Insight Into Illness: Impact on Diagnosis and Outcome of Nonaffective Psychosis

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Insight is a reliably measured construct that is stable across cultures, with several aspects assessed frequently. Insight impairment in schizophrenia appears to be more stable than in mania and tends to be worse at all stages than other psychoses or "at-risk states." Good insight may lead to temporary low mood and poor self-image, but these processes are complex and perhaps not the same at different stages of illness. Depression and hopelessness mediate insight's relationship with suicidality. Insight predicts low self-rating of quality of life but better observer rating and social function. It did not predict violence in one large study but did in shorter-term studies of forensic or first-admission populations. First-episode studies find consistent links with relapse and readmission but weak evidence of insight predicting symptoms or function at follow-up. Atypical antipsychotics were not specifically beneficial in one large trial, but cognitive-behavioral therapy was in another.

Introduction

Insight into psychosis (or any mental illness) is a clinical construct that is useful to researchers and clinicians in understanding patients' difficulty recognizing their illness and its consequences. Poor insight can be seen as a patient's failure to match his or her experiences and situation to explanations and behavior judged appropriate given his or her milieu and pre-existing beliefs. There has been an exponential rise in studies of insight, in part accelerated by the availability of reliable measurement scales since the late-1980s to early-1990s. These correlate highly.

The principal source of information for the various measurement scales is a constellation of attitudes, including the following: recognizing symptoms as abnormal, idiosyncratic, and unreal; accepting a change in mental function requiring a remedy (usually acceptance of illness, depending on the cultural setting); attributing symptoms to this change; and recognizing the desirability of treatment and the other consequences of illness (and sometimes reaction to contradiction). I use traditional shorthand terms of relabeling symptoms, awareness of illness, attribution of symptoms, recognizing need for treatment, and consequences of illness. Insight into past, current, and future symptoms and events also can be differentiated.

One trend of recent research is to investigate these different aspects and global insight scores. This relates more clearly to research into broader attitudes toward illness and medication, and these different areas have begun to inform each other. Reflection and insight into cognitive processes lie outside the scope of this review.

Although myriad processes potentially act to differing degrees on these various aspects, they correlate moderately. Overall insight seems to have stability across cultures, especially if care is taken to judge awareness of illness and the need for treatment. "Traditional" explanatory models are associated with poor scores on insight scales, but those uncertain about whether to use "traditional" or "biological" score the worst. "Psychosocial" explanations seem to be associated with worse symptoms and less satisfaction [1,2].

Insight is important in distinguishing psychoses from other disorders and perhaps from each other; it influences a range of important outcomes, as outlined subsequently. However, its influence on outcome is affected by a range of possible confounders not always assessed. Those with poor insight tend to have reduced cortical volume [3], poor prefrontal and perhaps other neuropsychological functions [3,4], longer untreated psychosis, worse symptoms, and worse premorbid function.

Insight and Diagnosis

Distinguishing psychoses and neuroses

Insight is usually a reliable tool for distinguishing psychoses and neuroses. Despite this, many now identify some patients with neuroses (eg, obsessive-compulsive disorder, body dysmorphic disorder, anorexia nervosa, or hypochondriasis) as having poor insight [5]. Their illnesses

are sometimes hard to distinguish from schizophrenia with obsessions and compulsions or delusional disorder and delusions connected to body image or hypochondria. Phillips [5] noted that more than one fourth to one half of dysmorphophobia clinic attendees had various indications of absent insight but that it did not affect response to serotonin reuptake inhibitors. She also argued that although antipsychotics had been shown to treat dysmorphophobia, evidence was sparse.

Obsessive-compulsive disorder with poor insight may respond more slowly to conventional treatments but no better to adjunctive antipsychotics. This suggests that in cases not well distinguished by insight, there is an underlying tendency for disorders without the associated symptoms or the clear, consistent intensity of nonaffective psychosis to behave more like neuroses. There may be some overlap of symptoms, including poor insight, which is caused by individual symptoms having causes or processes in common with another disorder, thus flavoring the basic illness. For example, obsessive-compulsive disorder with poor insight is linked to premorbid schizotypy, whereas obsessional symptoms in schizophrenia respond to serotonin reuptake inhibitors.

