



THE RELATIONSHIP BETWEEN INSIGHT AND PSYCHOSIS IN STATE PATIENTS WITH SCHIZOPHRENIA

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Objective. State patients committed under the Mental Health Act must have insight into their illness and the crime they committed before they can be discharged. Patients with schizophrenia are described as having poor insight into the nature and severity of their disorder. Various factors influence insight, and in some studies level of insight seems to correlate with level of psychopathology. In this study insight was measured in State patients with schizophrenia and re-evaluated after 2 months. Level of insight was compared with level of psychopathology.

Method. 34 patients with schizophrenia were evaluated twice to determine their level of insight and psychopathology. The following factors were considered: duration of hospitalisation, duration of illness, age of onset of illness, and level of functioning before admission.

Results. Insight improved slightly over the 2-month period, showing weak correlation with psychopathology. Negative insight, insight regarding mental illness and the use of medication, and attribution of past illness were good.

Conclusion. Insight should be viewed as being multi-dimensional, with various factors influencing it. Level of insight plays an important role in the treatment programme of patients with schizophrenia.

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Insight is defined as an instance of apprehending the true nature of a matter, especially through intuitive understanding or penetrating mental vision or discernment.¹ In psychiatry the term refers to a form of self-knowledge that includes not only understanding of problems and personality traits as applied to the self, but also an understanding of how these affect the way in which the self interacts with the world.² Notions such as self-knowledge can be traced back to ancient Greek philosophy and

Plato.³ Dagonet (1881) studied the effects of mental illness on self-awareness.⁴

According to Jaspers⁵ insight is the patient's ability to judge what is happening to him/herself during the development of psychosis, and the reason why it is happening. Lewis's definition of insight is 'a correct attitude to a morbid change in oneself'.⁶ Eskey⁷ defined insight as 'verbalised awareness on the part of the patient that impairment of intellectual functioning existed'. He used no measure of insight, but simply divided patients into those showing full, partial or no insight, and found no significant relationship between the presence of insight and prognosis, as measured by the length of stay in hospital.

Patients with schizophrenia are described as having poor insight into the nature and the severity of their disorder,⁸ although little is known regarding how to assess this and of the value of such assessment to the patient. In contrast David *et al.*⁹ found that the diagnosis of schizophrenia is not definitely linked to poor insight. The relationship between insight and prognosis,^{7,10} insight and adherence to medication,^{11,12} the specificity of poor insight for the diagnosis of schizophrenia,^{13,14} the link between insight and cognitive impairment,^{15,17} and the value of insight as a predictor of outcome^{13,18} have been studied. Poor medical compliance relates to poor insight.^{2,19,20} Some contributing factors were the side-effects of medication experienced by patients. Lysaker *et al.*¹⁶ found that patients with schizophrenia who had poor insight had greater difficulty remaining on a course of treatment, regardless of whether the treatment was psychosocial or pharmacological. Knowledge of the patient's level of insight can be clinically useful in terms of tailoring a treatment strategy.

Insight early on in the course of psychotic illness is modestly related to insight later on,²¹ and insight in the early stages of the illness correlates significantly with successful resolution of the psychotic episode on an outpatient basis.¹⁰ Heinrich *et al.*¹⁰ found no association between early insight and severity of the psychotic episode or socio-economic variables. Swanson *et al.* found less insight in patients with schizophrenia, especially in the acute phase of their illness.⁸

Markova and Berrios²² constructed an Insight Scale, with insight defined as a subcategory of self-knowledge, to assess aspects of patients' knowledge regarding their illness and its effects. Changes in insight over time and the relationship between insight scores and the severity of the mental disorder were measured. There was a significant correlation between severity of disorder and level of insight. In schizophrenia insight was better for awareness of self-change and recognition of such change affecting the individual's functioning than it was for general attitudes towards mental illness and hospitalisation.

Amador *et al.*²³ used the Unawareness of Mental Disorder Scale. Insight was measured in terms of 3 general items (global

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awareness of mental disorder, achieved effects of medication and the social consequences of mental disorder) and 17 specific items measured by the positive and negative symptom scales, e.g. thought disorder, asociality, alogia, anhedonia, inappropriate social behaviours and flat affect. This formed four subscales devised to assess awareness (present and past) and attribution (present and past) of specific signs and deficits associated with severe mental disorder. This scale correlated with ratings on the mental status examination. Course of illness, age of onset, number of hospitalisations and compliance ratings were modestly correlated with insight measures.

