Insight and Psychiatric Disorders:

A Review of the Literature, with a Focus on its Clinical Relevance for Bipolar Disorder

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Lack of insight represents the inability to recognize that one possesses a mental illness or that one is experiencing psychopathological symptoms. This is often experienced with a lack of awareness of need for treatment and a lack of recognition of the social consequences of symptoms. In its first section, this paper provides a general overview and critical analysis of empirical studies of the role and etiology of insight in psychiatric conditions. In its second section, it discusses the clinical relevance of insight, with a particular focus on problems in the diagnosis and treatment of bipolar disorder.

Insight cuts across all diagnoses, both psychiatric and medical. Non-psychiatric manifestations of abnormalities in insight include anosognosia due to parietal lobe stroke syndromes, Alzheimer's disease, and denial of other medical illnesses (such as cardiovascular disease). In parietal lobe syndromes due to right hemispheric stroke, patients often do not recognize that they are paralyzed on their left side, nor do they recognize that their left limbs belong to them.[1] In Alzheimer's disease, patients do not recognize that they are suffering from dementia, and pretend to remember facts that they do not, in fact, recall (confabulation). Although both of these abnormalities in insight seem to be directly related to brain malfunction, denial of other medical illnesses may be related to cognitive understanding and emotional defense mechanisms.

This review focuses on studies of insight in psychiatric disorders, predominantly psychotic and affective disorders. Most research on this topic has focused on schizophrenia, with a few recent studies on mania and depression.

EMPIRICAL STUDIES OF INSIGHT

Schizophrenia

The literature on insight in schizophrenia is extensive, with over 25 papers published on this topic, most within the past 7 years.[2,3] Like much research in schizophrenia, these studies can be difficult to interpret because investigators often use differing diagnostic criteria for schizophrenia, and because methods of measuring insight vary. Emphasis is placed on recent studies, which tend to use standardized diagnostic criteria and which also employ measures of insight with acceptable psychometric properties. Studies of insight using the most rigorous methods report that moderate to severe lack of insight in schizophrenia occurs in about one half of patients.[4,5] Roth also made the point that patients with poor insight need not seem otherwise ill or incompetent, and thus often require civil commitment.[6] Soskis and Bowers[7] conducted the first outcome study of insight in schizophrenia, in which they retrospectively assessed insight in patients who had been hospitalized for psychosis 3 to 7 years previously.

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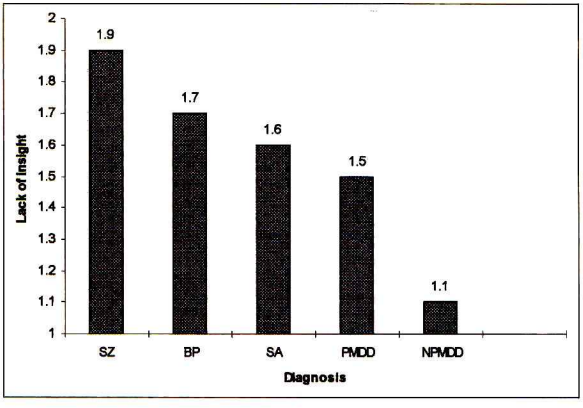

Figure 1. *Comparison of impairment of insight in different diagnostic groups in the DSM-IV field trials. A higher score indicates greater impairment of insight. A score of 1.0 indicates complete insight is present. A score of 5.0 indicates complete absence of insight. BP—bipolar disorder; NPMDD—nonpsychotic major depressive disorder; PMDD—psychotic major depressive disorder; SA—schizoaffective disorder; SZ—schizophrenia.*

The investigators found that patients without a negative attitude towards their illness had better outcomes than those with a negative attitude towards their illness. This finding was replicated by McGlashan and Carpenter[8] using the same methods. In other well-designed studies, van Putten reported that lack of insight was associated strongly with medication noncompliance in schizophrenia, and correlated with grandiose, but not paranoid, ideation.