Distinguishing psychoses

Characteristically, certain psychoses have better insight than schizophrenia. In repeated surveys, those with *DSM-IV* major depressive disorder, perhaps even with psychotic symptoms, tend to have greater insight [6], and in a recent study, schizoaffective disorder lay between them [7].

Those seeking help for "at-risk mental states" had better insight than those with first episodes of psychosis, most of which would have been nonaffective psychoses [8]. The authors pointed out that those in at-risk states did not suffer definite illness and had much better awareness that their symptoms were internally caused and that they suffered some change in mental state.

Clinical experience suggests that those with substance-induced psychoses and the schizophrenia-like psychosis of epilepsy often have better illness awareness. In an elegant study, Caton and colleagues [9•] showed that the 26% of those first presenting with *DSM-IV* substance-induced psychosis whose diagnosis later changed to primary functional psychosis had a mean awareness of illness similar to those always diagnosed with primary functional psychosis, far worse than those with stable diagnoses of substance-induced psychosis (significant even after adjustment for demographics). Attribution of symptoms to illness had a similar pattern but did not reach significance. There were other differentiating factors.

Differences in insight between bipolar disorder and nonaffective psychoses are less clear, although insight in mania seems to recover better and may not be so related to psychosis [6]. One group [10] found overall insight to be lower in 74 patients with schizophrenia than 65 with bipolar disorder (60% psychotic).

Pini et al. [7] compared patients about to be discharged (26 with schizophrenia, 32 with schizoaffective disorder, 29 with mania, and 49 mixed-affective states [the latter two with mood-incongruent psychotic symptoms]). No differences were found in current awareness of illness, and insight into current need for treatment or social consequences of illness was generally poor for schizophrenia and mania but better for the other groups. For schizophrenia, retrospective awareness of illness was poorer than for mania, and all retrospective aspects of insight were appreciably worse than in mixed-affective states.

Varga and colleagues [11] also found current awareness of illness to be similar in schizophrenia and bipolar disorder. Their findings extend those of the other study, as schizophrenia predicted poorer insight into symptoms and symptom origin. However, differences in insight between diagnoses were explained by symptoms and digit span. Symptomatic and neuropsychological differences may mediate any differences in insight.

Insight and Outcome

Depression, self-esteem, and suicidal behaviors

Associations among insight, poor self-image, and depression have emerged, but how they are related and whether insight increases suicidality remain vexed questions. A meta-analysis found that insight correlated with depression [12]: 0.18 for global insight and 0.39 for relabeling symptoms. Some [3,13] but not all [4,14] studies found that this relationship was stronger at first presentation—of the order of 0.3 to 0.4 for global insight, adjusting for other factors.

Better insight correlates with poor self-esteem [13], negative cognitions about social situations [15], and anxiety [16••,17]. A study of 100 of 137 participants in a trial with chronic nonaffective psychosis [18•] found that in multivariate analyses including global insight, perception of symptom severity predicted anxiety, depression, and self-esteem; perception of illness chronicity predicted depression and self-esteem; perception of impact of illness predicted depression; and perception of uncontrollability of illness predicted poor self-esteem.

It is possible that better insight is depressing or at least leads to a period of adjustment or that "depressive realism" improves insight. We used structural equation modeling in a recent longitudinal study to examine the direction of these associations [13]. Poor insight seemed to lead to contemporaneous depression (as did paranoia) and often to poor self-esteem, but it did not predict these variables weeks or months later, and they did not predict insight at any stage. However, in a subsample that developed depression after acute psychosis, Iqbal et al. [15] found that whereas various negative social cognitions predisposed to depression, there was an increment in insight around the time it had developed. One scenario that reconciles these apparent inconsistencies is that improving insight triggered these episodes, and these specific

cognitions predisposed to them in this group, as opposed to broad self-esteem having little effect across all those suffering from nonaffective psychosis.

