*ORIGINAL RESEARCH PAPER*

# Influence of demographic profile and symptoms on insight among people with schizophrenia

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**ABSTRACT**

**Introduction:** Insight facilitation is an integral step to achieve good treatment outcome in schizophrenia. Low insight always leads to poor drug adherence and treatment resistance. The study aimed to examine how demographic profile and symptoms influencing the insight among people with schizophrenia. **Methods and Materials:** Objectives were to assess socio-demographic variables, the symptoms, and insight among people with Schizophrenia and to understand the influence of those variables on the insight. The descriptive research design opted for the study. Sample size of the quantitative study was 53, and subjects were selected as per the study inclusion and exclusion criteria. The population of the study was patients who were attending the outpatient department of psychiatry at the National Institute of Mental Health and Neuro Sciences (NIMHANS). **Results:** Age and age at the onset of illness were not associated with insight. Male participants had better insight compared to female participants. Persons with middle school or primary school education reported better insight than illiterate, graduates or professional graduates. Participants from the urban area had better insight than participants from the rural area. Insight and positive and negative symptoms were negatively correlated. **Conclusion:** The demographic factors and symptoms influence the insight among people with Schizophrenia. Hence such factors must be considered while insight facilitation for increasing the adherence to the treatment.

**Keywords:** Insight, schizophrenia, positive, negatives symptoms, age, gender, education, domicile

## INTRODUCTION

The global prevalence rate of poor insight among the people with schizophrenia (PWS) is 50% to 80%.[1,2,3] The poor insight was related to a long duration of the disorder, frequent relapse and poor adherence with treatment.[4] If the person has a better level of awareness on benefits of treatment adherence, he/she will have a good prognosis, quality of life (QOL) and socio-occupational functioning.[4,5] Insight has a direct relationship with outcomes in the first episode of psychosis.[6] Lack of insight is associated with the prevalence of negative symptoms.[7]

Similarly, a lack of insight is associated with occupational dysfunction and increased the level of psychopathology and it is considered as a poor prognostic factor.[8] However, multiple domains of psychopathology are associated with impaired insight. Hence, any single strategy has modest utility. The literature on medication adherence and insight have reported mixed findings, such as the patient's attitude of taking medication has no direct relationship to insight and good insight at the onset as a favourable prognostic factor. But it cannot be concluded that improving poor insight alone will lead to better outcomes.[8] Insight is the significant factor which influences the outcome of treatment among the persons with schizophrenia.[9]

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### Demography Symptoms and Insight

Insight is independent of many clinical and demographic variables, such as gender, age and age at illness onset.[10] Influence of gender and socio-demographic variables on different dimensions of insight such as awareness and attributions of insight among the persons with schizophrenia has been studied earlier. Women reported poor awareness on thought disorder and alogia and a higher misattribution of apathy. The married women had been reported the deficit of insight dimensions such as awareness of early-stage illness, cognitive and positive symptoms. Among men, symptoms of dysfunction, higher age, other psychosis diagnosis and higher scores in positive and recitative symptoms explained deficits of insight dimensions.[11] There were changes in global insight within a psychotic episode, showed a different cluster of associations with socio-demographic, and clinical variables. Insight is a dynamic phenomenon. Insight was predicted by the socio-demographic variables such as years of education.[12] There was a relation between years of education and insight. Among the patients with higher levels of education reported having good insight.[13] Insight in the first episode gradually improved during early adulthood and eventually during the later life it declined gradually.[13]

The interpersonal factors associated with insight in schizophrenia. All associations were independent of personal factors such as age, gender, age at first hospitalization functioning and symptoms.[14] Insight was negatively correlated with neurocognitive deficits and symptoms of severity in chronic schizophrenia.[15] Patients in China had scored lower insight, their felt need for medication and benefits of medication, to stabilize the overall severity of schizophrenia symptoms; Chinese culture was more heavily stigmatized towards psychotic patients.[16]

### Insight and Outcome of Treatment

The three dimensions of insight namely awareness of the illness, the attitude towards treatment and social consequence influenced the medication adherence. Positive attitude towards treatment has been associated with adherence; negative attitudes have been related to non-adherence.[17] The insight into symptoms was significantly associated with depression.[18] Good awareness of mental illness had a positive relationship with good adherence among persons with mental illness. The interventions to enhance medication adherence may be more effective if they could focus on treatment-related attitude rather than on global insight into illness clinicians.[19.20]

The poor insight claims long duration of illness and increases the frequency of episodes and poor adherence. Ultimately persons with poor insight remain patient as socio-occupationally dysfunctional and if the patient is the head of the family, it affects the family. In this context, the researcher studied how demographic profile and symptoms influencing the insight among the PWS.