In the 1980s, McEvoy and colleagues published a number of ground-breaking studies of insight in schizophrenia.[4,9] Using *Diagnostic and Statistical Manual* (DSM)-III diagnostic criteria for schizophrenia, these investigators carefully assessed insight with a scale they created, the psychometric properties of which they established rigorously (the Insight and Treatment Attitudes Questionnaire; ITAQ).[10] In patients with schizophrenia who were hospitalized for an acute psychotic episode, the authors reported that lack of insight was a common clinical problem, that it was correlated with medication noncompliance and poor short-term outcome, and that it did not improve in the short-term despite resolution of the acute psychotic episode. They also confirmed the association between lack of insight and need for involuntary hospitalization.[11]

This series of studies on insight in schizophrenia was followed by a number of other investigations using sophisticated research tools. David and associates[12] created a scale to measure insight (Schedule for Assessment of Insight, SAI) based on a comprehensive theoretical review of the literature, and they confirmed much of McEvoy and colleagues' work, with lack of insight again found to be common in acutely ill schizophrenic patients. Lack of insight was again associated with medication noncompliance and failed to improve despite resolution of the acute psychotic episode.[13] Using another validated and reliable measure of insight (the Scale for the Assessment of Unawareness of Mental Disorder, SUMD), Amador and colleagues[14] found similar results in a separate sample of patients with schizophrenia.

These studies would seem to suggest that insight is a trait rather than a state phenomenon, enduring through acute psychotic episodes and unrelated to them. However, not all recent studies are unanimous in this regard. In a sample of acutely ill psychotic patients, Markova and Berrios,[15] using their own scale, reported significant improvement in insight along with improvement in psychotic symptoms. These authors, however, did not report the psychometric properties of their scale.

In a recent series of articles, Amador and colleagues[5] assessed insight in large numbers of psychotic patients in the DSM-IV field trials. Their reports extend the previous studies and also represent the only published work on insight in schizoaffective disorder, as well as one of few studies of insight in bipolar disorder. In the DSM-IV field trials, insight was assessed in acutely ill, hospitalized patients with psychotic disorders (using the SUMD). Insight was found to be absent to a moderate to marked degree in 57% of patients with schizophrenia. Further, as shown in Figure 1, insight was more impaired in schizophrenia and bipolar disorder than in nonpsychotic major depressive disorder, with psychotic major depressive disorder and schizoaffective disorder being intermediate in terms of impairment of insight. Unawareness was somewhat more prominent for positive symptoms of delusions and thought disorder than for negative symptoms of anhedonia and asociality. Average awareness scores (on the three dimensions of recognition of possessing a mental disorder, recognition of the social consequences of one's symptoms, and recognition of

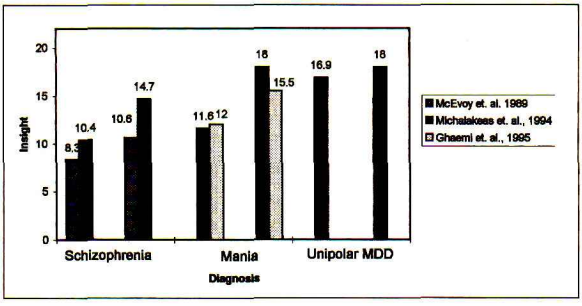

Figure 2. Insight in three studies of schizophrenia, mania, and depression using the same methods. All studies used the Insight and Treatment Attitude Questionnaire (ITAQ) developed by McEvoy and colleagues.[10] MDD—Major depressive disorder.

medication efficacy) were not significantly different between patients with schizophrenia, those with schizoaffective disorder, and those with bipolar disorder. However, patients with schizophrenia were less aware of delusions (SUMD=2.4±0.80 [mean±SD]); on a 1-5 scale of decreasing insight) than patients with bipolar or schizoaffective disorder (SUMD=2.0±0.85), and less aware of negative symptoms (SUMD= 1.8±0.87) than patients with schizoaffective disorder (1.4±0.70).

Anecdotal reports suggest that some patients experience suicidal ideation when they possess good insight into their illness (and, presumably, its ravaging effects on their lives). This phenomenon has been reported with patients who experienced marked improvement in psychotic symptoms with new atypical antipsychotic agents, but who then developed suicidal ideation (in the apparent absence of a major depressive episode). In the DSM-IV field trials, Amador and associates conducted the only empirical study of insight and suicide; they reported that general lack of insight was not associated with increased suicidal ideation or behavior. However, specific insight into delusions and negative symptoms was associated with a moderate increase suicidal ideation.[16]

Mood Disorders

It should be emphasized that impairment of insight is not limited to psychotic disorders, but appears to occur in mood disorders as well.

