

Insight and Psychopathology in Schizophrenia: A Four-Week Longitudinal Study

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Abstract

Fifty consecutive adult inpatients, who satisfied the ICD-10-DCR criteria for schizophrenia, constituted the study sample. They were assessed twice; the first assessment was done immediately after admission in the beginning of week 1 and the second at the end of 4 weeks. They were assessed using the Scale for Assessment of Positive Symptoms (SAPS), Scale for assessment of Negative Symptoms (SANS) and Schedule for Assessment of Insight—Extended version (SAI-E). During the acute phase (week 1), psychopathology did not have any clear relationship with insight, while at the end of week 4 a negative correlation emerged between the two meaning the better the insight the lower the scores on psychopathology scales. There is a complex relationship between insight and psychopathology, which could change over time. Insight is only partially related to psychopathology and their relationship could vary depending on the phase of the illness (German J Psychiatry 2005; 8: 48-52).

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Introduction

Insight is an important concept in clinical psychiatry. It has always been considered a salient component of phenomenology and clinical examination, and also used as a diagnostic criterion of schizophrenia as in the Flexible System and Present State Examination (Endicott et al 1982). Researchers have repeatedly focused on the relationship between insight and psychopathology with the tacit assumption that lack of insight is a byproduct of psychosis and so the intervention that attenuates psychotic symptoms may also improve the awareness of it. Logically, this also means that severity of psychopathology could be one of the factors that influence the level of insight (David 1995). Results of studies conducted in this area have been far from consistent. Many studies have failed to establish any relationship between insight and psychopathology among patients with schizophrenia or other psychotic disorders (McGlashan and Carpenter 1981, Heinrichs et al 1985, Bartko et al 1988, McEvoy et al 1989, Amador et al 1993, McEvoy et al 1993,

Michalakeas et al 1994 and Cuesta and Peralta 1994). On the other hand, (David et al. 1992) using a multidimensional concept of insight, found a modest correlation between total insight and severity of psychopathology. The findings have since been replicated by several other studies (Markova and Berrios 1992, Takai et al 1992, Amador et al 1994, Kim et al 1997, Smith et al 1998, Schwartz et al 1998 and Debowaska et al 1998).

Another group of studies has not been able to show an overall relationship but found that specific symptoms could be related to certain components of psychopathology (Amador et al 1993, Amador et al 1994, Carroll et al 1999 and Cuesta et al 2000). It is possible that several factors such as heterogeneity of the samples, use of structured or unstructured instruments, cross-sectional or longitudinal design could explain the wide variability in these results. Keeping in mind the variable results of previous studies, we set out to examine the relation between insight and psychopathology in a hospital-based sample of patients with schizophrenia.

The study aimed to examine how psychopathology could be related to insight in our study population in with hospital setting, whether the relationship remains consistent at different points of time and whether change in psychopathology could in any way be related to change in insight over time.

Methods

Subjects

Fifty consecutive adult patients, who satisfied the Diagnostic Criteria of Research (DCR, ICD-10, WHO 1993) for schizophrenia and were admitted to the Institute of Human Behaviour and Allied Sciences, Delhi for treatment constituted the sample for the study. Patients suffering from serious physical or neurological conditions, those with substance use disorders, those who had received electroconvulsive therapy, those admitted through reception order or diagnosed to be suffering from catatonia were excluded from the study. All the patients recruited into the study gave written informed consent.

The patients were mainly young adults (34 males; mean age 33.9 ± 8.55 years). A majority of patients (96%) were literate and more than 42% were graduates. However, 84% of the patients (42/50) were unemployed and only 16% were in jobs prior to admission. The mean duration of their illness was 8.45 years ($SD \pm 5.80$).

The study patients were assessed twice during their stay in the hospital. The first assessment was done soon after admission and the second at the end of four weeks of inpatient treatment. The socio-demographic details were collected using a semi-structured proforma. A semistructured history schedule was used to obtain the clinical history and document the findings of detailed physical, neurological and mental state examination. Psychopathology was assessed using the Scale for Assessment of Positive Symptoms (SAPS) (Andreasen 1984) and the Scale for Assessment of Negative Symptoms (SANS) (Andreasen 1984). Insight was assessed using the Schedule for Assessment of Insight—Extended version (SAI-E) (David et al 1995). The treatment of the patients was as per the discretion of the treating team. The patients were inpatients and were given antipsychotic agents (typical/atypical) in variable rational doses. Patients who were given electroconvulsive therapy were not included in the study.

