

Prevalence of Depression and Suicidality in Schizophrenia - A Cross Sectional Study

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Abstract

Background: Schizophrenia is a major mental illness with outcomes ranging from complete recovery to severe disability. Suicide is the most devastating outcome of schizophrenic illness. Around 25% of patients with schizophrenia suffer from comorbid depression. Hence, this study was conducted to find out the prevalence of suicidal ideation and its associated factors among schizophrenia patients and to determine the association between depression and suicidal ideation.

Aim: The aim of the study was to study the prevalence of depression and suicidality in schizophrenia.

Methodology: This was a cross-sectional study of 100 patients with schizophrenia carried out at the Institute of Mental Health, Chennai. Study tools used were semi-structured pro forma which included the social-demographic questionnaire, Calgary Depression Scale for Schizophrenia, and Positive and Negative syndrome scale (PANSS).

Results: About 11 and 23 participants were found to be having suicidal ideation and depression, respectively. Marital status, educational status, insight, and past suicide attempts were significantly associated with the presence of suicidal ideation with $P = 0.015, 0.001, 0.019,$ and $0.001,$ respectively. PANSS score ($P = 0.001$) and prevalence of depression ($P = 0.001$) were significantly higher among patients with suicidal ideation.

Conclusion: Individuals suffering from schizophrenia are at high risk for making suicidal attempts, when accompanied by depressive symptoms and psychiatrists must intervene aggressively and early. More attention should be reserved for the high-risk group which includes those with a history of suicidal attempts and those having an insight into their illness.

Key words: Calgary Depression Scale for Schizophrenia score, Depression, Schizophrenia, Suicidal ideation

INTRODUCTION

Schizophrenia is a severe mental illness with outcomes ranging from complete recovery to severe disability. Suicide is the most devastating outcome of schizophrenic illness.^[1] Individuals with schizophrenia are at higher risk of committing suicide, with around 5% completing the act and about 20% or more making at least one attempt at some point in their lifetime.^[2]

The risk of suicide is increased near the onset of illness and remains high during the initial years of treatment

and declines over time.^[3] The risk factors include younger age at symptom onset, good premorbid functioning, high expectations from life, and awareness that lives expectations are unlikely to be met, awareness of being mentally ill, and poor drug adherence.

Male gender, unmarried status, living alone, being unemployed, and access to lethal means are also risk factors.^[4] Other factors with robust evidence of high risk of suicide were previous depressive disorders, past suicide attempts, fear of mental disintegration, poor drug compliance, and recent loss.^[5]

Around 25% of patients with schizophrenia suffer from comorbid depression. It is associated with higher impaired functioning, increase relapse rate, frequent hospitalization, and suicide.^[6]

In the study, we have tried to find the difference between schizophrenia with suicidal ideation and without; in

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search of possible risk factors for suicide and to establish the relation with comorbid depression. This study was conducted with the following objectives: To find out the prevalence of suicidal ideation and depression among the individuals with schizophrenia on follow-up in outpatient department for 6 months, to compare the clinical and social demographic profile of patients suffering from schizophrenia with and without suicidal ideation and to study the relationship between depression and suicide ideation in those individuals.

Aim

The aim of the study was to study the prevalence of depression and suicidality in schizophrenia.

METHODOLOGY

This was a cross-sectional study carried out at the Institute of Mental Health, Chennai, among patients suffering from schizophrenia aged between 18 and 60 years and who have been under treatment for at least 6 months. Patients with comorbid major psychiatric illness, substance abuse, patients who need urgent medical intervention and non-consenting, non-cooperative patients were excluded from the study. About 100 patients were selected by consecutive sampling.

Study tools used were semi-structured proforma to include the social-demographic data, family history, duration of illness, and other details pertinent to the study. Clinical interview for diagnosis of schizophrenia was made using International Classification of Diseases version 10 criteria. Positive and negative syndrome scale (PANSS) is a rating scale used for measuring symptom severity of patients with schizophrenia. Positive symptoms refer to an excess or distortion of normal functions (for example, delusions and hallucinations). Negative symptoms represent a diminution or loss of normal function. The positive scale includes seven items (minimum score of 7 and a maximum of 49). The items included are delusions, conceptual disorganization, hallucinations, grandiosity, hyperactivity, suspiciousness/persecution, and hostility. The negative scale again includes seven items with a minimum score of 7 and maximum score of 49. The scale includes the following items blunted effect, emotional withdrawal, poor rapport, passive/apathetic social withdrawal, stereotype thinking, lack of spontaneity, and flow of conversation, difficulty in abstract thinking. General psychopathology scale includes 16 in which the 12th item is used to grade insight. PANSS gives a total score minimum of 30 and a maximum of 210. We evaluated the patients for depressive symptoms based on ICD 10 diagnostic criteria for a depressive episode. Those who were found to be meeting the criteria for depressive episodes as

per ICD 10 were given the Calgary depression rating scale for schizophrenia (CDSS). It has nine items which are rated from 0 to 3. The CDSS score is obtained by adding each of the item scores. A score above six has 82% specificity and 85% sensitivity for predicting the presence of a depressive episode. The scale has good construct validity and both internal and inter-rated reliability. Suicidal ideation was assessed with scale for suicidal ideation (SSI).

Ethical approval was obtained from the ethics committee of the Madras Medical College, Chennai. Informed written consent was obtained from the participants in their mother tongue. The confidentiality of the participants was assured.

Data were entered and analyzed using IBM SPSS software version 20. Descriptive statistics such as percentages and mean were used. The analysis was done using the Chi-square test and *t*-test. $P < 0.05$ was taken as statistically significant.

RESULTS

Among the 100 consecutive individuals with schizophrenia who had come for regular follow-up and were the study population, 11% were found to have suicidal ideation [Figure 1].