Our sample [13] included first-episode sufferers, whereas that of Iqbal et al. [15] was comprised of chronically ill patients. Neither group examined which aspects of insight were most related. Crumlish and colleagues [19] found contemporaneous correlation of depression with all aspects of insight at first presentation, with awareness of illness after 6 months, and nothing after 4 years. Six-month awareness of illness predicted depression and suicidality after 4 years—a long delay in the context of the data from other studies. However, it is unclear if there was adjustment for 4-year insight. As insight was the most stable variable, a relationship between insight at 4 years and depression could have mediated the longitudinal association.

Results from a sample of 50 patients with schizophrenia followed up after 6 months [20] present a different first impression. Here, depression correlated with recognition of symptoms rather than attribution to illness at baseline, but the more depressed group had a greater improvement in insight during follow-up, even after adjusting for baseline scores. To what extent the results reflected depression causing improved insight or a subgroup with continually improving insight suffered increasing depression is unclear. One could argue that the results from this and the Iqbal et al. [15] group demonstrate that in more chronically ill samples, depression causes higher insight scores to a greater extent than in samples from the early stages of illness. Another argument for differences in depressive processes at different stages is the well-known finding that suicide (and perhaps depression) rates are higher in the early stages.

Insight often has been associated with suicidality, but the relationship is probably indirect. No consistency has emerged in previous research in regard to which aspects of insight are related to suicidality. There does seem to be a consensus that those who harm, and particularly kill, themselves have a "hopeless awareness" of illness and relatively high standards for themselves, with a sense of being unable to meet these standards because they are trapped by a chronic, uncontrollable illness [21]. However, much evidence suggests that insight has no direct link to suicidality, depression, and hopelessness [22]. Other factors influence them (eg, other psychosis promoting depression, and depression and decline from premorbid function promoting hopelessness). Schwartz and Smith [23] and Dantas and Banzato [24] conducted separate studies, and both found awareness of illness and suicidality to be related independently of depression. Neither included hopelessness and substance misuse as predictors in their model, and Dantas and Banzato [24] assessed suicide risk and insight simultaneously, with the possibility that one assessment biased the other. Our group [25] noted a fluctuating association among insight, depression, and severe self-harm ideation over the 18 months after first presentation, but without good measures of substance misuse or hopelessness, we also could not adjust for these possible confounders.

Because lack of treatment encourages the psychosis, declining function, and despair that directly predispose an individual to suicidality, it seems logical that improved insight is an acceptable consequence of treatment, despite its indirect links to self harm. Although one can treat these other, more proximal causes of suicidality, it remains unclear how far to promote certain aspects of insight, such as awareness of illness, as opposed to acceptance of the need for treatment or the relationship between symptom improvement and treatment. Our study [25] was discouraging in that it did not show that cognitive-behavioral therapy for psychosis (CBTp) had a specific effect on suicidality beyond the considerable benefits of usual treatment. We argued that CBTp needed to focus on hopelessness and related cognitions to be effective in this case.

Quality of life and social function

On the whole, better insight means lower scores on self-completed measures of quality of life, but the details of this relationship are inconsistent. One group studying 131 nonaffective psychosis patients [26] found that awareness of insight predicted poor quality of life moderately strongly, even when co-varying for the Brief Psychiatric Rating Scale depression item, a limited measure. They also found that accepting the need for treatment predicted greater emotional well-being [2]. Another group examining a similar-sized sample after stabilization [27] found that improvement in total insight over the next year or so correlated moderately with less improvement in quality of life. Emotional distress may have wholly mediated this relationship.

In a first-episode follow-up study [28] involving 145 participants (of 248 eligible) with nonaffective psychosis, better insight correlated moderately and increasingly with better social function measured on the observer-rated Quality of Life Scale. Cross-sectional associations of good insight in consecutive first admissions in West London included better performance of everyday activity [14]. In a Singaporean first-episode cohort, various aspects of insight (especially awareness of illness and its social consequences) and poorer self-rated quality of life were related, perhaps mediated by comorbid depression [29].

