

## A study of the relationship between insight and depression in Schizophrenia

Rakesh Gandhi<sup>1</sup>, Mahesh Suthar<sup>2,\*</sup>, Mandeep Singh<sup>3</sup>, Sutanaya Paul<sup>4</sup>

<sup>1</sup>Associate Professor, <sup>2</sup>Assistant Professor, <sup>4</sup>Senior Resident, Dept. of Psychiatry, Medical College, Baroda, <sup>3</sup>Consultant Psychiatrist, IK-ONKAR Hospital and de addiction Centre, Muktsar

**\*Corresponding Author:**

Email: drmaheshsuthar@gmail.com

---

### Abstract

**Introduction:** One of the important factors that determine the quality of life of patients with schizophrenia is depression. To determine the relationship between insight and depression in such patients is noteworthy for determining final outcomes.

**Aims and Objectives:** This study was conducted with the objective of studying the relationship between degree of insight and development of depression in patients suffering from schizophrenia.

**Methodology:** It is an observational cross sectional study conducted on 200 patients diagnosed with Schizophrenia according to DSM-IV-TR. Insight was measured using Schedule for Assessment of Insight – Extended version (SAI-E). Depression was estimated using Hamilton Depression Rating Scale. Mann Whitney Test and Pearson's correlation coefficient were sought between Insight and depression in the entire sample studied as well as in the various demographic groups.

**Results and Discussion:** 200 patients (122 males and 78 females) were examined. A significant positive correlation was found between insight (SAI-E score) and depression (HAM-D score) with a Pearson's correlation coefficient of 0.342. According to the Mann-Whitney Test, those who were diagnosed with depression using the HAM-D had significantly higher SAI-E scores, indicating better insight.

**Conclusion:** These findings are noteworthy as with improving insight, there is increased treatment adherence as well as a higher risk of depression. Thus, clinicians should be vigilant about this in their clinical practice.

---

### Introduction

Schizophrenia is a devastating illness, both in terms of the symptomatology as well as the effect it has on the patients' lives long after the initial psychosis has attenuated. One of the important factors that determine the quality of life of patients with schizophrenia is depression. It has been hypothesized that there are three subtypes of depression in Schizophrenia, namely, secondary depression due to factors such as medication side effects, comorbid illnesses and substance abuse; depression which is part of the psychotic illness, and finally depression due to other causes.<sup>(1)</sup> There are many factors associated with the development of depression in patients with schizophrenia such as insight, medication side effects, social stigma<sup>(2)</sup> and many more.

Insight is a complex measure and has a profound effect on a patient's illness. Those with good insight are aware of the implications of their illness and would be more affected by the limitations in their lives as well as the social stigma associated with it. Those with poor insight would be less affected by these aforementioned factors and view their lives as better than it actually is.<sup>(3)</sup>

Preliminary studies done on the subject in both India and in the West have revealed that there is a definite, albeit weak, association between insight and depression in patients with schizophrenia. A meta-analysis concluded that global clinical insight was associated significantly with depression, although with a small effect size of  $r=0.14$ . They also found that insight into symptoms, mental illness, and cognitive

insight, but not insight into social consequences of the disorder or need for treatments were correlated with depression.<sup>(4)</sup> Indian literature on the subject has revealed similar results with better insight seen to be associated with higher levels of depression and poorer quality of life.<sup>(5,6)</sup>

Depression is a major factor in suicide, which is the most common cause of death in patients with schizophrenia.<sup>(2)</sup> This underscores the impact of depression and suicide in a patient with Schizophrenia. Studies have established a definite relationship between better insight in psychosis with depression and suicide.<sup>(7)</sup>

Improving insight has important implications regarding the course of illness in patients with Schizophrenia. Better insight appears to be a double edged sword with it being associated both with better treatment adherence and functional outcome as well as increased depression and suicidality.<sup>(8)</sup> So, while clinicians strive to improve insight in patients, it is important to monitor them for depression in the post psychotic period when psychotic symptoms are receding and insight is improving.

### Aims and Objectives

This study was conducted with the following objective:

- To study relationship between degree of insight and development of depression in patients suffering from schizophrenia.

## Materials and Method

It was an observational cross-sectional study conducted in the Department of Psychiatry, SSG Hospital and Medical College, Vadodara.

**Study Population:** The study was conducted on patients diagnosed with schizophrenia who attended the Psychiatry OPD between January 2013 and December of 2013. The sample size was 200 and included patients between the age of 20 and 65 who were able to give written informed consent. Those who refused consent or had been diagnosed with other conditions like mood disorder, schizoaffective disorder, mental retardation, epilepsy, organic disease & patients suffering from Schizophrenia having acute exacerbation were excluded. Patients with depressive episode before onset of schizophrenia were also excluded.