A person admitted as a State patient in terms of Articles 9, 28 or 38 of the Mental Health Act of 1983 needs to have his condition fully controlled and must have insight into his mental illness and the crime he committed before he can be discharged. In line with modern trends in psychiatric care, early discharge should be aimed at for every individual admitted. Chemotherapy results in early control and remission of psychiatric syndromes. Improvement of insight is a vital part of the treatment, especially if it leads to improved compliance and prevention of relapse.^{11,24}

AIMS

The aim of this study was to measure level of insight in State patients with schizophrenia during hospitalisation, and to compare insight level with level of psychosis, duration of illness and duration of hospitalisation.

METHOD

Sampling

All inpatients suffering from schizophrenia who were committed in terms of Section 77 or 78 of the Criminal Procedure Act 51 of 1977 as State patients and who were admitted under Articles 9, 28 or 38 of the Mental Health Act of 1983 at Oranje Hospital, Bloemfontein, were studied during the period April 1997 to June 1997.

Data collection

The following data were collected: (i) a semi-structured interview to examine level of insight; (ii) demographic and background information; (iii) data for the Insight Scale (a modified scale drawn up by Markova and Berrios²²) (Table I); (iv) data for the Unawareness of Mental Disorder Scale (drawn up by Amador *et al.*²³); and (v) the Brief Psychiatric Rating Scale (BPRS)²⁵ to measure the severity of psychopathology in schizophrenia. All the interviews and rating scales were administered by one trained observer, so no problems arose regarding interrater reliability. Each patient who gave informed consent was seen at the initial assessment and then again at a second assessment 56 days (8 weeks) later. Data were collected

from the patient during the interview and also from the observation and ward-progress file.

To avoid bias the semi-structured interview was conducted at the beginning of the assessment, before completion of the scales. The opinions of the interviewer, ward doctor and ward staff regarding the patient's appearance, degree of illness and insight, and compliance with regard to medication were noted. This interview was conducted at both first and second visits.

The Insight Scale (Table I) has 24 items to be answered using 'yes', 'no' or 'don't know'. A score of 2 was given for a positive response and 1 for a negative response. Items are subdivided into those that if answered positively would indicate greater (positive) insight, namely items 3, 4b, 7, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24 (group A); and those that if answered positively would indicate less (negative) insight, namely items 1, 2, 5, 6, 8, 9, 10, 12, 16 (group B). Group A indicates the following: awareness of being ill and of changes happening within the self, acknowledgement that other people recognise a change in the patient; recognition of thought processes being affected by illness; awareness of changes within the self and the reflection of such changes in interaction with the environment.

Table I. Insight Scale (yes 2, no 1, don't know 0)

1. I have come into hospital for a rest.
2. Mental illness doesn't exist.
3. My condition can be treated with medicine.
4. Why have you come to hospital? (you can circle more than one)
 - A mistake was made - another person is actually ill, and not me.
 - I am ill and need treatment.
 - My family might desert me if I didn't.
 - I feel nervous but not ill.
 - I was forced to come here.
5. Should anyone else be here instead of you?
6. To feel well I only need some advice and talking to.
7. I have been having some silly thoughts.
8. Nothing is the matter with me.
9. The mind cannot be ill, only the body.
10. No one believes I am ill.
11. Something very strange is happening to me.
12. My neighbours are after me.
13. I feel my mind is going.
14. I know that my thoughts are silly but I cannot help it.
15. I cannot stop worrying about things.
16. Someone is controlling my mind.
17. I feel different from my normal self.
18. I am losing contact with my environment.
19. I am losing contact with myself.
20. I understand why I am in hospital.
21. I understand why other people think I should be in hospital.
22. I find it difficult to explain how I feel.
23. I want to know what is happening to me.
24. I want to know why I am feeling like this.



It also includes general awareness of changes within the self, the resulting difficulties in functioning and the need for help. Group B indicates the perception of being ill and attitudes towards mental illness in general; and perception of changes in the environment and attitudes towards hospitalisation. In group A the higher the score, the better the insight. In group B the lower the score, the better the insight. The maximum score in group A is 30 and in group B, 18.

The Unawareness of Mental Disorder Scale²³ was used and compared with the Insight Scale.²² A distinction between present and past awareness and attribution was made. Scores ranged from 1 to 5, with higher scores indicating poorer awareness or attribution. The Unawareness of Mental Disorder Scale was calculated with general items reported separately in two categories, namely present and past (thus 6 summary scales). The specific items consisting of 17 different symptoms were rated when patients had a score of three or higher when evaluated on psychopathology. Attribution was only rated if awareness scored 1 - 3.

