

Research Article

A comparative study of cognitive insight in schizophrenia patients with and without depression

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ABSTRACT

Background: Lack of insight has been linked to disorganized symptoms or symptoms of formal thought disorder which is often seen in schizophrenia. The main aim of our study was to assess cognitive insight in patients of schizophrenia with and without depression and relation of cognitive insight with psychopathology of schizophrenia.

Methods: The Present study was carried out on 60 patients in both groups. After randomization, assessment of Socio demographic details was done with the help of semi-structured performa.

Results: There was no significant difference was found in both groups in socio demographic data. Better cognitive insight was found in schizophrenia patients with depression. The cognitive insight and psychopathology were not found significantly correlated to the age of the patient, age of onset of the illness and the total duration of the illness. There was significant difference among groups in relation to the PANSS-P, PANSS-G, with cognitive insight SR, SC, RC (p value 0.000). No significant difference was found for the PANSS-N (p=0.156) among both groups.

Conclusions: Cognitive insight may impact negative symptoms directly via a rigid reasoning style that fosters disengagement in constructive activity as well as reduced interpersonal expressivity.

Keywords: Cognitive insight, Schizophrenia, Depression

INTRODUCTION

The schizophrenic disorders are characterized in general by fundamental and characteristic distortions of thinking and perception, and by inappropriate or blunted affect. Clear consciousness and intellectual capacity are usually maintained, although certain cognitive deficits may evolve in the course of time. The disturbance involves the most basic functions that give the normal person a feeling of individuality, uniqueness, and self-direction. The most intimate thoughts, feelings, and acts are often felt to be known to or shared by others, and explanatory delusions may develop, to the effect that natural or supernatural forces are at work to influence the afflicted individual's thoughts and actions in ways that are often bizarre. The individual may see himself or herself as the pivot of all

that happens. This form of insight has been thought to have great clinical significance because it taps directly into how individuals with delusions think, making it particularly relevant for facilitating change in psychotherapy.¹ Poor insight has been described as a cardinal feature of schizophrenia, with studies estimating that 50-80% of patients do not believe they have a disorder.^{2,3} Cognitive insight Model, Recently Beck et al in 2004 proposed an important extension of the classical insight concept, which they term clinical insight with the description of cognitive insight which refers to metacognitive processes of reevaluation and correction of distorted beliefs and misinterpretations.⁴ Factorial analyses revealed two distinct dimensions, self-reflectiveness (SR) and self-certainty (SC). The first one reflects introspection and willingness to observe one's

own mental productions and to consider alternative explanations while self-certainty (SC) measures mental flexibility or overconfidence in one's beliefs. Cognitive insight is defined as the difference between self-reflectiveness and self-certainty scores. Although the literature showed that cognitive insight consistently correlates with clinical insight, there is evidence that these two constructs are complementary rather than overlapping.⁵ Some recent evidence also supports the hypothesis that depressive symptoms are an integral part of schizophrenia.^{6,7} Better insight was significantly correlated with lower mood. In addition, it suggests that poor insight may protect against depression in the early stages of recovery from schizophrenia. Lack of insight is often seen as a defence against the potentially devastating realization of a person's illness. It is thus an active effort to cope with or adapt to distress. The main aim of our study was to assess cognitive insight in patients of schizophrenia with and without depression and Relation of cognitive insight with psychopathology of schizophrenia.

METHODS

We hypothesized that subjects with depression would have greater cognitive insight compared with those without depression in patients of schizophrenia.

This present cross sectional study was carried out on patients with diagnosis of schizophrenia attending OPD at psychiatry center, Department of Psychiatry, SMS Hospital, Jaipur.

We recruited 120 patients of schizophrenia (diagnosed as per ICD-10 criteria), 60 patients meeting the criteria for schizophrenia with depression in one group and 60 patients meeting the criteria for schizophrenia without depression in another group. Thereafter suitable instruments will be applied and statistical analysis will be done.

Ethical consideration

Study was approved by research review board & ethical committee of the institution. An informed consent was obtained from the subject prior to participation in the study.