**Study Material:** A semi-structured questionnaire was used to collect socio-demographic information from both the patient and the relative.

- The diagnosis of schizophrenia was made using DSM-IV-TR criteria.
- Insight was measured using Schedule for the Assessment of Insight – Extended (SAI-E) scale. The SAI-E Scale measures insight across three dimensions, namely; understanding of illness and its consequences (i.e. clinical insight), and compliance to treatment.<sup>(9)</sup> Similar to most of the studies conducted using the SAI-E, we have used it as a continuous measure without a specific cut-off point.

Measuring insight during an episode of depression may also act as a confounding factor. Although, there is not much literature pertaining to this matter, one preliminary study has shown that there was no difference in the clinical insight measured in a group of patients with schizophrenia with comorbid depression when it was compared with a group of patients with Schizophrenia without comorbid depression.<sup>(11)</sup> However, previous studies have shown that depressive symptoms can affect adherence to treatment in patients with Schizophrenia.<sup>(10)</sup> This may act as a confounding factor in the measurement of insight using the SAI-E.

- Depression was measured with the Hamilton Depression Rating Scale (HAM-D) with a cut-off of 8 and above to diagnose depression.

**Permission:** Clearance was taken from the Institutional Ethics Committee for Human Research (IECHR).

**Methodology:** Every second patient that was suspected of having Schizophrenia were first interviewed in detail to determine whether they met the DSM-IV-TR criteria for Schizophrenia and the inclusion criteria for the study. Patients with other diagnoses and comorbidities were excluded.

Once the patient met the criteria for participation in the study, written informed consent was taken after giving them full information about the study including the fact that the management of their illness would not

be affected by their participation in this study. They were also informed that they were free to leave the study at any time and their information would be kept confidential.

Each patient was interviewed in detail using the semi-structured questionnaire to collect socio-demographic information. A full clinical examination was conducted to diagnose schizophrenia according to DSM-IV-TR, and rule out comorbidities. Insight was measured using the Schedule for the Assessment of Insight Scale and the Hamilton Depression Rating Scale was administered to measure the severity of depression. All the scales are clinician administered.

**Analysis:** The data was entered in excel sheet and analysed using Medcalc 11.5.0.0 (Trial version) and Epi info 3.5.1.

Descriptive statistics were used to represent the socio-demographic variables. Correlation between insight and depression were sought using the Mann-Whitney test and Pearson's correlation coefficient.

## Results

**Socio-demographic characteristics of the sample:** A total of 200 patients were included in the study after being diagnosed with Schizophrenia according to DSM-IV-TR criteria. 122 (61 percent) were male and 78 (39 percent) were female. The socio-demographic characteristics of the study sample are represented in the table below.

**Table 1: Sociodemographic characteristics of the study sample**

Variable	No. (N=200)	Percentage	
Age (years)	20-35	88	44
	>35	112	56
Sex	Male	122	61
	Female	78	39
Religion	Hindu	181	90.5
	Muslim	16	8
	Others	3	1.5
Marital Status	Married	125	62.5
	Others	75	37.5
Education	Illiterate	55	27.5
	Literate	145	72.5
Residence (Rural/Urban)	Rural	99	49.5
	Urban	101	50.5
Duration of illness	≤ 5 years	82	41
	≥ 5 years	118	59

**Depression in patients with Schizophrenia:** Among the 200 patients examined, 72 patients or 36 percent of the sample were diagnosed with depression. Depression was diagnosed for those patients who scored more than

8 on the HAM-D scale. 34 (17 percent) attempted suicide, out of which 4 patients attempted more than once. Fifty (25 percent) patients reported suicidal thoughts during the course of their illness.

**Insight about illness:** Insight was measured with the SAI-E that was used as a continuous measure. The mean score of the entire sample studied was 12.7 with a standard deviation of 8.5. The median score is 10.

**Insight and Depression:** The table below shows that there is a significant relationship between insight and depression in the sample studied. The results of the Mann-Whitney test conducted on the difference between the SAI-E scores of those patients having depression (HAM-D  $\geq$ 8) versus those without depression, show that the patients who suffer from depression have a significantly higher SAI-E score indicating better insight. The median SAI-E score for patients suffering from depression is 20 as opposed to 6 for those without depression.

**Table 2: Relationship between insight and depression**

	Depression Present (HAM-D $\geq$ 8) N=72	Depression Absent (HAM-D $\leq$ 7) N=128	z-statistic	P
Median	20	6	7.05	P<0.0001
Interquartile range	16-23	3-17		

**Table 3: Pearson's Correlation Coefficient between insight and depression**

Variable	HAM-D Score
SAI-E Score	0.342

Significant at  $p < 0.0001$ , at 95% confidence interval 0.213 to 0.459.