Analysis

Demographic information was summarised according to frequencies and percentages (in the case of categorical variables) and percentiles or means (in the case of numeric variables). Spearman Rank Correlation Coefficients were calculated to assess the correlation between the different scales at the different visits, as well as correlation with certain demographic information. Changes in value from the first to the second visit were calculated for each scale and compared by means of Spearman Correlations.

RESULTS

The initial evaluation included 35 patients; however, 1 absconded before the second visit and this patient's data were excluded from the analysis. The 34 patients who were evaluated twice were all male as no females were admitted to the ward during this time interval. Demographic data collected at visit one are summarised in Table II.

Table II. Summary of demographic information

	Median	Range	
		Minimum	Maximum
Age (yrs)	30.8	21.7	56.5
Days since admission	348	42	2 211
Onset age (yrs)	23	8	56
Years since onset of illness	6	0	32
Previous admissions (<i>N</i> = 32)	1	0	8
Previous relapses	2	0	20
Education level: standard	4	0	10
IQ (<i>N</i> = 20)	90.5	55	115

Four patients (11.8%) were committed under Section 9, 28 (82.4%) under Section 28 and 2 (5.8%) under Section 38. Murder had been committed by 10 patients (29.4%), assault, malicious damage to property and theft each by 6 patients (17.6% each), and housebreaking by 5 patients (14.7%); 4 had committed rape (14%). Six of the 34 patients (17.6%) had committed two crimes simultaneously. Thirteen of the 34 patients (38%) had been convicted previously, with theft the most frequent crime in 5 cases (38.5%). Only 20 patients did IQ tests, achieving a median score of 90.5. The block design test was used in each instance.²⁶ Most of the tests were conducted during observation when the patients were often psychotic and figures are therefore unreliable. All the patients were unemployed on initial admission, and reports in files showed that 73.5% had poor to very poor functioning at home before admission. All the patients were on antipsychotic treatment (either oral or depot) at visit one, with 68% of patients receiving more than one medication. Patients were all diagnosed as having schizophrenia either during observation by the forensic team, or after admission by the team in charge of the unit. In both instances more than two psychiatrists were on the team and there was no disagreement about the diagnosis.

Table III summarises the Insight and BPRS scales for visits one and two. At visit one the BPRS score and negative insight ($r = 0.59$; $P < 0.001$) correlated with past awareness ($r = 0.43$; $P = 0.011$). There was a correlation between positive and negative insight ($r = -0.64$; $P < 0.001$). Past awareness correlated with positive ($r = -0.52$; $P < 0.002$) and negative ($r = 0.54$; $P = 0.001$) insight. On the awareness scale present awareness correlated with past awareness ($r = 0.7$; $P < 0.001$) and present attribution with past attribution ($r = 0.93$; $P < 0.001$). Past attribution correlated with length of time following admission ($r = -0.35$; $P = 0.045$). There were weaker correlations between duration of illness, duration of hospitalisation and age of onset with the other insight scales.

No significant change occurred on the Insight Scale from the first to the second visit. Negative insight showed a change that was not clinically significant. According to general items of the Unawareness of Mental Disorder Scale at visit one, 44.1% of the 34 patients had moderate to poor awareness of mental illness (scoring 3 - 5); this changed to 39.4% at the second visit. Moderate to poor awareness of achieved effects of medication changed from 33.3% at visit one to 20.6% at visit two. No significant change occurred in present awareness or attribution, but past awareness and attribution did improve. The findings of the semistructured interview correlated with those of the insight scales (Table IV).

There was a correlation between change in positive and negative insight ($r = -0.05$; $P < 0.002$). Changes in current awareness and past awareness correlated ($r = 0.8$; $P < 0.001$), as did changes in past awareness and past attribution ($r = 0.57$; $P < 0.001$). The correlation between BPRS and insight changes is shown in Table V.