Violence

Bjorkley [30] concluded that the inconsistent findings of an association between poor insight and violence could be explained by a range of methodologic factors, including aggression, failure to account for the dynamic nature of insight, or the psychotic and excitement symptoms that also contributed risk. That is, violent acts tend to be rated over a period, and poor insight may only be a relevant factor at the time (as for depression and suicidality). It only partially addressed the complex relationship among insight, psychosis, and distress (all antecedents of violence) but made useful suggestions for future research.

A major study of those with chronic illness [31] examined 1410 entrants to the relatively naturalistic CATIE (Clinical Antipsychotic Trials of Intervention Effectiveness) randomized, controlled trial of antipsychotics. To address the concern that trial entrants were atypical by virtue of that fact, they presented data showing this group was typical of community service populations before modeling minor and severe violence separately. Low insight did not emerge as an independent predictor of later minor or major violence. This powerful model could not comment on any relationship between contemporaneous insight and violence.

Recent studies of forensic populations have found evidence linking insight and violence. Buckley and colleagues [32] compared 115 patients in forensic services with nonaffective psychosis with 111 with the same range of diagnoses and no history of violence. The violent patients had poorer insight, particularly into the social and forensic consequences of their illness. Alia-Klein et al. [33] retrospectively rated violent acts in a sample of 60 consecutive forensic admissions with nonaffective (73%) or affective psychoses. They found that insight was predictive of degree of violence independent of other factors.

Verma and colleagues [34] found in 146 patients with first episodes of psychosis (93% nonaffective) from Singapore that violence was associated with poor insight and longer periods of illness before admission. Foley and colleagues [35] in Dublin also found poor insight to be associated with violence for the 2 weeks around first admission of 157 patients (79% with nonaffective psychosis). It seems that in specific populations and with almost contemporaneous rating, an association may occur.

Adherence and disengagement

Adherence and engagement are potential mediators between insight and outcome that cannot be ignored in populations with nonaffective disorder. Poor adherence is a powerful predictor of relapse, readmission, psychopathology, and suicide. There is ample confirmation of earlier evidence of an association between insight and concordant attitudes [18•,36] or adherent behavior [10,37,38,39•], and, not surprisingly, most strongly for accepting need for treatment [10,39•]. Rittmannsberger et al. [37] found that those with poor insight and adherence on admission were more likely to have poor insight on discharge, although insight tends to improve. They argued that insight was more predictive because it was more stable than adherence.

Studies of attitudes relating to adherence have become increasingly sophisticated and show that the relationship with the prescriber is also a determinant [36] and is related to insight. Perceived side effects have less importance (if any) than previously suggested [36,39•,40]; broad attitudes toward illness may be unimportant compared with those identified with insight [18•] or direct attitudes toward medication [39•]. Perkins et al. [39•,40] have suggested that finding [40] and believing medication to be of little benefit [39•] predicts poor adherence, consistent with Ko and colleagues' [41] qualitative examination of insight's development that construed discovering (and testing) the benefits of medication as a key step in gaining insight. Vauth et al. [42] fitted a model consisting of "influence of others," "medication affinity," and "prevention" to predict adherent behavior. This is consistent with longstanding findings that future-oriented aspects of insight best predict adherence.

A group studying 108 patients in Hong Kong (85% with nonaffective psychosis [43]) found that various aspects of insight correlated moderately with attendance at and participation in psychosocial therapies, with relabeling symptoms being the only nonsignificant predictor and symptom attribution the strongest in both cases. Although they quoted previous work showing insight predicted engagement with analogous services from which a similar proportion (about one fourth) disengaged, workers from the first-episode service EPPIC (Early Psychosis Prevention and Intervention Centre) in Melbourne [44] found that a retrospective measure of insight derived from case notes did not predict disengagement from their service among 134 of 147 eligible 15- to 18-year-olds, 78% of whom had nonaffective psychoses. Apart from the limitations of their measure, their service may have been peculiarly successful in following up with those who were relapsing, as those who were disengaging were not the most ill. Moreover, some earlier work found that recovery style, not insight, predicted engagement after a relapse.