Thus, from the above table we can conclude that insight and depression are positively correlated with increase in the severity of depression with higher levels of insight.

## Discussion

Our study demonstrated a significant positive correlation between insight (measured by SAI-E) and depression (measured by HAM-D) in schizophrenia with the Pearson correlation coefficient of .0342. This is comparable to other studies such as the one conducted by Ampalam et al which showed a correlation coefficient of 0.523.<sup>(5)</sup> Even at baseline, just following resolution of the first episode of psychosis, better insight was associated with more severe depression.<sup>(12)</sup> Another study conducted by Schwartz and Smith concluded that improved insight into one's condition along with fewer years of treatment and severity of depressive symptoms increased the risk of suicide.<sup>(7)</sup> Our study found that 34 (17 percent) patients

and 50 (25 percent) patients reported prior suicide attempts and thoughts, respectively. These values are higher than those of the general population indicating a higher risk of suicide. These results are supported by Radomsky et al who found that risk of committing suicide in psychosis is heightened by presence of depression.<sup>(13)</sup>

In a related domain, patients with better insight reported poorer quality of life, as demonstrated by a study conducted by Aghababian et al. They also found that insight was most strongly associated with lower quality of life scores. Those with better insight also tend to have worse psychological health and self-image.<sup>(6)</sup> Poorer quality of life, psychological well-being, and self-image all contribute to depression.

On examining the strength of correlation between insight and depression in different demographic groups, we found that coming from a rural area, being not married, and being illiterate were more strongly correlated with depression. These results are contrary to some previous studies. Ampalam et al found that correlation was stronger among urban patients and those who were educated. They also found a stronger correlation among male patients while in our study, the correlation was equivalent in both genders.<sup>(5)</sup>

Duration of illness was found to have a significant impact on the association between depression and insight by previous studies. Ampalan et al showed that those with a shorter duration of illness had more severe depression with increasing insight. This can be explained somewhat by the fact that poor insight may be a coping mechanism in those with a longer duration of illness. Also, in chronic cases, cognitive decline due to the disease process may account for the poor insight.<sup>(5)</sup>

The association of insight and depression is a noteworthy point in clinical practice. Most psychiatrists strive to improve the insight of the patients under their care. This has several implications. Improving insight is associated with better compliance and treatment outcomes. With better insight comes the need for treatment and hence, better compliance.<sup>(8)</sup> Interventions that improve insight increases compliance to treatment.<sup>(14,15)</sup> Thus, it is an important aspect of treatment.

However, an important problem associated with improved insight is that has been shown to be definitely associated with depression. In our study, we have found a significant, albeit weak positive correlation between increasing insight and severity of depression as measured by Hamilton Depression Rating Scale. Several factors are hypothesized to account for this correlation.

Superior insight leads to awareness about the nature and severity of one's condition and the fact that it is a lifelong condition. There is also a lot of social stigma associated with mental illnesses in general and

schizophrenia in particular. The knowledge of these factors leads to poor self-esteem, dissatisfaction with life, increased alcohol use, suicidality, and depression.<sup>(3)</sup> Awareness of the incurable nature of one's illness also leads to hopelessness that has a negative effect on the quality of life of the patient.<sup>(16)</sup> It has also been demonstrated that knowledge of one's condition and the associated stigma leads to poorer self-esteem, and higher levels of anxiety, frustration and hostility.<sup>(17,18)</sup>

Closely related to this is that awareness of the nature of one's illness also brings with it the knowledge of the fact that the expectations from life and goals that were set are now unattainable. This gap that opens up between previous hopes and expectations and the current reality sets the ground for hopelessness, helplessness and depression.<sup>(2)</sup>

Another factor associated with depression would be the nature of the psychotic symptoms or more specifically positive symptoms. A study was conducted by Up the grove et al which demonstrated that persecutory hallucinations, submission to persecutors, shame, loss, and continuing positive symptoms even in attenuated form increased the risk of post-psychotic depression. Delay in treatment with prolonged acute episode of psychosis and negative appraisals during recovery were also found to be associated with depression following first episode psychosis.<sup>(19)</sup>

## Conclusion

Thus, we can conclude that there is a significant positive correlation between improving insight and the development of depression in schizophrenia. This correlation is present among all demographic variables studied with a stronger correlation among the rural population, illiterate and those who are not married.

These findings are noteworthy as in clinical practice, most clinicians strive to improve the insight of patients with schizophrenia during the course of their treatment. This is an important aspect of management of these patients as improving insight helps in improving treatment adherence. However, this study demonstrates how important it is to be vigilant of depressive symptoms which follow with increasing insight. These depressive symptoms have a significant impact on the quality of life of the patients and it is strongly associated with a risk of suicide.