Selection Criteria for Cases

Inclusion criteria

- Age 18 to 60 years.
- Either sex.
- Literate enough to understand consent form & questionnaires.
- Diagnosis of schizophrenia according to ICD-10
- Cooperative patient.

Exclusion criteria

- A severe disorder either in terms of behavior, communication or language that made the interview almost impossible (e.g., mental retardation, dementia, irritability, and agitation).
- History of medical illness or neurological illness leading to significant cognitive impairment
- History of significant head injury.
- Current and past history of drug abuse or dependency problem.

Instruments of this study

Consent form: This form was formatted in hindi language and were given to all participants of this study. The written consent was taken from each subject before screening procedure.

Screening proforma: The proforma was included all exclusion criterions with the Yes / No option before each question.

Socio-demographic profile: This was included name, age sex, father's /husband's name, address, marital status, education, occupation, type of family and monthly income of the participant.

Clinical profile performa: This was included history of psychiatric illness and medications given.

Calgary depression scale for schizophrenia (CDSS)⁸: It was developed specifically to assess depressive symptoms in schizophrenia. It is a nine item structured interview scale, in which each item has a four point measure. All items of the CDS significantly discriminate between the presence and absence of a major depressive episode. The range of the global score is 0 to 27, and according to Addington et al schizophrenic patients with a CDSS global score greater than 5 were considered as depressed.

Beck cognitive insight scale (BCIS)⁴: It has been designed for assessment of self-reflection, self-certainty on patients' anomalous experiences and interpretations of own beliefs. The BCIS is a self-report inventory consisting of 15 statements rated on a 4-point Likert scale (0 = do not agree at all to 3 = agree completely). Based on factor analyses Beck and co-workers divided the 15 items into 2 subscales. The first component consisted of 9 items measuring objectivity, reflectiveness and openness to feedback and given the label self-reflectiveness. High scores on the subscale self-reflectiveness and low scores on subscale self-certainty is considered as normal.

Positive and negative syndrome scale (PANSS)⁹: It is used in the assessment of positive and negative symptoms of schizophrenia and other psychotic disorders by adding additional items and providing careful anchors for each. The PANSS includes 30 items on three subscales. Each

item is scored on a seven-point, item-specific likert scale ranging from 1 to 7; thus, the positive and negative subscales each range from 7 to 49, and the general psychopathology scale ranges from 16 to 112.

Statistical analysis

Statistical analysis was done with the help of software SPSS 20.0. Group comparison for socio-demographic variables and clinical variables was done with the help of appropriate application of independent t-test and chi square test/Fisher's exact test.

RESULTS

Mean age of schizophrenia with depression and schizophrenia without depression was 34.72 and 33.17 respectively. Statistically no significant difference was

found between both groups (p value 0.232). Most of the patients were males, married, educated up to graduate. Hindu by religion and coming from a nuclear family. Majority patients were either doing private job or self-employed. Both the groups were comparable with respect to sex, marital status, occupation, education, income, religion, family type and area. No significant differences found between both groups with respect to the socio demographic profile (p value > 0.05). The onset of illness in both the groups was insidious in most of the patients and the group differences were statistically significant (p=0.002). Majority of the patients in schizophrenia without depression group had family history of psychiatric illness as compared to patients in schizophrenia with depression group (p=0.016) (Table 1).

Table 1: Comparison of clinical variables among groups.

Variables	Schizophrenia with Depression (n=60)	Schizophrenia without Depression(n=60)	X ² (df)	p Value
Type of Onset				
Acute	13	2	9.219(1)	0.002*
Insidious	47	58		
Family History				
Present	18	31	5.829(1)	0.016*
Absent	42	29		

df-degree of freedom, X² - chi square value **p<0.01.

Table 2: Means score of cognitive insight and the psychopathologic variables among groups.