Bipolar disorder. Fewer studies on the role of insight have been performed with patients with bipolar disorder or unipolar major depressive disorder than in patients with schizophrenia. Before 1994, empirical studies published specifically on insight in bipolar disorder were rare. Since then, two groups[17,18] published studies of patients with DSM-III-R—criteria acute mania, using similar methodologies modeled on McEvoy and colleagues' work in schizophrenia.[4] Because these two studies (and McEvoy et al's reports) used essentially the same methodologies in three different sites (Pittsburgh, Boston, Greece), it is remarkable that they confirmed similar findings. As noted in Figure 2, lack of insight is as prominent in mania as it is in schizophrenia, but it is less severe in depression. With the same measure of insight (ITAQ) and similar psychiatric rating scales (Brief Psychiatric Rating Scale),[19] the three studies thus established significant lack of insight in bipolar disorder and schizophrenia, but they reported different results regarding whether insight improves when the acute manic episode resolves. One[17] reported that it does, and one[18] reported that it does not. As noted previously, using different methods, the DSM-IV field trials also demonstrated that lack of insight was a major clinical finding in bipolar disorder (similar in severity to that in schizophrenia) and less severe in depression. This limited literature establishes that lack of insight is common in bipolar disorder, but its other clinical features remain unclear. Specifically, it is not clear if insight in mania is a trait or state phenomenon, and its relationship to medication noncompliance and long-term outcome has yet to be established.

There may also be a qualitative difference between lack of insight in schizophrenia and mania.[20] Psychopathology vignettes were shown to 21 patients with schizophrenia and 20 with mania, and psychiatrist ratings of insight were compared with patients' responses. Patients with schizophrenia underrated their similarities to the vignettes, whereas patients with mania correctly rated their similarity to the vignettes but denied that those vignettes reflected mental illness.

Unipolar major depressive disorder. The role of insight in depression appears to be complex. Again, studies are few and conflict to some degree. In one study, Markova and Berrios[15] found that insight in depression was not as impaired as in schizophrenia, and they also found that insight improved with resolution of the major depressive episode. As noted above, a number of previous studies[5,17] have found that insight in nonpsychotic depression was less impaired than in either bipolar disorder or in schizophrenia, and that it appeared to improve with resolution of the acute major depressive

episode as well. In the DSM-IV field trials, Amador and colleagues also found that insight was somewhat more impaired in unipolar psychotic than nonpsychotic depression.

These studies appear to partially support a model of depression in which the abnormal mood state involves some amount of distortion (cognitive or emotional) of reality, with resultant abnormalities, perhaps, in awareness of illness in oneself. However, the amount of impairment of insight in depression appears to be relatively mild, and in some cases it appears that there is no impairment of insight at all. Another model of depression that may help explain the other part of these findings is the depressive realism model, which holds that depression is related to excessive insight into one's life and its problems, perhaps an overemphasis on real obstacles and existential dilemmas that normally are not dwelled upon.[21] Some data appear to support this model. For instance, one study[22] found that lack of insight (based on the SUMD) was correlated with depression (based on the Hamilton Rating Scale for Depression [HRSD], r=0.35); another (see David and Kemp, pp 791—797) also found a correlation between insight (based on the SAI) and depression (based on the Beck Depression Inventory [BDI], r=0.525). More depressive symptoms were associated with more insight, which would seem to agree with the depressive realism hypothesis.

Perhaps the studies that support the cognitive distortion model may have involved more severely ill patients (such as hospitalized patients), whereas at least one study[22] supporting the depressive realism model involved only moderately ill outpatients (mean±SD HRSD score, 18.6±11.4). These differing findings may reflect the heterogeneity of patients diagnosed with unipolar major depressive disorder, and thus represent insight in different patient populations altogether.