Table III. Results of insight and BPRS scales (N = 34)

	Visit one		Visit two	
	Median (25%; 75%)		Median (25%; 75%)	
Insight Scale				
Positive insight	21.5 (18; 24)		21 (19; 22)	
Negative insight	11 (10; 13)		10 (9; 12)	
Unawareness of Mental Disorder Scale				
Items 1 - 3				
1. Awareness of mental disorder				
Present	2	(1; 4)	1.5	(1; 3)
Past	2	(1; 3)	1	(1; 3)
2. Awareness of medication effect				
Present	2	(1; 3)	1	(1; 3)
Past	2	(1; 2)	1	(1; 2)
3. Awareness of social effect				
Present	3	(2; 4)	2	(1; 3)
Past	3	(2; 4)	2	(1; 3)
Items 4 - 20				
Awareness, present	3.1	(3.0; 3.6) (N = 29)	3.4	(2.9; 3.9) (N = 12)
Attribution, present	3.0	(2.0; 3.3) (N = 24)	3.4	(2.4; 3.8) (N = 10)
Awareness, past	3.1	(2.6; 3.5) (N = 34)	2.4	(1.8; 3.2) (N = 34)
Attribution, past	2.7	(1.9; 3.6) (N = 32)	1.9	(1.3; 3.3) (N = 33)
BPRS	5.5	(3; 13)	2	(1; 8)

Table IV. Insight opinion and insight scales

	Insight opinion			
	Yes		No	
	(N = 11)		(N = 23)	
	Median (25%; 75%)		Median (25%; 75%)	
Insight Scale				
Positive insight	24	(22; 25)	19	(17; 22)
Negative insight	10	(9; 11)	13	(11; 14)
Unawareness of Mental Disorder Scale				
Awareness, present	3.0	(2.7; 3.6) (N = 8)	3.1	(3.0; 3.6) (N = 21)
Attribution, present	3.0	(2.0; 3.0) (N = 6)	3.0	(2.0; 3.5) (N = 18)
Awareness, past	2.8	(2.3; 3.0) (N = 11)	3.3	(2.9; 3.5) (N = 23)
Attribution, past	1.9	(1.5; 2.7) (N = 10)	3.0	(2.0; 3.8) (N = 22)

Table V. Correlation of BPRS and insight changes

	BPRS change < 4		BPRS change ≥ 4	
	(N = 20)		(N = 14)	
	Median (25%; 75%)		Median (25%; 75%)	
Insight Scale				
Positive insight	2	(-2; 3) (N = 20)	1	(-2; 2) (N = 14)
Negative insight	0	(0; 1.5) (N = 20)	2	(1; 3) (N = 14)
Unawareness of Mental Disorder Scale				
Awareness, present	-0.25	(0.52; 0.17) (N = 6)	0.18	(0.07; 0.22) (N = 6)
Attribution, present	0.08	(-0.83; 0.38) (N = 4)	-0.23	(-0.75; 0.0) (N = 6)
Awareness, past	0.45	(0.07; 1.07) (N = 20)	0.37	(0.0; 0.67) (N = 14)
Attribution, past	0.44	(0.17; 0.67) (N = 18)	0.59	(0.0; 1.0) (N = 14)



DISCUSSION

Lack of insight is a problem when evaluating patients for discharge, as it can influence compliance.^{2,19,20} Amador *et al.*²⁷ found that extreme lack of awareness regarding illness is more common in patients with schizophrenia than in patients with other psychotic disorders, and is directly associated with poorer psychosocial functioning. Factors associated with insight are therefore very important. Most of the patients in this study were fairly well controlled at visit one. Level of insight (especially negative insight), awareness of mental illness, effect of medication and attribution of past illness were good. A slight improvement was seen on BPRS and insight scales from visit one to two, although this was not significant. When levels of insight were compared with levels of psychopathology,²⁸ patients with schizophrenia who admitted themselves voluntarily showed greater levels of insight than those who were committed to care. However, the degree of insight was not consistently related to severity of the acute psychopathology.

We concluded that insight was not solely related to psychopathology. All of the patients seen were admitted under a section of the Mental Health Act relating to non-voluntary admissions. David *et al.*²⁹ and McEvoy *et al.*³⁰ found that when patients are committed to care they score less on insight items than those who admit themselves voluntarily. This could not be concluded by this study as the patients were fairly well controlled at the initial assessment and only slight changes were observed between the two visits. As all the patients were committed to care no comparison could be made.

The measurement of insight seems valuable and applicable using both scales. This is supported by correlations with opinions formed beforehand regarding the level of the patient's insight, taking into consideration that insight should be viewed as a continuum. Insight was not found to correlate with duration of illness or repeated admissions, a finding supported by David *et al.*²⁹

On the Unawareness of Mental Disorder Scale median awareness (present/past) was 3.14 and 3.05 and median attribution (present/past) 3.35 and 2.37, correlating with Amador *et al.*'s findings²³ of poor awareness. Amador *et al.* found lower levels of awareness among patients with the following symptoms: hallucinations, delusions, anhedonia and social isolation. This was not the case in this study as the items agreed well with the mean awareness scores. In a longitudinal study McEvoy *et al.*^{12,13} found that awareness of illness (level of insight) stays stable in patients with schizophrenia. His finding is supported by this study, as no significant changes occurred in a 2-month period in optimal circumstances, with daily therapy to improve the patients' insight.