Variable	Mean±S.D.		t (df)	p value
	Schizophrenia with depression (n=60)	Schizophrenia without depression (n=60)		
PANSS-P	12.60(3.376)	25.03(5.237)	15.458(100.817)	0.000**
PANSS-N	14.12(3.479)	15.4(6.009)	-1.432(94.561)	0.156
PANSS-G	26.37(4.606)	30.85(8.004)	-3.761(94.221)	0.000**
SR	19.98(3.998)	3.05(3.121)	25.860(111.444)	0.000**
SC	7.02(3.829)	16.88 (1.896)	-17.887(86.303)	0.000**
RC	12.97 (7.433)	-13.83 (4.450)	23.962(96.477)	0.000**
CDSS	10.52 (3.712)	2.45 (1.620)	15.427(80.689)	0.000**

df-degree of freedom , S.D.- standard deviation, PANSS (positive and negative syndrome scale) , PANSS-P (positive score), PANSS-N (negative) , PANSS-G (general psychopathology), G12- lack of clinical insight, SR-self reflectiveness, SC-self certainty, RC= (SR-SC) , CDSS- Calgary depression scale for schizophrenia, **p<0.01.

Mean score of PANSS-P (positive score) were 12.60 in schizophrenia with depression patients and 25.03 in schizophrenia without depression. There were significant differences found in both group in mean score of PANSS-P (positive score) (t value 15.458 p value 0.000). Mean score of PANSS-N (negative score) were 14.12 in schizophrenia with depression patients and 15.4 in

schizophrenia with depression patients. No significant difference was found for the PANSS-N (p=0.156) among both groups. Mean score of PANSS-G (general psychopathology) were 26.37 in schizophrenia with depression patients and 30.85 in schizophrenia without depression. Significant difference found in both group in mean score of PANSS-G (t value -3.761 p value 0.000).

Higher R-C Index (self-reflectiveness score - self-certainty score) scores indicate greater cognitive insight. We found better cognitive insight in patients of schizophrenia with depression 12.97 as compared to patients of schizophrenia without depression (-13.83). Mean score of SR-self reflectiveness was 19.98 and 3.05 in schizophrenia patients with or without depression respectively. Mean score of SC-self certainty was 7.02 and 16.88 in schizophrenia patients with or without depression respectively. Significant difference found in both group in cognitive insight (p value 0.000) (Table 2).

Table 3: Correlation between cognitive insight and the psychopathology with clinical variables.

Variable		Age of patient	Age of onset of illness	Total duration of illness
PANSS-P	r	-0.174	-0.153	-0.144
	p	0.057	0.095	0.117
PANSS-N	r	0.003	0.011	-0.131
	p	0.972	0.904	0.154
PANSS-G	r	-0.028	-0.068	-0.087
	p	0.759	0.459	0.342
SR	r	0.087	0.075	0.150
	p	0.343	0.419	0.102
SC	r	-0.084	-0.063	-0.153
	p	0.359	0.497	0.096
RC	r	0.088	0.071	0.154
	p	0.341	0.441	0.094

PANSS (positive and negative syndrome scale) ,PANSS-P (positive score),PANSS-N (negative) , PANSS-G (general psychopathology), G12- lack of clinical insight, SR-self reflectiveness, SC-self certainty, RC= (SR-SC) , CDSS-Calgary depression scale for schizophrenia.

Table 4: Correlation among cognitive insight and the psychopathology.

Variable		SR	SC	RC
PANSS-P	r	-0.870	0.802	-0.858
	p	0.000*	0.000*	0.000*
PANSS-N	r	-0.060	0.042	-0.053
	p	0.519	0.652	0.562
PANSS-G	r	-0.310	0.250	-0.291
	p	0.000*	0.000*	0.000*

r correlation p significance.

The cognitive insight and psychopathology were not found significantly correlated to the age of the patient, age of onset of the illness and the total duration of the illness (p value>0.05) (Table 3).

There was significant difference among groups in relation to the PANSS-P, PANSS-G, with cognitive insight SR, SC, RC (p value 0.000). No significant difference was found for the PANSS-N (p=0.156) among both groups (Table 4).

