

ORIGINAL RESEARCH

A study of negative symptoms and insight in patients with schizophrenia

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Received date: 23 August, 2023

Acceptance date: 27 September, 2023

ABSTRACT

Background: Schizophrenia is a major mental illness that causes changes in perception, thoughts and behaviour. Impairment of insight is considered as a hallmark of schizophrenia. There has been an increasing focus on the Negative symptoms and insight in schizophrenia. There has been evidence indicating an inverse relationship between insight and global, positive and negative symptoms was reported. **Aim and objective of the study:** To analyse the relationship of Negative symptoms with insight in patients with schizophrenia. **Methodology:** A Cross sectional study consisting of 40 patients with a diagnosis of Schizophrenia, who were diagnosed according to the ICD-10 criteria for research and were attending to tertiary care hospital at Visakhapatnam as both outpatients and inpatients. Study tools used as Semi structured Performa for sociodemographic data, The 30 item clinician rated Positive and negative syndrome scale (PANSS) and Insight and Treatment Attitude Questionnaire (ITAQ). **Results:** The mean age, duration of illness of study population are 36.58 ± 10.446 years and 7.82 ± 6.480 years respectively. The mean PANSS positive, negative, general psychopathology and total scores were 15.93 ± 7.879 , 21.45 ± 10.841 , 25.73 ± 8.738 and 63.10 ± 22.534 respectively. Mean ITAQ score was 11.15 ± 6.455 . Insight scores had significant negative correlation with PANSS positive ($p < 0.05$), PANSS negative ($p < 0.05$) and total score ($p < 0.05$). **Conclusion:** A better appreciation of the association that insight shares with other symptom clusters could help us in gaining knowledge about aetiology, prognosis and treatment related facets of the disease.

Key words: Schizophrenia, Insight, negative symptoms

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INTRODUCTION

Schizophrenia is a major mental illness that causes changes in perception, thoughts and behaviour. The disorder is characterized by positive symptoms, negative symptoms and neuropsychological deficit. Researchers found poor insight to be a prevalent feature of schizophrenia, as well as an important discriminating factor. International Pilot Study for Schizophrenia (IPSS) (WHO, 1973) revealed that 85% of the subjects vigorously denied that they were ill. Similarly one study found 69% of patients diagnosed as schizophrenia had no insight. Another study demonstrated that 76% of "drug refusers" versus 40% of "drug compiler" had no insight into illness. Poor insight influences treatment compliance, the degree of supervision required and the decision as to whether a patient can safely be discharged from inpatient settings. In addition, poor insight can

potentially worsen the social and interpersonal malfunction which is observed in schizophrenia. The current consensus regarding understanding insight is of a multidimensional phenomenon encompassing awareness of a particular disorder, including specific signs and symptoms, attributing these to the particular disorder, awareness regarding the need for treatment, and understanding its social consequences. Impaired insight has been investigated through various approaches as a symptom of the disorder specifically illness severity, due to cognitive deficit or to the neuroanatomical deficit. Another approach to understanding insight has been using the concept of cognitive insight which refers to the cognitive processes involved in self-reflection of one's abnormal experiences and the ability to modify dysfunctional beliefs and misinterpretations. Poor insight has been

found to be associated with medication nonadherence, higher risk of relapse, and rehospitalization.^{1,2,3,4}

Schizophrenia is a multidimensional disorder and the symptoms are heterogeneous. The most researched symptom dimensions in schizophrenia are positive, negative and cognitive dimensions. Some of the previous studies have demonstrated relationship of insight with positive symptoms, negative symptoms and neurocognitive impairment among patients with schizophrenia.^{5,6,7}

Negative symptoms form an important dimension of schizophrenia and they are constituted by blunting of affect/emotions, reduced speech output, lack of motivation, poor socialisation and reduced attention. They are considered to be among the "core symptoms" of the illness with a significant relationship to the pathology. Negative symptoms have been consistently associated with insight in many studies even though negative studies exist in the literature. Conceptually, greater severity of negative symptoms could result in difficulty in distinguishing own subjectivity with respect to the surrounding reality and to recognise a disorder as belonging to his/her own person. In addition, patients with marked negative symptoms such as apathy and social withdrawal have significant difficulty in maintaining therapeutic relationship and in adhering to the prescribed treatment plan.^{8,9} This relationship might explain persistent abnormalities in insight even after symptomatic improvement in symptoms since "improvement" is mostly referred to regarding the positive dimension.^{10,11}