These findings also highlight the possibility that we cannot assume the presence of insight to be advantageous and lack of insight to be disadvantageous. Considered as a continuous trait, there may be syndromes of too much insight.[23] Thus, the depressive realism hypothesis makes the plausible suggestion that certain types of depression may be in part due to excessive insight into painful experiences. Also, Bear[24] has described apparent excessive insight (overconcern with symptoms) in temporal lobe epilepsy (TLE) patients with left-sided epileptic foci, who also tend to have depression more frequently than TLE patients with right-sided foci. Interestingly, the latter patients tend to have diminished insight and demonstrate more manic symptoms than TLE patients with left-sided foci.

In summary, the studies currently available suggest that insight in depression may be a state rather than trait phenomenon, unlike insight in schizophrenia. The relationship of insight to medication compliance and outcome in unipolar major depressive disorder has not yet been investigated.

Other Psychiatric Disorders: Obsessive-Compulsive Disorder and Personality Disorders

A number of studies in obsessive-compulsive disorder (OCD) suggest that insight is present in some patients with OCD but absent in others,[25] which contradicts the traditional view that patients with OCD always recognize that their symptoms are exaggerated and unreasonable. Insight in personality disorders has not been studied empirically or quantitatively in any systematic fashion; as with OCD, the traditional view has been that Axis II disorders are ego-syntonic, unlike Axis I disorders, and thus one would expect a certain absence of insight in personality disorders.

A relevant study in this regard was conducted by Sachs and associates,[26] who compared scores on personality traits (measured by the dimensional Neuroticism/Extroversion/Openness to Experience personality questionnaire [NEO]) with a visual analogue scale representing patients' self-perceptions for these traits. In patients with seasonal depression, the results were only partially consistent with the traditional view that personality trait abnormalities are unrecognized by patients (ego-syntonic). They found no impairment of insight into the main personality traits of neuroticism and extroversion. However, moderate impairment of insight was noted in the personality trait of openness to experience (and the two secondary traits of agreeableness and conscientiousness), with resolution of this lack of insight after treatment of depression only in the conscientiousness factor.

THE ETIOLOGY OF INSIGHT: PSYCHOSOCIAL HYPOTHESES

What causes impairment of insight? One hypothesis is that insight is related to stigma, with patients denying mental illness because of the social and cultural stigma associated with it and because of their particular beliefs regarding mental illness. These beliefs have been studied both in patients and in their families. In a recent study of relatives' beliefs concerning the causes of schizophrenia,[27] stigmatized beliefs were common (19% attributed the illness to God's will, 25% to the "hectic pace of modern life," and 48%, the most common belief, to a "weak mental constitution").

The issue of stigma and beliefs raises the question of whether lack of insight is an epiphenomenon of disagreement between doctor and patient: when we ask whether patients have insight, we are to a large extent asking whether they agree with their doctor.[28] Although this view seems a bit simplistic, it does highlight an important factor, which is that assessment of insight assumes accuracy of diagnosis on the doctor or researcher's part. Yet the accuracy of diagnoses cannot be assumed, either in clinical practice or in research. However, in cases in

which careful, valid, reliable diagnoses are made (to the limit of current standards of validity and reliability in psychiatry), it does appear legitimate to believe that assessment of insight involves not just agreement between doctor and patient, but rather awareness on the part of the patient of a condition that truly exists. One can admit a role for social factors such as stigma and education without admitting that insight merely reflects agreement with the doctor's opinion.

There are few empirical studies relevant to this topic. In one study, poor insight, as measured by the SUMD, was associated with poor compliance with a 26-week psychosocial rehabilitation program in patients with schizophrenia.[29] In another study,[30] acutely psychotic patients (mostly manic, some schizophrenic) were shown videotapes at discharge of their admission interview, and insight was evaluated with the ITAQ on admission and at discharge. Compared with a control group of acutely psychotic patients who were shown a sham unrelated videotape, the research subjects showed statistically significant moderate improvement in their insight (in an acute time frame of 2 to 3 weeks). Studies of indirect belief modification techniques also have shown some improvement in insight in hospitalized patients with psychosis.[31,32] Thus, limited preliminary evidence suggests that insight may be improved with indirect belief modification techniques or by a variation on psychoeducation, such as videotape assisted interventions.