DISCUSSION

In our study we found significant difference between the two groups on basis of the mode of onset of the schizophrenia. We noticed that the insidious onset is more in schizophrenia without depression group. Also, acute onset of schizophrenic illness is more in schizophrenia with depression group. Our study was supported by a study done by Kanahara et al on onset pattern and long-term prognosis in schizophrenia.¹⁰ This was a 10 years longitudinal study done in japan. They found that non-acute mode of onset could cause a significant poor total psychopathology and negative symptoms. Those patients who have significant poor total psychopathology have poor insight and lesser level of depressive symptoms.^{11,13-15}

The present study revealed the significant differences found between both groups on basis of family history. A family history of schizophrenia is the strongest single indicator of individual schizophrenia risk. Fanous and Kendler, point out that, across methodologies, research findings support the notion that familial factors not only influence illness liability but also clinical presentation.¹⁶ Family history of schizophrenia was found significantly more in patients of schizophrenia without depression group. This may be explained on the basis that in patients of schizophrenia with positive family history have poor insight.¹⁷ There was also significant positive correlation between level of insight and depression. Finally it was revealed that positive (FH+) family history associated with lesser level of insight which results in low level of depression.^{14,15,17} This may due to that positive family history indicate genetic load and more severity of illness.

We found a significant negative correlation between cognitive insight (CI) as measured by RC index (SR-SC) and PANSS-P in our study. The SR component of cognitive insight was also significantly negative correlated to the positive symptoms of schizophrenia while the SC component of cognitive insight was significantly positively correlated to the positive symptoms of schizophrenia. Riggs et al had done a review study which support our finding of significant negative correlation between cognitive insight or SR and positive symptoms of schizophrenia.⁵ Similar finding were also found by various studies.^{4,18-22} Opposite to this, some studies failed to show any relationship between SC and symptoms of schizophrenia.²³ Because hallucinations are prototypical unusual experiences, patients with poor cognitive insight might be expected to have worse hallucinations because the severity of auditory hallucinations has been linked to patients beliefs about their voices. While severity of hallucinations, in general, was not associated with the cognitive insight, delusional hallucinators demonstrated lower self-reflectiveness and higher self-certainty (at a trend level) than nondelusional hallucinators.²¹ Patients with verbal auditory hallucinations and poor cognitive insight are particularly likely to endorse delusional explanations for voice

hearing. It predicts that lack of self-reflectiveness contributes to beliefs about hallucinations in particular, beliefs that the voices are externally generated, credible sources of information, and powerful enough to be obeyed. The present results of low self-reflectiveness and high self-certainty in patients of schizophrenia without depression with delusions were expected because subjective certainty of judgment and not listening to counterarguments are implicit in the concept of delusions. If the self-correction strategies are ineffective, with high self-certainty and low self-reflection, it seems more likely that delusions will occur. Intact cognitive insight would be concordant with internalization of voices and avoidance of aberrant beliefs possibly reflecting awareness of the voices origin in these patients. Poor insight was also shown to be related to better self-esteem and coping styles, which may be associated with self-certainty.²⁴

Cognitive insight may play an important role in the psychosocial treatment of psychosis. Cognitive behavioral therapy (CBT) is effective in reducing hallucinations and delusions in patients with schizophrenia.^{25,26} Several studies have shown that CBT focused on modification of beliefs leads to a decrease in conviction about delusional beliefs, and distressing beliefs about hallucinations.²⁷

Our study doesn't show any significant correlation between cognitive insight (CI), its components (SR, SC) and negative symptoms in schizophrenia as assessed by PANSS-N. Similar results were obtained in previously done studies.²⁸⁻³⁰ Contrast to this, the studies done by Bora et al and Tranulis et al showed significant negative correlation between SR component and negative symptoms of schizophrenia.^{19,31}

Study by Pedrelli et al in, expresses significant positive correlation between SC component and negative symptoms of schizophrenia.³²

CONCLUSION

Cognitive insight may impact negative symptoms directly via a rigid reasoning style that fosters disengagement in constructive activity as well as reduced interpersonal expressivity. The inconsistent findings between the CI and negative symptoms could result from some studies having a disproportionate number of patients with negative symptoms that are secondary to delusions. Limitations of the study were that; sample size being small, results could not be generalized. Insight is a complex phenomenon; it might be affected by variables that we have not considered. Inconsistencies may be related to inadequate management of confounding variables.

This is a cross-sectional study of baseline parameters; hence, the longer term associations between the affective

symptoms, BCIS, and clinical insight scale were not addressed.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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