## METHODS AND MATERIALS

The descriptive research design was adopted for the study. Fifty-three persons with schizophrenia, who were seeking treatment from the outpatient department of NIMHANS, were selected by purposive sampling method. Those who are above the age of 18 years and below 60 years who are suffering from schizophrenia based on the International Classification of Disorders (ICD-10). The excluded subjects those who were not interested and those who did not have another significant family member as an informant at the time of recruitment into the study.

Demographic and a brief clinical profile was collected with the help of a semi-structured proforma, few items were taken from Kuppuswami Socioeconomic Status Scale to understand the demographic background.[21] The Schedule for Assessing Insight-Expanded Version **(**SAI-E**)** schedule was used to assess the insight.[22,23] It is used widely and consists of 11 items on awareness of core symptoms, emotional/psychological changes and difficulties resulting from the mental health condition. For measuring psychopathology the Scale for Assessment of Positive Symptoms (SAPS) with the sub-scales hallucinations, delusions, positive formal thought disorder and bizarre behaviour was used.[24] Scale for Assessment of Negative Symptoms (SANS) used to fetch negative symptoms under five heads, each assessing differs group of negative symptoms on a six-point scale. Each of these symptoms is assessed individually. This study assessed the sub-sections: affective blunting and anhedonia or asociality.

Statistical analysis performed in this study includes frequency distribution, averages, mean and standard deviation (SD). Spearman's Correlation test was used to understand the univariate characteristics of the independent and dependent variables. Data were not normally distributed. Hence non-parametric tests were used. Mann Whitney U test and Kruskal Wallis test used to see the association between the socio-demographic variables and negative and positive symptoms.

Approval was taken from the institutional ethics committee of the NIMHANS. Informed consent of the persons with schizophrenia was collected before data collection.

## RESULTS

The mean age of the participants was 38.05 with SD=7.79. Mean age at the onset of schizophrenia among participants was 28.87 with SD= 7.83.

**Table 1 Demographic profile of the participants**

| Variables | Frequency | Percent |
|---|---|---|
| Unmarried | 19 | 35.8 |
| Married | 29 | 54.7 |
| Separated | 3 | 5.7 |
| Widowed | 2 | 3.8 |
| Living Alone | 2 | 3.8 |
| Nuclear Family | 28 | 52.8 |
| Extended Family | 14 | 26.4 |
| Joint Family | 9 | 17.0 |
| Hindu | 40 | 75.5 |
| Muslim | 6 | 11.3 |
| Christian | 7 | 13.2 |
| Had Hospitalization | 23 | 43.4 |
| Never had hospitalization | 30 | 56.6 |

Among 53 participants, 19 (35.8%) of them were unmarried and 29 (54.7%) were married. Similarly, three (5.7%) of them had separated from their spouse and two-person lost their spouse due to their death. Among 53 participants, two persons were living alone either in orphanage home or in a hostel. Majority of the participants (n=28, 52.8%) were from nuclear families 14 (26.4%) were from extended families. Nine of them (17%) were from joint families. Among 53 participants 40 (75.5%) of them belonged to the Hindu religion, 6 (11.3%) of participants were from Muslim religion and seven of them (13.2%) were Christians. Among 53 participants, the majority of them (n=30, 56.6%), did not have hospitalization. Other 23 (43.4%) participants had received in-patient care at least once after the onset of illness.

**Table 2 Correlation between insight & symptoms**

| Variables | Insight |
|---|---|
| Age | -.149 |
| Age at onset of schizophrenia | -.098 |
| Hallucinations | -.457** |
| Delusions | -.512** |
| Bizarre behaviour | -.550** |
| Formal Thought Disorder | -.463** |
| Affective Flattering or Blunting | -.524** |
| Alogia | -.469** |
| Avolition-Apathy | -.274* |
| Anhedonia | -.463** |

