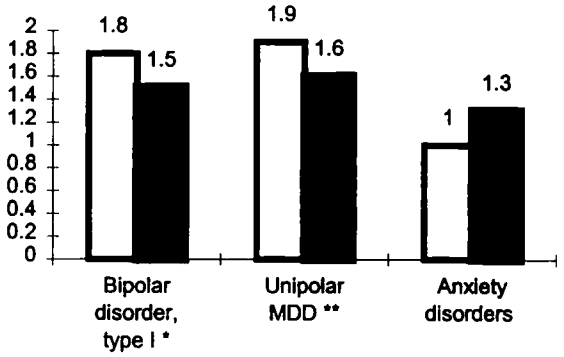

Fig 1. Initial SUMD (□) and final (■) insight ratings by diagnosis. Initial insight was more impaired in bipolar and unipolar *v* anxiety disorders. Unipolar MDD = nonpsychotic unipolar major depressive disorder. Lower scores on the SUMD indicate greater insight (1 = complete insight, 3 = partial insight, and 5 = complete absence of insight). *Improvement in insight not significant, tied $z = -1.6$, tied $P = .11$, Wilcoxon signed-rank test, n = 30. **Improvement in insight not significant, tied $z = -1.1$, tied $P = .29$, Wilcoxon signed-rank test, n = 25.

with improvement in function based on the GAF (Spearman correlation, $r = .64$, $P = .0006$, n = 30), but such an association, while present, was not statistically significant after Bonferroni correction (for 84 comparisons, $P \leq .0006$) between the other 2 dimensions of insight measured (insight into the need for treatment and insight into the social consequences of illness) and outcome ($r = .58$ to .59, $P < .002$).

Improvement in overall mean insight was also correlated with improvement in the GAF (Spearman correlation, $r = .67$, $P = .0005$, n = 30) and the CGI (Spearman correlation, $r = .56$, $P = .0005$, n = 30). A similar finding of a moderate correlation between improvement of insight and improvement of outcome held in the total sample and in bipolar disorder type II and unipolar major depressive diagnoses except bipolar disorder type I; however, these correlations did not withstand Bonferroni correction (Table 2). Again, differences in gender and the presence of substance abuse had no statistically significant effect on the association between insight and outcome after correction for multiple comparisons. We do not present data on Table 2 for other diagnoses since their sample size was 5 or fewer, precluding meaningful statistical analyses.

DISCUSSION

Improvement in insight was associated with better outcome across diagnoses, with statistical significance in bipolar disorder type I. An improvement in insight into symptoms was particularly associated with better outcome based on the GAF scale. Insight was similarly impaired in bipolar and unipolar disorders, but relatively unimpaired in anxiety disorders.

These findings agree with studies on the relationship of insight to outcome in schizophrenia[2-5] and the only other report on affective disorders.[7] However, poor initial insight was not associated with poor outcome; rather, an improvement in insight was associated with better outcome. Since this study used standardized and validated assessments of insight and clinical outcome, whereas the study by Kukopulos et al.[7] was more descriptive, differences in methodology could explain this difference. Also, it may be that the patient samples differed either in the severity of affective illness or in other variables that were not assessed. For instance, it is possible that these outpatients with bipolar disorder

Table 2. Insight and Outcome in the Total Sample and in Individual Diagnoses

Parameter	Correlation (*r*)	Significance (*P*)
Total sample (N = 101)		
Initial SUMD and final GAF	−.03	.24
Initial SUMD and final CGI	.29	.09
Change SUMD and change GAF	.43	.001
Change SUMD and change CGI	.39	.002
Bipolar disorder type I (n = 37)		
Initial SUMD and final GAF	.24	.33
Initial SUMD and final CGI	.02	.62
Change SUMD and change GAF	.56	.0005*
Change SUMD and change CGI	.67	.0005*
Unipolar major depressive disorder (n = 34)		
Initial SUMD and final GAF	.10	.76
Initial SUMD and final CGI	.28	.57
Change SUMD and change GAF	.50	.03
Change SUMD and change CGI	.36	.14
Anxiety disorders (n = 13)		
Initial SUMD and final GAF	.56	.29
Initial SUMD and final CGI	.23	.27
Change SUMD and change GAF	.52	.41
Change SUMD and change CGI	.49	.26
Bipolar disorder type II (n = 8)		
Initial SUMD and final GAF	.43	.69
Initial SUMD and final CGI	.20	.99
Change SUMD and change GAF	.93	.07
Change SUMD and change CGI	.93	.07

NOTE. All correlations reflect the Spearman correlation coefficient. All SUMD values are presented as an average of the 3 subscales of the SUMD for ease of presentation (see Methods).