If it is accepted, however, as is discussed below, that severe neurologic and psychiatric disorders involve impairment of insight (at least partly) due to underlying brain dysfunction, then a purely social etiology for insight would appear less relevant. Conversely, in less severe psychological syndromes, such as mild anxiety and depressive disorders, impairment of insight may have deeper roots in psychosocial factors such as stigma.

THE ETIOLOGY OF INSIGHT: NEUROPSYCHOLOGICAL HYPOTHESES

Another hypothesis is that impairment of insight is caused by a brain-based deficit. The neuropsychology of insight is covered in greater detail by McGlynn and Schacter (pp. 806–811) in this issue. I simply wish to highlight a few interesting facts.

First, a number of studies suggest that there is evidence that frontal lobe dysfunction correlates with lack of insight in schizophrenia.[29,33] Also, it has been reported that anosognosia in stroke and Alzheimer's disease[33-37] is associated with both non-dominant parietal and frontal dysfunction. Elegant studies using intracarotid barbiturate anesthesia have also experimentally confirmed the strong association of anosognosia with nondominant hemisphere dysfunction.[38] A reasonable conclusion might be that an etiology of lack of insight involves impairment of frontal and nondominant parietal lobe function.

Not all the literature is unanimous in schizophrenia,[39] however, and little data exist for mood disorders.[40] In one study of schizophrenia,[41] for instance, lack of insight was not correlated with neuropsychological abnormalities (including right parietal and frontal tasks, such as face-matching, fluency tests, and the Trail-Making test). In fact, lack of insight was associated with enhanced performance on verbal and visual memory tasks. Interestingly, in the only published neuropsychological study of insight in mania,[40] similar results were found (although the neuropsychological battery did not include specific tests of frontal or right parietal function): lack of insight was associated with improved performance in delayed visual recall, but in no other abnormalities in a typical neuropsychological battery. Cuesta and Peralta[40] interpreted their results as suggesting that lack of insight is not secondary to a brain-based deficit. They believe that these results support the relevance of psychological and social factors, and they further hypothesize that lack of insight may be a primary Bleulerian symptom of schizophrenia, ie, not secondary to other phenomena.

Such Bleulerian specificity for schizophrenia is not supported by the similar findings in mania, however. Rather, enhanced verbal and visual functioning in patients who lack insight may suggest another possibility. Such patients may have better left-hemispheric than right-hemispheric functioning, which is manifested in less awareness of illness or symptoms (on this hypothesis, a largely right hemispheric function). This view is supported indirectly by recent work in the surgical treatment of patients with TLE.[42] In patients who had the largest resection of the right (non-dominant) part of the brain, neuropsychological testing revealed a pattern of results similar to those described above in schizophrenia and mania patients: better left hemispheric function, especially with verbal and visual tasks, presumably due to absence of inhibition by the now-removed diseased right hemispheric tissue.

In summary, empirical studies appear to support the notion that lack of insight involves impaired brain function, especially in the frontal lobes and in the nondominant hemisphere. However, they also suggest that part of the etiology of impairment of insight may also involve non–brain-based psychological and social factors.

THE CLINICAL RELEVANCE OF INSIGHT: BIPOLAR DISORDER

Does Failure to Appreciate Lack of Insight Lead to Underdiagnosis of Bipolar Disorder?

The previously cited studies describe reports on insight in which the investigators used empirical methods to assess insight directly. However, many studies seem to provide indirect information about insight. Although these studies may be less informative than studies with more rigorous designs, they generate

interesting hypotheses about insight that bear further direct investigation, and thus will be discussed here.

Experts have noted that patients with bipolar disorder often under report their symptoms, especially manic symptoms. Thus their families may serve as a better source for identifying such symptoms.[43] An empirical study by Keitner and colleagues[44] confirmed this observation; it was found that families are twice as sensitive to behavioral symptoms of mania (47% of family-reported symptoms were behavioral) than patients' self-reports (22% of patients' self-reported symptoms were behavioral). This finding held only for behavioral effects in mania, not in depression (10% of patients' self-reported depressive symptoms were behavioral vs 13% of family-reported symptoms). Cognitive, mood, and neurovegetative symptoms were reported equally by families and patients. This study suggests that clinicians should obtain family reports of behavioral symptoms in the assessment of mania.