*p<0.05, **p<0.01

The *Spearman's rho* has been calculated to find the association between insight, and age, age at onset, and positive and negative symptoms since data was not a normal distribution. There was no association found between insight and age or age at the onset of the disorder. But insight and positive and negative symptoms were negatively correlated. Hence those who had a high score in scales to assess positive and negatives symptoms had less insight. Correlation of insight with symptoms of schizophrenia were hallucination ($r_s$=-.457, P<0.01), delusions ($r_s$=-.512, *P*<0.01), bizarre behaviour ($r_s$= -.55, *P*<0.01), Positive formal though disorder ($r_s$=-.463, *P*<0.01), affective flattening or blunting ($r_s$= -.524, *P*<0.01), alogia ($r_s$=-.469, *P*<0.01), avolition-apathy ($r_s$=-.2747, *P*<0.05), and anhedonia ($r_s$= -.463, P<0.01).

The Mann-Whitney U test indicated that insight was more among male compared to female. The difference was statistically significant (*p*=0.045); insight was more among urban participants compared to rural. The difference was statistically significant (*P*= 0.013). The Kruskal Wallis test indicated that insight was more among participants with middle school or primary school level education in compared to professionally educated participants. The difference was statistically significant (*P*= 0.007).

**Table 3 Demographic Variables and Insight**

| Variables | Mean | SD | Median | P- Value |
|---|---|---|---|---|
| Male | 16.3 | 4.7 | 18 | 0.045 |
| Female | 13.2 | 5.4 | 13 | |
| Professional Course | 11.72 | 5.69 | 10.50 | 0.007 |
| Graduate | 10.66 | 5.85 | 13.00 | |
| Intermediate or diploma | 15.92 | 4.6 | 17.00 | |
| High school certificate | 13.58 | 5.54 | 14.00 | |
| Middle school certificate | 20.00 | .00 | 20.00 | |
| Primary school certificate | 18.27 | 1.42 | 18.00 | |
| Rural | 13.15 | 5.44 | 14.00 | 0.013 |
| Urban | 16.65 | 4.5 | 18.00 | |

## DISCUSSION

In the present study the influence of the demographic profile and symptoms on insight among the persons with schizophrenia were closely observed. The poor insight claims long duration of illness and poor adherence. Fifty-three persons with schizophrenia participated in the study. The minimum age was 24 and the maximum age was 58 and the mean age was 38.6. Among 53 participants, 49.1% of them were males and 50.9% were females. Among 53 participants, the majority of them did not have hospitalization after the onset of illness.

Insight was predicted by the socio-demographic variables such as age in previous study.[11] In this study age is not associated with insight. The insight also is not associated with the marital status among the persons with schizophrenia in this study. A similar result was reported, by another study.[4] Male participants had reported better insight than female participants. In an original article,[9] reported that insight is not related to gender or levels of education and they found an association between gender and insight. Among 53 participants, two persons were living alone either in orphanage home or in a hostel. Majority of the participants were from nuclear families.

Specifically, one study reports that urban birth is associated with an increased risk of schizophrenia.[25] The cause of the schizophrenia and association remains unclear, and may relate to social deprivation, migration, infections, stress, or interferes between genetic vulnerability and urban environment. In this study participants from the urban area had better insight than participants from a rural area. Similarly contrary to other studies, persons with middle school or primary school education reported better insight that graduates or professional graduates.

The Spearman's rho has been calculated to find the association between insight and age, age of onset and positive and negative symptoms. There was no association is found between insight and age or age at the onset of the disorder. But insight and positive and negative symptoms were negatively correlated. Hence those who had a high score in scales to assess positive and negatives symptoms had less insight. Similarly, many studies have reported that the severity of symptoms is negatively associated with insight.

### Limitations of the study

This is a cross-sectional study with a relatively small sample size and non-randomly sampling. Data is mainly collected from only PWS. It would have been more appropriate to include the assessment of functioning with the help of primary caregivers. Limited time for seeking informed consent and collection of data was a major challenge in this study.

## CONCLUSION

Findings from this study indicate that there is a need to plan individualized psychoeducation sessions after considering the demographic background and symptoms of the people with schizophrenia. Similarly, individuals who are hailing from the rural area should be given special attention to sensitize about the illness to ensure better insight. Since positive and negative symptoms of schizophrenia have a strong negative association with insight; those who are symptomatic are likely to stop the medication. Involvement of caregivers is significant in treatment adherence. Future studies may further explore how rural and female persons with schizophrenia lack insight compared to male and urban PWS.

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