In this study no correlation was found between psychopathology and the insight scales, which supports the

findings of Amador *et al.*²⁷ A longitudinal study over a longer period of time that measures insight during and after severe psychotic episodes will be more informative.

Insight leading to compliance is affected by various factors, namely psychopathology (for instance paranoia, hostility, perplexity and frank delusions about medication;³¹ co-morbid substance abuse, cultural influences, prior experiences of treatment and relationship with health care workers.²⁴ The abovementioned factors were not assessed by this study, but will be worth evaluating in future.

Long hospitalisation might play a role in impaired insight. In this study mean duration of hospitalisation was approximately 1 year, with most patients probationally discharged from the unit after an average of 2 years. No significant change was found in the 2 months between each assessment. Extended stay can be detrimental. Geller³² showed that in chronic institutionalised patients length of stay added to impaired ability to provide information leading to less improvement of insight.

The average level of education in the group was Standard 4. It seems that a higher level of education leads to better-informed patients.³³ Only 20 of the 34 patients did IQ tests, so no significant correlations could be assessed. Sometimes IQ is measured instead of insight.³⁴ David *et al.*,²⁹ Young *et al.*¹⁷ and Lysaker *et al.*¹⁶ showed a positive correlation between IQ and measures of insight, so IQ should be taken into account when assessing a patient's level of insight. All patients were unemployed on initial admission. It can be stated that this was a group with below average IQ and low socio-economic status, both factors that can influence insight. In previous studies^{13,18,27,35} poor insight was correlated with poor prognosis, impaired psychosocial functioning and non-compliance with treatment. Outpatients with schizophrenia were found to have moderate insight, but no significant correlation between lack of insight and the demographic or clinical variables of age, age of onset of illness, duration of illness, number of hospitalisations or level of education was found by Dickerson *et al.*³⁶ This study came to the same conclusion.

At visit one 44.1% of patients were found to have moderate to poor awareness of mental illness. This dropped to 39.4% at visit two. A further 33.3% showed moderate to no awareness of achieved effects of medication, dropping to 20.6% at visit two. These are better than the figures of Amador *et al.*,²³ who found that 57% of patients had severe deficits in awareness regarding their mental disorder.

Heinrich *et al.*¹⁰ found that awareness was related to the frequency and timing of subsequent hospital admissions in schizophrenic patients. In our study patients had a median of one previous admission. No conclusion can be drawn from this.

Using the Insight Scale²² no conclusion could be drawn during the evaluation process; complex calculations first



needed to be done before an opinion could be formed regarding the patient's level of insight. The results compared well with opinions formed during interviews (Table IV). With further simplification it could be a useful tool in evaluating insight, although not in an outpatient setting as the calculations would be too time-consuming.

The Unawareness of Mental Disorder Scale²³ showed a difference between the two visits (Table III) and seemed more sensitive to changes. The results are also easier to read without complex calculations. Since the subscale items are conditional (awareness only assessed if the symptom is/had been present in the patient and attribution only assessed if awareness was moderate to good (score 1 - 3)), the results do not indicate all aspects of patient awareness or attribution included in the study. This is reflected in Tables IV and V in the low patient numbers represented, especially for current awareness and attribution. This implies that in the present study past awareness and attribution were more indicative of the patients' level of insight.

CONCLUSION

It is very important to assess level of insight in patients with schizophrenia. The present scales help in this assessment and indicate improvements in this regard. It is clear that insight presents as a continuum³⁷ from complete denial of illness through to true emotional and intellectual insight.

Patient insight affects different aspects of the course of schizophrenia and its management. Good insight leads to better compliance, earlier discharge and a better prognosis. Different factors, as outlined, affect insight and should be taken into consideration when drawing up a treatment programme for each patient.

The present study revealed that patients were stabilised after 1 year of hospitalisation, with fairly good negative insight, awareness of mental illness, effect of medication, and attribution of past illness. No significant change in insight occurred in a 2-month period, indicating that earlier discharge can be contemplated. The study revealed that most changes in insight occurred while psychopathology was improving. Once patients were apsychotic no significant change in their level of insight occurred.

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