This study seeks to systematically and thoroughly evaluate the relationship of insight with negative symptoms in schizophrenia. Aim of our study is to assess the relationship of negative symptoms with insight in patients with schizophrenia

HYPOTHESIS

There is a negative correlation between negative symptoms and insight score in patients with schizophrenia

MATERIAL AND METHODS

Participants and setting

This is a hospital based Cross sectional study using convenient sampling method with study sample consisting of 40 patients with a diagnosis of Schizophrenia, who were diagnosed according to the ICD-10 criteria for research and were attending to tertiary care hospital at Visakhapatnam as outpatients. The patients in the age group of 18 to 60 years, of either sex were selected for the study and needed to have the illness for a period of at least 1 year. Patients with comorbid neurological and psychiatric disorders (except nicotine dependence) and those having major medical illness were excluded from the study. The

study was conducted in accordance with the ethical guidelines laid down by Declaration of Helsinki.

A total of 40 patients diagnosed with schizophrenia were recruited for the study after taking written informed consent. Patients were evaluated using a semi-structured interview to assess demographic and clinical features. Data were obtained from a combination of patient interviews, medical records and structured assessments. The clinical assessment was made in regional language.

Clinical assessments

Tools of assessment included

1. PANSS

The current level of psychopathology was assessed using the Positive and Negative Syndrome Scale (PANSS). It is a 30-item clinician rated scale specifically developed to assess patients with schizophrenia and is divided into 3 subscales, for measuring seven positive symptoms (PANSS P₁-P₇), seven negative symptoms (PANSS N₁-N₇) and general psychopathology with 16 items (PANSS G₁-G₁₆). Sub-scale scores were shown to be independent of each other. For each of the 30 items there is a definition and seven possible rating points, representing increasing level of psychopathology severity (1 = absent; 2 = minimal; 3 = mild; 4 = moderate; 5 = moderate-severe; 6 = severe; 7 = extreme). The PANSS is scored by summation of ratings across items, thus the potential ranges are 7-49 for the Positive and Negative Scales and 16-112 for the General Psychopathology Scale.

2. ITAQ

Insight and Treatment Attitude Questionnaire (ITAQ), a 11 item semi-structured scale was used for the assessment of insight. First 5 items measure awareness of illness, 6 items measure attitude to medication/hospitalisation and follow up evaluation. Each question scores 0 for no insight, 1 for partial insight, 2 for full insight. So, when the ITAQ scores are totalled, poor insight has a score from 0-7, fair insight 8-14 and 15-22 for good insight. Total score ranges from 0-22.

STATISTICAL ANALYSIS

Data collected from 40 patients were recorded in Microsoft Excel spreadsheets (Microsoft Corporation, Redmond, WA, USA) and Statistical analysis was done using the Statistical Package for the Social Sciences-version 25.0 for Windows (SPSS Inc., Chicago, IL, USA). Initially, descriptive statistics were calculated for basic demographic and clinical variables such as age, duration of illness, PANSS scores and ITAQ scores for insight. Pearson's correlation coefficient (r) was used to study the association between PANSS Positive, PANSS negative, PANSS Total score with ITAQ score. The level of significance was set at p < 0.05 (2-tailed).

RESULTS

There were 40 participants in the study.

Table-1: Mean age of the sample

	Mean	Std. Deviation
Age	36.58	10.446
Duration of illness	7.82	6.48
PANSS Positive score	15.93	7.879
PANSS Negative score	21.45	10.841
PANSS General psychopathology	25.73	8.738
PANSS total score	63.1	22.534
ITAQ total score	11.15	6.455

The mean age of the sample was 36.58±10.446 years .

Table -2: Sociodemographic and clinical variables

	Frequency	Percent
Gender		
Male	26	65.0
Female	14	35.0
Education		
Uneducated	10	25
Primary	6	15
High school	10	25
Intermediate	9	22.5
Diploma	2	5
Degree	3	7.5
Occupation		
Unemployed	15	37.5
Unskilled	14	35
Skilled	8	20
Clerical	3	7.5
Locality		
Urban	31	77.5
Rural	9	22.5
Marital status		
Unmarried	14	35
Married	23	57.5
Widowed	1	2.5
Divorced	2	5

26(65%) participants were males and 14 (35%) participants were females. The mean duration of illness was 7.82±6.480 years.