Statistical Analysis

The data were analyzed using the statistical package for social sciences (SPSS). The paired sample t-test of psychopathology measures (SAPS/SANS) and insight measure (SAI-E) was performed to evaluate whether the components showed a significant change over the 4-week study period. Pearson's correlation analysis was performed between the variables (components of SAPS/SANS/SAI-E) at week 1

and at week 4 to find out the correlation between the variables. Linear regression analysis was performed at week 1 and then at week 4 with the SAI-E scores as the dependent variable and the SAPS/SANS scores as independent variables to evaluate the influence if of psychopathology on insight. Finally, linear regression analysis was carried out with the change in insight scores from week 1 to week 4 as dependent variables and the change in psychopathology scores as independent variables.

Results

Table 1 shows a comparison of the psychopathology scores and the insight scores at week 1 and week 4. The scores on psychopathology as assessed by SAPS, declined significantly from week 1 (11.9 ± 4.16) to week 4 (5.80 ± 3.86) ($df=49$, $P < 0.001$). Similarly, the SANS total mean score at intake (15.14 ± 4.28) decreased significantly at week 4 (11.94 ± 4.04) ($df=49$, $P < 0.001$). The SAI-E total score at intake (6.04 ± 5.07) improved significantly at the end of the 4 weeks (9.44 ± 6.87) ($df=49$, $P < 0.001$).

The correlation between the scores on SAI-E and SAPS and SANS at week 1 are shown in Table 2. No statistically significant correlation could be obtained between the total scores on SAI-E and the total scores on SAPS/SANS. However, specific symptoms correlated with specific components of insight. In SAPS bizarre behaviour correlated negatively ($P < 0.05$) with the first, second and the total insight score (SAI-E). Similarly, inappropriate affect correlated negatively ($P < 0.01$) with the third component of insight as well. Only the attention component of SANS correlated negatively ($P < 0.01$) with the second component (SAI-E).

Table 3 shows the correlation between psychopathology and insight at week 4. The total score on SAPS had negative correlation ($p < 0.01$) with the total score of insight. The total score on SANS also had similar correlation ($p < 0.01$) with the total score of insight.

The results of regression analysis show that the SAPS ($r + 0.559$, $P = 0.000$) as well as SANS scores ($r + 0.559$, $P = 0.001$) were related to insight at week 4 but not at week 1. Moreover, the differences in the SAPS scores, but not the

Table 1. Comparison of Psychopathology (SAPS/SANS) and Insight (SAI-E) at Week 1 and 4 (Degrees of Freedom: 49)

Instrument	N	Score at week 1	Score at week 4	t	P
SAPS	50	11.90 ± 4.16	5.80 ± 3.86	15.90	<.0001
SANS	50	15.14 ± 4.28	11.94 ± 4.04	10.67	<.0001
SAI-E	50	6.04 ± 5.07	9.44 ± 6.87	-6.37	<.0001

SAPS: Scale for Assessment of Positive Symptoms

SANS: Scale for Assessment of Negative Symptoms

SAI-E: Schedule for Assessment of Insight, Extended Version

Table 2. Correlation Analysis of SAPS/SANS/SAI-E Components at Intake (Week 1)

	Schedule for assessment of insight-revised(SAI-E)			
	C1	C2	C3	Total
SAPS				
Hallucinations				
Delusions				
Bizarre behavior	-.28*	-.34*		-.33*
Formal thought disorder				
Inappropriate affect			-.38**	
Total				
SANS				
Affective flattening				
Alogia				
Avolition apathy				
Anhedonia asociality				
Attention impairment		-.34*		
Total		-.32**		

C1: Awareness of Illness

C2: Ability to Relable Unusual Mental Events (Delusions and Hallucinations) as Pathological

C3: Compliance with Treatment

*p<0.05

**p<0.01

SANS scores, were significantly related ($r=0.280$, $p=0.049$) to the change in total score of insight across four weeks.**Table 3. Correlation analysis of SAPS/SANS/SAI-E components at week 4**

	Schedule for assessment of insight-revised(SAI-E)			
	C1	C2	C3	Total
SAPS				
Hallucinations				
Delusions				
Bizarre behavior	-.39**	-.32**		-.38**
Formal thought disorder		-.36*		-.32*
Inappropriate affect				
Total		-.21*	-.28*	-.30*
SANS				
Affective flattening	-.28*	-.33*	-.32*	-.32*
Alogia				
Avolition apathy	-.43**	-.50**	-.43**	-.49**
Anhedonia asociality			-.40**	-.30*
Attention impairment		-.32*	-.30*	-.30*
Total	-.33*	-.36*	-.36*	-.37*

Discussion

Our study shows that the overall relationship between psychopathology and insight is a complex one. During the acute phase of the illness, the clinical symptoms did not seem to have any clear relation with the poor level of insight, while a robust relation emerged with resolution of symptoms. Change in positive symptoms was also related to gaining insight at the end of four weeks.