Perhaps at this point one might be entitled to suggest a hypothesis based on these findings: poor insight may lead to underdiagnosis of bipolar disorder. This hypothesis is supported by an observation in the Iowa 500 study,[45] in which it was noted in the course of a family study that the diagnosis of mania was made more often in relatives of bipolar probands if hospital charts were used in cases in which personal clinical interviews were not possible. In fact, simply relying on personal interviews seemed to underestimate the incidence of mania in relatives by almost one third (morbidity risk, 1.9 ± 1.07 excluding hospital charts vs 5.3 ± 1.73 including hospital charts). This suggests that many patients may deny manic symptoms in the course of their clinical interview, and if investigators do not use outside sources of information, the diagnosis of bipolar disorder may be underestimated as compared with the true prevalence. Other methodologic factors may also account in part for the increase in diagnosis of mania, however, such as the inclusion of deceased relatives in the sample that included use of hospital charts. Thus, caution should be used in interpreting these findings.

Nonetheless, if underdiagnosis occurs in research studies, certain accepted epidemiological facts may need to be reassessed. For instance, the landmark Epidemiologic Catchment Area (ECA) study[46] reported that mania occurs in 0.8% of the population over a lifetime, a prevalence comparable to schizophrenia and about one fifth the prevalence of major depression. Experts in bipolar disorder have doubted this report of a 5 to 1 ratio of unipolar to bipolar disorder on clinical grounds, suggesting that the relationship may be closer to 1 to 1.[47] Anthony and associates,[48] who participated in the Baltimore branch of the ECA study, published a report on the diagnostic methods used, which may support the hypothesis of the underdiagnosis of bipolar disorder. The

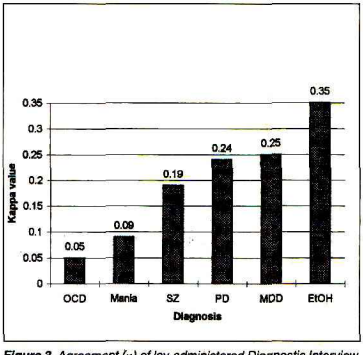

Figure 3. Agreement (κ) of lay-administered Diagnostic Interview Schedule diagnoses with clinician-researcher diagnoses (from the Epidemiologic Catchment Area study, Baltimore site). EtOH—alcohol use disorders; MDD—unipolar major depressive disorder; OCD—obsessive-compulsive disorder; PD—phobic disorders; SZ—schizophrenia.

Diagnostic Interview Schedule (DIS), a research diagnostic interview designed for use by lay researchers in the ECA,[46] was compared with a gold standard of a clinical reappraisal by four research psychiatrists based on DSM-III criteria (mean interview duration, 102 minutes per patient). A comparison of the 1-month prevalence of diagnoses based on the psychiatrists' research interview with the DIS showed that the lay-administered DIS led to an overdiagnosis of major depression (2.3% vs 1.1%; $P<0.5$), whereas no differences between diagnoses of schizophrenia (0.7% vs 0.5%) or mania (0.4% in both groups) were present. Because there were few cases of schizophrenia or mania, both psychiatrists and lay-researchers agreed when the diagnosis was absent. Thus, this study suggests that current techniques in diagnosing bipolar disorder are specific and rule the diagnosis out when it is not present. However, it remains to be established whether current clinical and research methods are sensitive in diagnosing mania (or hypomania) when it is present. One reason the diagnosis rate of mania may have been low in this study was that researchers used estimated 1-month prevalences, which in the case of episodic illnesses like mania will underestimate the true prevalence. On the other hand, the 1-month prevalence for schizophrenia, a chronic illness, should be an accurate reflection of its true prevalence.