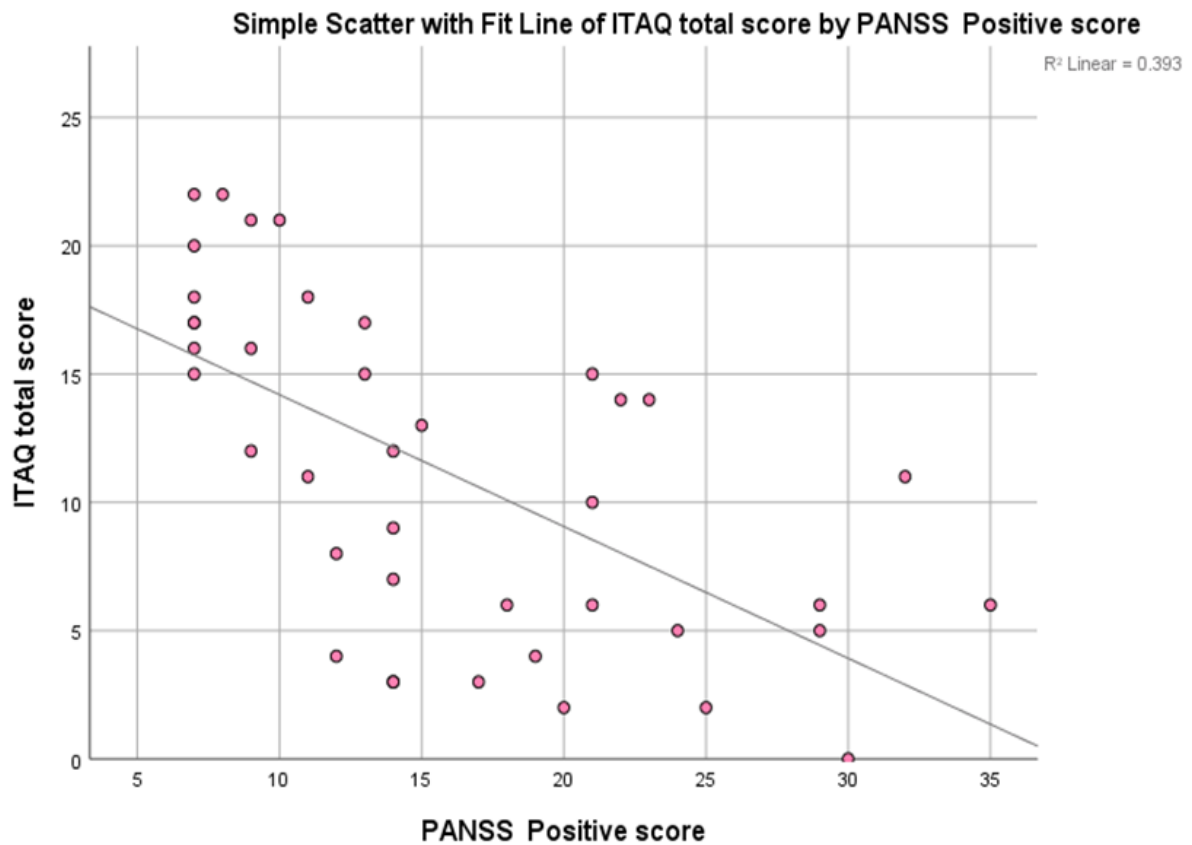
Table-3 Correlations

		ITAQ total score
PANSS Positive score	Pearson Correlation	-.627**
	Sig. (2-tailed)	0
	N	40
PANSS Negative score	Pearson Correlation	-.666**
	Sig. (2-tailed)	0
	N	40
PANSS total score	Pearson Correlation	-.814**
	Sig. (2-tailed)	0
	N	40

The mean PANSS positive score was 15.93±7.879. Mean PANSS negative score was 21.45±10.841 ,Mean PANSS general psychopathology score was 25.73±8.738 and mean PANSS total score was 63.10±22.534. Mean ITAQ score was 11.15±6.455.