## Limitations

This study is a cross-sectional study which pertains to the results obtained from a single examination. Long term outcomes and effect of insight upon the illness as well as the patient's perception of it remains to be studied. A longitudinal study is desirable to further determine the exact effect of insight on overall course of the illness. Also, insight was measured during an episode of depression, the symptoms of which may

have affected the self-report measures on the Schedule for Assessment of Insight.

Treatment patterns and other variables associated with depression in schizophrenia, which could act as confounding factors, were not investigated. It was beyond the scope of this study.

## Bibliography

1. Bartels SJ, Drake RE. Depressive symptoms in schizophrenia: comprehensive differential diagnosis. *Comprehensive psychiatry*. 29(5):467–83.
2. Sadock BJ, Sadock VA, Ruiz P. *Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry*. 11th ed. (Sadock BJ, Sadock VA, Ruiz P, eds.). Philadelphia, PA: Wolters Kluwer; 2015.
3. Ramadan ES, El Dod WA. Relation Between Insight and Quality of Life in Patients With Schizophrenia : Role of Internalized Stigma and Depression. *Current Psychiatry*. 2010;17(3):43–47.
4. Belvederi Murri M, Respino M, Innamorati M, Cervetti A, Calcagno P, Pompili M, Lamis DA, Ghio L, Amore M. Is good insight associated with depression among patients with schizophrenia? Systematic review and meta-analysis. *Schizophrenia Research*. 2015;162(1–3):234–247.
5. Ampalam P, Vadaparty P, Deepthi R. Schizophrenia - Insight, Depression: A Correlation Study. *Indian Journal of Psychological Medicine*. 2012;34(1):44.
6. Aghababian V, Auquier P, Baumstarck-Barrau K, Lançon C. [Relationship between insight and self-reported quality of life among schizophrenic patients]. *L'Encéphale*. 2011;37(3):162–71.
7. Schwartz RC, Smith SD. Suicidality and psychosis: The predictive potential of symptomatology and insight into illness. *Journal of Psychiatric Research*. 2004;38(2):185–191.
8. Chakraborty K, Basu D. Insight in schizophrenia—A comprehensive update. *German Journal of Psychiatry*. 2010;13:17–30.
9. Saravanan B, Jacob KS, Johnson S, Prince M, Bhugra D, David AS. Assessing insight in schizophrenia: East meets West. *The British Journal of Psychiatry*. 2007;190(3):243–247.
10. Elbogen EB, Swanson JW, Swartz MS, Van Dorn R. Medication nonadherence and substance abuse in psychotic disorders: impact of depressive symptoms and social stability. *The Journal of nervous and mental disease*. 2005;193(10):673–9.
11. Ekinci O, Ugurlu GK, Albayrak Y, Arslan M, Caykoylu A. The relationship between cognitive insight, clinical insight, and depression in patients with schizophrenia. *Comprehensive Psychiatry*. 2012;53(2):195–200.
12. Saeedi H, Addington J, Addington D. The association of insight with psychotic symptoms, depression, and cognition in early psychosis: a 3-year follow-up. *Schizophrenia research*. 2007;89(1–3):123–8.
13. Radomsky ED, Haas GL, Mann JJ, Sweeney J a. Suicidal behavior in patients with schizophrenia and other psychotic disorders. *The American journal of psychiatry*. 1999;156(10):1590–1595.
14. Buckley PF, Wirshing DA, Bhushan P, Pierre JM, Resnick SA, Wirshing WC. Lack of insight in schizophrenia: impact on treatment adherence. *CNS drugs*. 2007;21(2):129–41.
15. Yen C-F, Chen C-S, Ko C-H, Yeh M-L, Yang S-J, Yen J-Y, Huang C-F, Wu C-C. Relationships between insight

- and medication adherence in outpatients with schizophrenia and bipolar disorder: prospective study. *Psychiatry and clinical neurosciences*. 2005;59(4):403–9.
16. Hasson-Ohayon I, Kravetz S, Meir T, Rozencwaig S. Insight into severe mental illness, hope, and quality of life of persons with schizophrenia and schizoaffective disorders. *Psychiatry research*. 2009;167(3):231–8.
  17. Norman RMG, Windell D, Lynch J, Manchanda R. Parsing the relationship of stigma and insight to psychological well-being in psychotic disorders. *Schizophrenia research*. 2011;133(1–3):3–7.
  18. Cooke M, Peters E, Fannon D, Anilkumar APP, Aasen I, Kuipers E, Kumari V. Insight, distress and coping styles in schizophrenia. *Schizophrenia research*. 2007;94(1–3):12–22.
  19. Upthegrove R, Ross K, Brunet K, McCollum R, Jones L. Depression in first episode psychosis: The role of subordination and shame. *Psychiatry Research*. 2014;217(3):177–184.