Symptoms, relapse, and admission

A key growth area in the past few years has been research into outcome for first-episode cohorts. Such groups have unique advantages over more chronic samples with nonaffective psychosis, as they do not contain an overrepresentation of intractable or recurring illness; they include those patients who will only have one episode of active psychosis. Another attraction is that services targeted at this group may hope to improve the illness' early course and, hence, long-term prognosis. However, to what extent this is true is unclear. As hinted in the discussion of depression, there may be differences in processes and outcomes between this and later stages.

Poor insight at presentation predicts relapse and readmission [45]. The effect seems to be largest for those with the least insight. Figure 1 shows the survival curves for time without relapse after first episodes divided into quintiles by score on the Birchwood Insight Scale [46]. The least insightful quintile relapsed significantly sooner than the others. Findings for readmission, which was highly correlated, were very similar. Relabeling symptoms was the mediating aspect of insight, with accepting need for treatment or overall attitudes toward medication not being predictive.

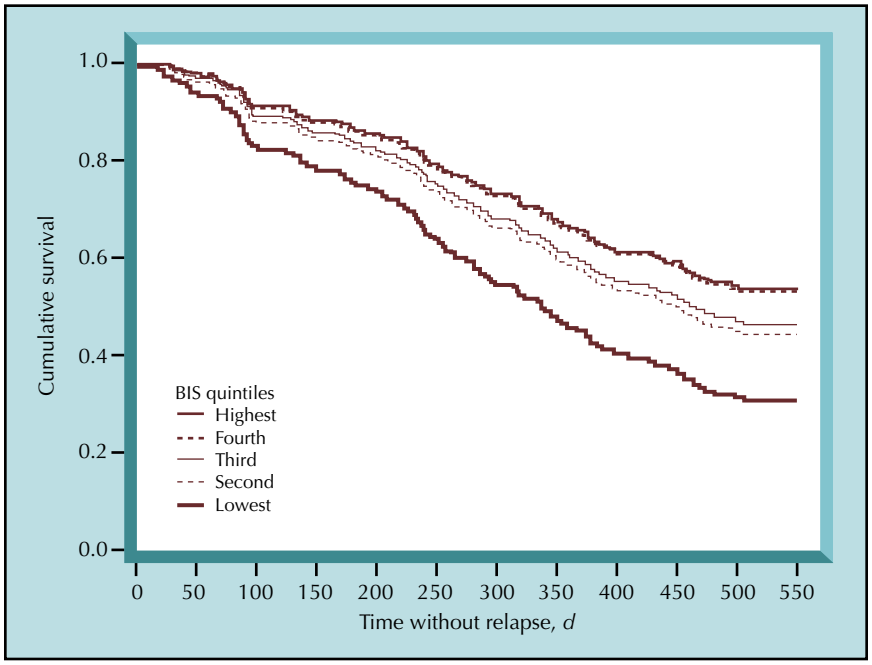

Figure 1. Survival without relapse against follow-up time in days for an epidemiologic, first-episode, nonaffective psychosis cohort divided into quintiles by Birchwood Insight Scale (BIS) score. Highest score (greatest insight) has the longest survival, with the fourth quintile, followed by the second, third, and then first (lowest score, least insight).

We speculated that this was due to recognizing symptoms being a prerequisite for recognizing the benefit of medication in improving them. We thought this might be a more durable predictor of long-term adherence than concordant attitudes at a given point. This was based on the findings of the existing adherence literature [37,39•]. Previous work in early psychosis cohorts also showed that poor insight predicted nonadherence, relapse, and readmission but not later symptoms or social function. This was consistent with our results.

However, in the analysis of the Singaporean first-episode, nonaffective psychosis cohort mentioned previously [47], baseline insight correlated moderately with negative symptoms and the Global Assessment of Function scale 2 years later. On multivariate analysis, baseline insight predicted "psychosocial outcome" but not total psychopathology at 2 years. Good insight also predicted better physical health after 2 years, perhaps because it predicted cooperation with all types of treatment [48•].