Anthony and associates further noted in their analysis that the two methods of diagnosis often did not select the same patients, even though their overall percentages may have been similar (as in mania). When the authors cross-classified specific patients diagnosed with these disorders (Figure 3), their best concordance between psychiatric and DIS diagnoses was for alcoholism ($\kappa=0.35$, a modest concordance), but

low concordance rates were found for diagnoses of mania (κ=0.09), schizophrenia (κ=0.19), or depression (κ=0.25). In another reanalysis of diagnostic accuracy of the lay-administered DIS in a subsample of the National Comorbidity Survey,[49] clinician-researchers reported lower rates of nonaffective psychosis diagnosis (0.2% on a narrow definition of schizophrenia, schizoaffective disorder, and atypical psychosis) than lay interviewers using the DIS (0.6% with a narrow definition). The suggestion made here is that epidemiologic research based on diagnosis by laypersons may not produce as valid results as those based on diagnosis by clinician-researchers. One reason may be that much of the clinical acumen that leads to valid diagnosis involves skillful interviewing to get around the obfuscating effects of lack of insight.

If it is true, as the studies discussed earlier suggest, that insight is more absent in mania than in depression, then it stands to reason that lack of insight is one factor leading to an underdiagnosis of mania and a relative overdiagnosis of depression. This hypothesis is supported by another recent study,[50] which indicated that up to 40% of patients with bipolar disorder may be undiagnosed, with those who receive other diagnoses being labeled as having unipolar major depressive disorder.

How Does Insight in Mania Relate to Our Beliefs Concerning the Concepts of Well-Being and Cure?

Our conceptual understanding of psychosis, mania, and depression is influenced by our understanding of the concept of insight. Insight can be conceptualized in a number of ways: as understanding of symptoms, knowledge of an illness, understanding of the need for treatment, awareness of characteristics of one's personality, and recognition of the source and effects of one's behavior. Also, the assessment of insight depends on the clinician's diagnostic certainty; if the clinician is not certain (or worse, is mistaken) about the patient's diagnosis, then there is no way to be certain whether the patient has insight into the diagnosis. In a recent paper, Moore and colleagues[51] relate the concept of insight in "mild" mania to ethical conceptions of well-being. The authors describe possible interpretations that probably are held by many patients and some physicians and that may to some extent explain noncompliance and underdiagnosis in bipolar disorder. They describe a manic patient who, when manic, does not wish to be married, leaves his family, spends money generously, and generally enjoys himself. When not manic, the patient regrets many of those behaviors. However, he is not sure which "person" he is: the manic, care-free person or the nonmanic, responsible person. Thus, he vacillates between taking and not taking medication. The authors indicate that the perspective of the patient when manic may be as acceptable and deserving of respect as the perspective of the patient when nonmanic, based on a desire-fulfillment theory of well-being in which the autonomous individual has the right to determine his or her well-being based on the satisfaction of whatever desires that person possesses. Other perspectives, such as hedonism (or simple pursuit of pleasure) might also be used to justify mania. Another perspective, which perhaps comes most naturally to clinicians, assumes that manic patients are not expressing their true desires due to a biological infirmity, and thus their perspective when manic is not representative of either their true wishes or their best interests. The authors cast doubt on this clinical perspective as excessively paternalistic and disrespectful of patient autonomy. Although this dialectic of paternalism and autonomy is a common problem in medical ethics, such ethical rationalizations as exemplified by Moore and colleagues may merely reflect their own conceptual unease with a certain loss of free will that is implied by the phenomenon of lack of insight (at least when viewed from a biological perspective). One is reminded of the not uncommon response of some clinicians to presentations of hypomania or mania: cannot the patient be allowed a little euphoria? Perhaps such a clinical reaction reflects a certain "buying into" the patient's lack of insight. Or perhaps it is culturally based as well: it is anecdotally reported that in China hypomania may be more and depression less aggressively diagnosed and treated than in the West. In any case, the diagnosis of mania itself is to some extent dependent on our conceptions, as physicians and as patients, of psychological well-being. Thus, perhaps we need to be aware of our own assumptions or biases when we assess insight.

Does Lack of Insight Lead to Medication Noncompliance in Bipolar Disorder?

It is interesting that work on medication noncompliance so often fails to mention insight as a relevant factor. A number of studies in schizophrenia have found a strong correlation between lack of insight and medication noncompliance. In bipolar disorder, noncompliance is a very common problem, with a meta-analysis of the lithium compliance literature suggesting that only 60% of patients are likely to be compliant.[52] In one prospective study,[53] medication noncompliance occurred in 67% of bipolar patients followed over one year (N=40), and the most common identified cause was lack of insight (occurring in 26% of noncompliant patients). Another study failed to find this correlation,[18] but it may have been limited by poor statistical power. Studies in depression on this topic have not been reported. In one study of outpatients with mixed diagnoses,[54] the belief that one's condition had medical causes correlated with better medication compliance than the absence of such a belief.