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Figure-1: ITAQ total score by PANSS positive score



** . Correlation is significant at the 0.01 level (2-tailed).

Figure-2: ITAQ total score by PANSS negative score

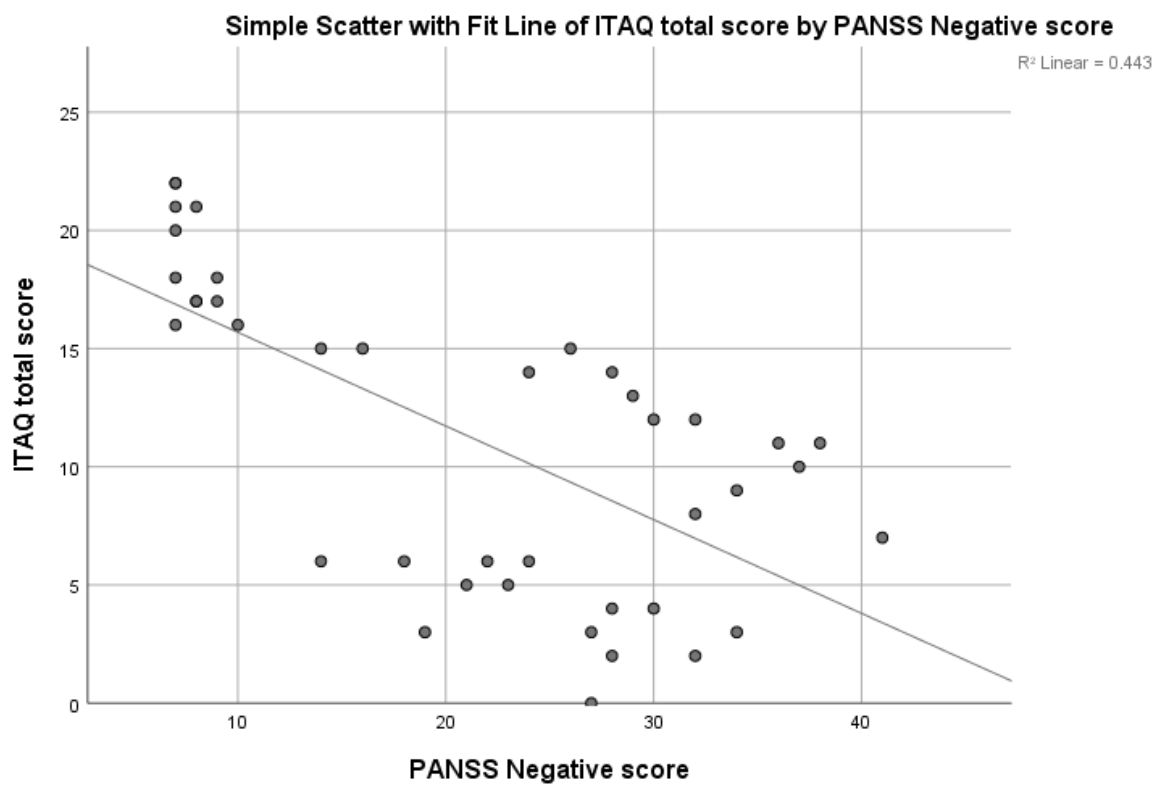
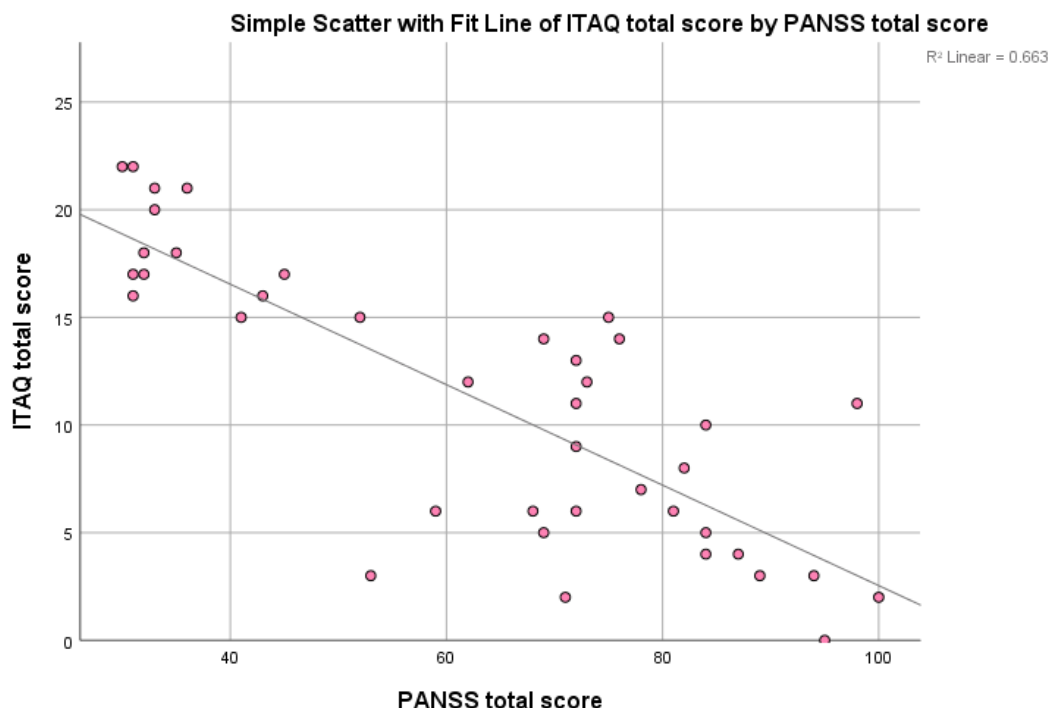
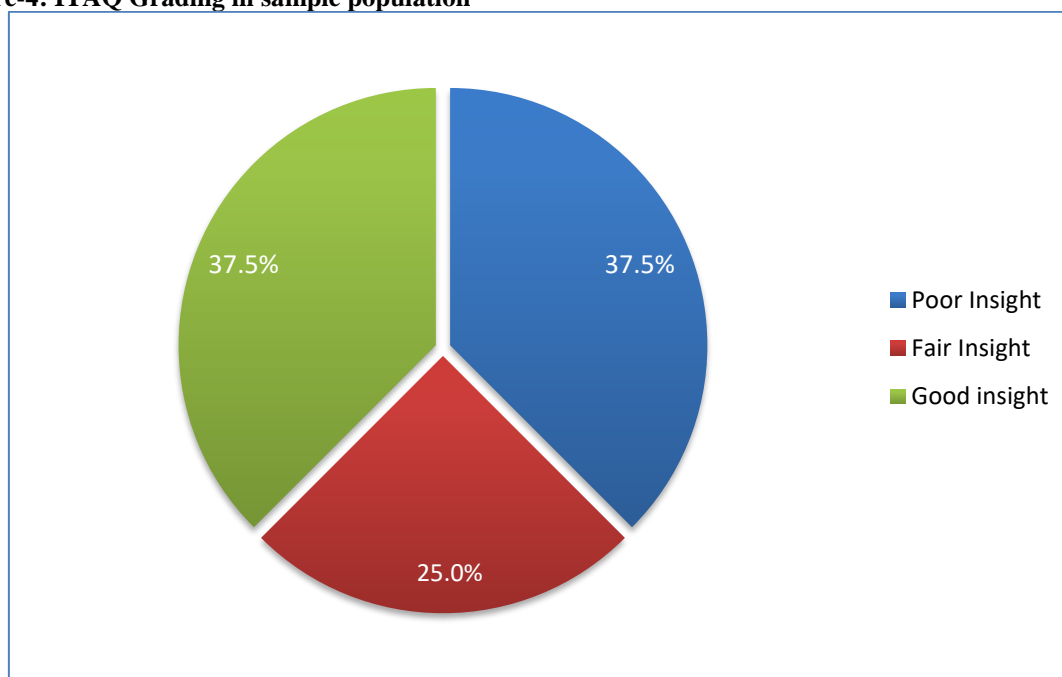