*Statistically significant after Bonferroni correction, $P \leq .0006$.

were less severely ill than the hospitalized patients in previous studies of insight in mania, and thus the effect of poor initial insight might be less robust. This view is supported by the relatively mild severity of illness found in the sample, as demonstrated in the CGI and GAF ratings presented. Notably, the presence of substance abuse did not affect the association between insight and outcome.

In disagreement with some previous studies, including the DSM-IV field trials,[8] insight was not more impaired in bipolar disorder versus nonpsychotic unipolar major depressive disorder in this sample. This was somewhat surprising, and should be reassessed in other samples. It may be that the unipolar depressed patients in this sample were somewhat more ill than patients in other studies of depression, or the patients with bipolar disorder were less ill versus earlier studies.

Insight was not impaired at all in anxiety disorders. While insight is reported to be impaired in some patients with obsessive-compulsive disorder, this appears to involve a minority of such patients.[17]

It might be suggested that the correlation between improvement in insight and outcome is mere common sense, since as psychiatric illness improves, insight improves. However, a number of empirical studies have found that as acute symptoms of illness (e.g., psychotic or manic syndromes) resolve, impairment of insight does not necessarily also improve.[18-21] Those studies are limited by being short-term (usually 1 month or less) acute studies of hospitalized patients with psychosis or mania. This report, being a longer-term study of outpatients, takes those findings one step further. A causative relationship of some type between better insight and remission of illness (perhaps through improved medication compliance) cannot be established, of course, with these correlational data. Future studies of insight, compliance, and outcome and more detailed assessments of symptom improvement will be required before these possibilities can be teased out.

Limitations of the Current Study

There are a number of methodological limitations to suggest caution in the interpretation of these results. First, assessments of insight and outcome were made by the same clinician in an unblinded manner; thus, a priori hypotheses may have affected clinical judgments regarding these factors. In other words, it might be asked whether insight ratings influenced CGI and GAF ratings, thus producing a confound on the association between insight and outcome. However, the GAF was rated according to the standard manner described in DSM-IV, where assessments of insight are not directly described or prominent. As a result, correlations between contemporaneous SUMD and CGI/GAF ratings are low to moderate (r = .22 to .37). The CGI ratings were made based on symptom response for manic, depressive, or anxiety symptoms, and impaired insight is not one of the manic, depressive, or anxiety criteria as described in DSM-IV. Thus, we believe that the risk of this confound is low in this study, given the manner in which CGI and GAF scales were rated. Second, as noted, this outpatient sample may not have been severely ill enough to demonstrate the associations hypothesized; a follow-up study on an initially inpatient sample may be helpful. Also, it may be that the sample was too chronically ill, with insufficiently acute symptoms (such as acute psychosis or mania/hypomania) to demonstrate improvement. We did not obtain data for this report on the percentage of the sample with acute mania or psychosis at initial evaluation, but our experience in the clinic is that the majority of our patients (unipolar or bipolar) are nonpsychotic and depressed in their mood states. Third, real associations may not have been detected in some diagnostic groups (such as bipolar disorder type II or schizoaffective disorder) due to the small sample size, thus increasing the likelihood of type II error, or false-negative results. Future studies may focus on these diagnostic groups, whereas the real focus of this study was bipolar disorder type I, unipolar major depressive disorder, and anxiety disorders. Fourth, the assessment of outcome using the CGI and GAF may have been insufficiently sensitive to clinical change. Future studies may benefit from using more specific scales such as the Young Mania Rating Scale or the Hamilton Depression Rating Scale. Fifth, we assessed insight based on overall mood disorder diagnoses, but we possessed inadequate data to relate insight to polarity, e.g., comparing insight longitudinally during manic versus depressed episodes. Sixth, the relationship between insight and outcome may reflect improvement in illness as noted before, although we believe this is unlikely, for the reasons given previously. Seventh, a causative relationship between insight

and outcome is not established by this study. The relationship between insight and outcome may be mediated by a necessary third factor, such as medication compliance, which was not assessed in this study. Eighth, the length of previous treatment may theoretically influence insight by way of repeated psychoeducation or other clinical experiences. Our data are incomplete on this issue, but we found no effect of the number of previous hospitalizations on insight in this or another previous study.[18] Nonetheless, the issue of previous treatment duration has not been directly assessed in the literature on insight in bipolar disorder.

Conclusion

In summary, an improvement in insight, rather than intact baseline insight, was associated with a beneficial outcome in this sample of affective and anxiety disorders, most significantly in bipolar disorder type I.

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