Tirupati and colleagues [49] in Chennai, India, compared insight in 183 schizophrenia patients who had received treatment with 143 who were never treated (and had less insight). Different variables correlated with insight in the two groups, even after multivariate modeling. The authors argued that this was because treatment improved insight, except in an "unmasked" group of refractory illnesses, with absence of insight in effect being a negative symptom. Thus, this group with poor insight would have a very poor prognosis because their illness itself differed. That suggestion reinforces the point about various processes confounding outcome's relationship with the subtle, multifactorial construct of insight in different contexts. After all, one wonders how many of the treated patients had been treated relatively late, with consequent neurotoxicity or continuing psychological and social adversity.

Improving Insight to Improve Outcome

Insight improves in all longitudinal studies, showing an acute effect of antipsychotics and perhaps socializing processes and producing a decelerating improvement extending over weeks and months. The evidence that non-clozapine, second-generation antipsychotics improve insight better than first-generation antipsychotics is entirely inconsistent. A large trial that found no effect on multivariate analysis [3].

Previous evidence for psychoeducation found that it only rarely improved insight and then caused depression. There is a longstanding belief that more psychodynamic approaches can be disturbing. A recent study delivered CBTp focused on insight to those receiving long-term community services and their caregivers. The intervention improved insight and protected against depression at the end of therapy and after 1 year [16••]. Gumley et al. [50] found that another focused form of CBTp persistently improved negative attitudes toward illness and self-esteem.

Conclusions

Poor insight is a traditional hallmark of psychosis, but a gray area exists involving certain neuroses with poor insight and bizarre ideation and psychosis, particularly with neurotic symptoms. In practice, the clinician must make a judgment about the most likely diagnosis, weigh evidence about effective treatments and their consequences, and be flexible as time goes on.

Nonaffective psychoses, especially schizophrenia, tend to engender poorer insight than other psychoses, although the difference between mania and schizophrenia is questionable in the acute phase and more likely to emerge as improvement occurs. Poor insight predicts a range of poor outcomes

in terms of affective symptoms, self-image, suicide and violence, functioning, and course. The details of these relationships and which aspects of insight are most important in each case are just emerging and not yet consistent. It seems that good insight is likely to cause acutely depressed mood and poor self-image, but this tends to settle within weeks. This picture is most consistent in the earlier stages of illness. Other problems, including psychosis and declining function, moderate its relationship with depression and hopelessness. They in turn mediate its relationship with suicidality, again moderated by factors such as substance misuse. Intervening in these other processes is likely to ameliorate suicide risk, but suicide is hard to predict in schizophrenia.

Poor insight probably predisposes individuals to violence, but the evidence is inconsistent because of the difficulty in addressing all the interacting variables with sufficient power and perhaps due to differences between populations. The association may be greatest near the time of the offense because insight and risk are dynamic. Perhaps clinicians act to reduce risk from the insightless, reducing the association.

Good insight appears to be associated cross-sectionally with better social function but rarely predicts it at follow-up. This is true in several first-episode studies, which also fail to show a convincing association with later psychopathology. However, good insight does predict relapse and readmission, possibly because the key attitudes affecting persistent adherence, rather than temporary concordance, are related to recognizing that medication reduces distressing symptoms. Although other processes, such as harm avoidance and overall engagement with services, could be at work, there is little evidence to go on, and it is unconvincing in the case of engagement.

Further research is likely to require detailed measures based on specific cognitive models to delineate the relationship between attitudes and adverse outcomes and clarify the various processes mediating (and confounding) these relationships that are themselves sometimes open to intervention. Improvements in our understanding of the contributors to poor insight and their interrelations will improve these models. Moreover, further well-designed trials measuring insight are awaited as cognitive therapy develops as a practical treatment option for poor insight.

Disclosure

No potential conflict of interest relevant to this article was reported.

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