Figure-3:ITAQ total score by PANSS total score



Out of 40 patients, 37.5% (15 out of 40) was found to be having poor insight (ITAQ score:0-7), 25% (10 out of 40) was found to have fair insight (ITAQ score: 8-14) and 37.5% (15 out of 40) was found to be having good insight (ITAQ score:15-22)

Figure-4: ITAQ Grading in sample population



DISCUSSION

Schizophrenia is frequently a chronic and disabling disorder, characterized by heterogeneous positive and negative symptom constellations. While positive symptoms reflect an excess or distortion of normal function (eg, delusions, hallucinations, disorganized behavior), negative symptoms refer to a diminution or

absence of normal behaviors related to motivation and interest (eg, avolition, anhedonia, asociality) or expression (eg, blunted affect, alogia). Negative symptoms are a core component of schizophrenia and they account for a large part of the long-term morbidity and poor functional outcome in patients with the disorder. Although negative symptom

prevalence varies according to what defining terminology is used, clinicians should be mindful that up to 60% of patients with schizophrenia have prominent or predominant negative symptoms that are clinically relevant and need treatment. In the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study (n=1442), one of the largest individual controlled studies in schizophrenia, prominent negative symptoms were also common (40%), with 19% of outpatients having prominent negative symptoms without prominent positive symptoms and 21% having both prominent positive and negative symptoms.^{12,13}

The present study examines the correlation of Negative symptoms with Insight in a sample of 40 patients with schizophrenia who are under heterogeneous therapeutic procedures in routine outpatient clinical practice.