As clinical trials of new psychopharmacologic agents multiply, it is becoming increasingly clear that medication noncompliance is a

major factor that needs to be tackled if advances in psychopharmacology are to be translated into real-world treatment success. This has proven to be a particular problem with the use of mood-stabilizing agents in bipolar disorder.[55,56] Lack of insight is a major factor that needs to be investigated in this regard.

There are policy implications to the link between lack of insight and medication noncompliance, as recently suggested by Torrey.[57] If patients with severe mental illness lack insight, and if this is due (at least in part) to brain dysfunction, then a case could be made for involuntary outpatient treatment of such patients. Although civil libertarians might object, the empirical evidence discussed in this paper suggests that these conclusions are reasonable. Nor is such an approach incompatible with continued protection of a rather broad swath of civil liberties. In the United Kingdom, where the involuntary use of depot neuroleptic agents is more common than in the United States, civil liberties do not appear to have been materially harmed. In the United States, what is required is more empirical research and sustained public and professional education regarding the role of insight in serious mental illness.

SUMMARY AND DIRECTIONS FOR RESEARCH

Insight is an important aspect of psychopathology that plays a significant role in the diagnosis and treatment of numerous psychiatric disorders. In schizophrenia, impairment of insight is associated with medication noncompliance and poor prognosis. It may involve dysfunction of the frontal lobe and of the nondominant (especially parietal) hemisphere. Its etiology may also involve cultural and psychological factors such as the influence of stigma. It appears to be a trait phenomenon, failing to improve in the short-term when an acute psychotic episode resolves. There is some evidence that greater insight into some negative and positive symptoms may also be a predisposing factor for suicidal ideation.

In bipolar and schizoaffective disorders, impairment of insight is about as severe as in schizophrenia. In these conditions, it probably is also associated with poor prognosis, although less data are available. The neuropsychological or psychosocial roots of lack of insight in these conditions are unclear, although right hemisphere dysfunction and stigma are likely candidates. Whether lack of insight in mania is a state or trait phenomenon also has not yet been established.

In depression (whether seasonal or unipolar), impairment of insight is less severe than in mania or schizophrenia; however, psychotic depression is associated with less insight than non-psychotic depression. There is some evidence that insight in depression may be less impaired when depressive symptoms are more severe, possibly supporting the depressive realism hypothesis regarding the underlying psychopathology of depression.

An understanding of the role of insight has clinical relevance to controversies in the diagnosis and treatment of bipolar disorder. Lack of insight may lead to underdiagnosis of bipolar disorder, because patients often will not report or be unable to report symptoms of mood elevation. This has implications for current practices in the clinical and research diagnosis of bipolar disorder, particularly in perhaps obscuring a correct epidemiologic appreciation of the prevalence of bipolar disorder.

It appears that our conceptual understanding of insight in mania is also influenced by our ethical theories regarding the concept of "well-being," and it is important that clinicians be aware of their own beliefs and presuppositions in this regard; otherwise, we run the risk of ourselves not having insight into the true nature of mania. Finally, poor insight is associated with medication noncompliance in serious mental illness, with the policy implication that involuntary treatment may need to be used more frequently than it has been.

Thus, impairment of insight is a common problem in major psychiatric disorders with significant implications for our current diagnostic and therapeutic practices. Among questions that remain to be clarified by future research, the following stand out:

1. Are there neuropsychological correlates to lack of insight in mood disorders?
2. What cultural and social factors are relevant to the assessment of insight?
3. Is insight associated with medication noncompliance and poor prognosis in mood disorders?
4. Is there any drawback to excessive insight (as suggested by the depressive realism hypothesis)?
5. What is the relationship of insight to suicide?
6. Does poor insight lead to underdiagnosis of bipolar disorder?
7. Does involuntary treatment improve outcome in patients with poor insight?

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