Our findings of a lack of relationship between acute psychopathology and insight are supported by several studies from the West (McEvoy et al 1989, Amador et al 1993, McEvoy et al 1993, Michalakeas et al 1994 and Cuesta and Peralta 1994). However, few studies carried out in India on patients with symptomatic schizophrenia were able to show a robust relationship between psychopathology and insight (Kulhara et al 1992, Aga et al 1995, Tharayan and Sarvanan 2000 and Lincon and Chandrasekharan 2002). A lack of association between acute symptoms and insight at once seems to indicate that insight may not be explained solely on the basis of psychopathology in schizophrenia and so the awareness of illness could be, to a certain extent, independent of the presence of psychopathology.

However, in our study certain symptoms in the acute phase were found to have a relationship with specific components of insight as shown by the correlation and regression analyses. For example, a positive symptom such as bizarre behaviour and a negative symptom such as attentional impairment correlated negatively with the second component of insight (i.e. ability to relabel unusual events as pathological). Few authors have reported this kind of relationship between specific symptoms and specific components of insight (Amador et al 1994, Kim et al 1997 and Dickerson et al 1996).

As the symptoms resolved by four weeks, the results were quite different. The total insight score was found to have a negative correlation with the severity of psychopathology as measured by SAPS/SANS, suggesting improvement in the level of insight with decline of the symptoms. A robust relationship between psychopathology and insight emerging with the resolution of symptoms has not been well reported in the literature. No relationship was found between positive symptoms and insight at the end of a 12-week follow up in a study of patients with schizophrenic (Cuesta et al 2000). In another study, the level of insight was found to improve independently of psychopathology at follow up (WHO 1993).

Finally, there was a significant decline in psychopathology in our patients from week 1 to week 4. Similar significant changes were also found with the insight scores over the 4-week period. The change in scores of positive symptoms over the 4-week period predicted the improvement in insight but this was not found to be the case for negative symptoms.

There could be several reasons for the wide variability and complexity across studies in relationship between psychopathology and insight. The heterogeneity of the study sample could explain this variability to some extent. Our study re-

cruited a homogeneous sample of patients with schizophrenia in contrast to studies that used a heterogeneous population with different types of psychotic disorders (Heinrichs et al 1985, McEvoy et al 1989, David et al 1992, Kim et al 1997). Apart from this, many previous studies used unstructured instruments for the assessment of insight whereas the more recent ones have used structured instruments. Most studies using unstructured instruments have failed to show any relationship between insight and psychopathology (McGlashan and Carpenter 1981). Instruments to measure insight assess insight on multiple dimensions such as awareness of psychopathology, perceived need for treatment, attribution of symptoms and compliance with treatment. It is possible that in correlation analysis with scores on psychopathology not all of those dimensions may show a linear relationship. In fact, this view is supported by Amador et al. (Amador et al 1994) in which they showed that when the instrument was used after removing items on the retrospective scale and attribution scale, insight was found to have a relationship with certain symptoms such as delusions, thought disorder and disorganized behaviour. The design of the study could also have a bearing on its results. Most studies have been cross-sectional in design and aimed to examine the relationship in the acute state of psychosis. Only a few studies have examined the longitudinal relationship over time (Smith et al 1998, Cuesta et al 2000 and WHO 1993).

Our study has some limitations. The duration of follow up was only four weeks. A longer duration with more follow-up assessments would have been ideal to examine the longitudinal relationship between insight and psychotic symptoms. However, certain practical constraints did not permit that kind of design for the study. Nevertheless, we were able to show a significant change in psychopathology and insight over the 4-week period although it is true that most correlations were not very high (around -.30 -.40 that correspond to about 9%- 16% common variance). The nature of the study did not allow the raters to be blind to the previous assessment and a bias might have been introduced. We tried to minimize this bias by not involving the rates in the day-to-day treatment and clinical monitoring so they had little memory of the previous assessment.

Finally we were able to use the translated version of SAI-E for our study population. Some researches are of the view that insight scales developed in the West may not be applicable to the cultural settings in the Third World such as those of India since awareness of illness could be, to a significant extent, a function of illness behaviour which is highly influenced by the local socio-cultural mores. We only had difficulty in administering the third component of the SAI-E, i.e. compliance with treatment. This could be due to the nature of the doctor-patient relationship in the Indian setting where patients generally do not question doctors regarding the treatment. However, we were able to administer other items of the insight scale fairly easily as the majority of our patients were literate (42% were graduates).

We conclude that the relationship between insight and clinical signs and symptoms is a complex one and could change over time. Insight is only partially related to psychopathology and their relationship could vary depending on the phase of the illness.

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