Positive, negative and total PANSS scores were found to be significantly negatively correlated with insight scores. Thus it implies as expected that more severe the clinical symptoms, less will be the insight. There are previous studies that reports inverse relationship of insight with positive symptoms.^{14,15} Amador *et al.*¹⁵ reported that insight correlated strongly with positive symptoms such as delusions and disorganisation symptoms. Nieto *et al.*¹⁶ demonstrated that insight had a significant association with positive symptoms and general symptoms but not with negative symptoms in a sample of 96 acutely ill psychotic patients]. Furthermore, poor insight has been recently reported to be linked to greater positive symptoms and violence. Positive symptom score correlated significantly with insight among never-medicated patients as well as chronic medicated schizophrenia patients in a sample from Chennai.¹⁷ According to a study by Kim *et al.*,¹⁸ positive symptoms, primarily, delusions, hallucinations and disordered thought demonstrated a significant negative correlation with insight. In an attempt to examine the association of insight with symptom dimensions in schizophrenia, Buchy *et al.*¹⁹ observed that delusions and psychomotor excitement were associated with poor insight. Pedrelli *et al.*²⁰ reported a mild correlation between symptomatology including positive symptoms and insight using BCIS. A strong relationship between active delusions was demonstrated in a relatively small sample of patients by Warman *et al.*²¹ The occurrence of delusion was associated with low self-reflectiveness factor of BCIS. Some studies reported inverse relation of insight with negative symptoms. One previous study conducted in Karnataka revealed negative correlation of PANSS negative and total scores with insight, with no correlation of positive symptoms with insight score. A modest inverse relationship between insight and global, positive and negative symptoms was reported in a meta-analysis and this was greater during the acute phase of the illness.

In this study, the mean PANSS negative score was found to be high (21.45 ± 10.841) than mean PANSS positive score (15.93 ± 7.879). The mean duration of illness of study population was 7.82 ± 6.480 years. This implies that as the disease duration increase, the patients will be having more negative symptoms. Studies conclude a chart review by stating that negative symptoms have a later onset and greater prevalence over time; Studies also concluded that both consider that negative symptoms are characteristic of chronic schizophrenia, and both DSM-III-R (American Psychiatric Association) and ICD-10 (World Health Organization, unpublished), itemise negative symptoms as particularly characteristic of residual schizophrenia.

CONCLUSION

To conclude, our study suggests that in patients with schizophrenia, negative symptoms have an inverse relationship with insight to the illness. Positive symptoms was also found to be having an inverse relationship with insight. Thus it implies as expected that more severe the clinical symptoms, less will be the insight. The implication is for the clinicians to know the vicious cycle involving lower level of insight which in turn can result in medication non-adherence, that in turn can result in increased psychopathology. Unawareness of mental disorder is associated with poor treatment compliance, impaired cognitive functioning, impaired social functioning, poorer prognosis and higher relapse rates.

To lessen the potentially severe impact of negative symptoms on patients' functioning, clinicians must include these symptoms in the treatment plan. The current treatment options for schizophrenia are more effective for alleviating positive rather than negative and cognitive symptoms. While first- and second-generation antipsychotics treat psychotic positive symptoms very well, cognitive and negative symptoms are largely areas of unmet therapeutic need, requiring clinicians to consider combinations of antipsychotics with other medications or therapy. A better appreciation of the association that insight shares with other symptom clusters could help us in gaining knowledge about aetiology, prognosis and treatment related facets of the disease

LIMITATIONS AND FUTURE DIRECTIONS

Findings of our study must be interpreted in the light of its limitations. The study was limited to a single center. It is a hospital based study which included patients who are attending the outpatient services and it is a cross sectional study which was done over a small sample of 40 patients. Accordingly, the findings of this study may not be generalized to those living in the community. This also increases the so-called Berksonian bias – the more conditions a patient suffers from, the higher the likelihood of seeking treatment. The current medication status of the patients were not taken into consideration in this study.

However our study have its own strengths that 2 validated ,well known scales were used for the assessment of symptoms and insight.

Future studies should try to overcome these limitations by planning multicentric, larger sample size, and community-based patient populations, with focus on patients in different phases of illness and taking in to consideration ,the current medication status of the patient.

Financial support and sponsorship

No financial support was sought for this study

Conflicts of interest

There were no conflicts of interests among the authors.

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