Figure 2 shows that 23% of the individuals with schizophrenia were found to meet the criteria for depression.

Marital status, educational status, insight, and past suicide attempts were significantly associated with the presence of suicidal ideation with $P = 0.015, 0.001, 0.019,$ and $0.001,$ respectively [Table 1]. PANSS P score was significantly higher ($P = 0.001$) in those patients who had suicidal ideation (18.8182 ± 10.11) than those who were not having suicidal ideation (12.54 ± 5.28) [Table 2].

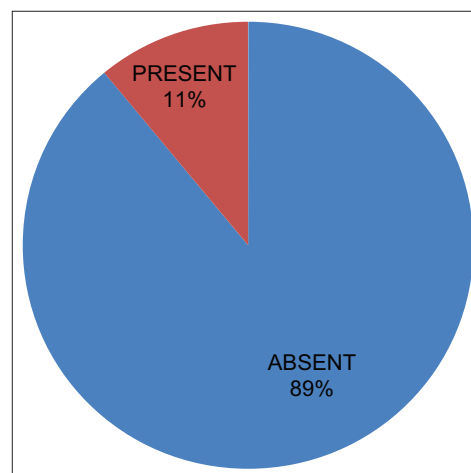


Figure 1: Suicidal ideation in the study population

Table 3 shows that the prevalence of depression higher in patients with suicidal ideation (60.9%) as compared to

those without suicidal ideation (39.1%) and it was found to be statistically significant ($P < 0.001$).

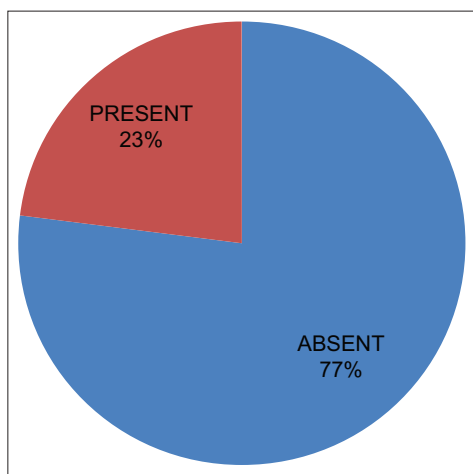


Figure 2: Depression in the study population

Table 1: Association of suicidal ideation with selected variables of interest

Variables	Suicidal ideation		Total	P value
	Absent	Present		
Age group (years)				
<21	1	0	1	0.220
21–30	12	1	13	
31–40	20	6	26	
41–50	30	3	33	
51–60	26	1	27	
Sex				
Female	34	2	36	0.192
Male	55	9	64	
Marital Status				
Married	36	0	36	0.015
Separated	28	4	32	
Single	25	7	32	
Education				
Graduate	13	5	18	0.001
Illiterate	6	0	6	
Primary	57	1	58	
Secondary	13	5	18	
Occupation				
Employed	27	2	29	0.402
Unemployed	62	9	71	
Duration of illness (years)				
0–5	22	2	24	0.081
5–10	15	5	20	
Above 10	52	4	56	
Drug complications				
Good	76	7	83	0.070
Poor	13	4	17	
Insight				
Absent	43	3	46	0.019
Partial	25	1	26	
Present	21	7	28	
Family history				
Absent	54	5	59	0.331
Present	35	6	41	
Past suicide attempts				
Absent	75	3	78	<0.001
Present	14	8	22	

DISCUSSION

The role of various demographic variables in suicidal behavior among those with schizophrenia has given contrasting results across several studies. Young males suffering from schizophrenia have been consistently found to be at a higher risk for suicide. Tsuang reported lesser suicide risk among females suffering from schizophrenia.^[7] In our study, we could not establish that gender to be associated with suicidal ideation among individuals with schizophrenia.

Unemployment is reported in various studies to be a risk factor for suicidal ideation among those with schizophrenia. Nine of the 11 individuals with suicidal ideation, in our study, were unemployed but compared to the individuals without suicidal ideation; there was no statistically significant difference in this regard. The results of this study were similar to the ones by Appleby *et al.* and Harkavy which found the role of unemployment to be overstated.^[8]

According to the study published by Radomsky *et al.*, being single, separated, or divorced did not appear to confer a higher risk for suicidal ideation in psychosis.^[9] But this result was in contrast to several other studies which state that majority of the suicide among schizophrenia were committed by those who were single or separated. Our study also reported a significant association between marital status and suicidal ideation among patients with schizophrenia. Poor family support and social isolation are considered to be risk factors for suicide in schizophrenia.

Table 2: Association of PANSS score with suicidal ideation

Suicidal ideation	n	Mean	SD	Std. error mean	t value	P value
PANSS P score						
Present	11	18.8182	10.10760	3.04756	3.300	0.001
Absent	89	12.5393	5.27872	0.55954		
PANSS N score						
Present	11	12.6364	3.58532	1.08102	0.725	0.470
Absent	89	14.5281	8.53481	0.90469		

PANSS: Positive and negative syndrome scale

Table 3: Association of depression with suicidal ideation

Calgary depression scale for schizophrenia		Suicidal ideation		Total	P value
		Absent	Present		
Absent	Count	75	2	77	<0.001
Present	Count	14	9	23	

In our study, 11 of the 11 individuals with suicidal ideation were found to be living in a nuclear family-type of setting.

Both prominent delusions and persistent hallucination have been reported to be associated with a higher risk for suicide in schizophrenia. A study done by Kaplan and Harrow also found that positive symptoms of schizophrenia correlated with suicidal behavior.^[10] Our results were similar to those noted in various studies which report that suicidal behavior in schizophrenia was related to the severity of the illness, especially the positive symptoms.^[11]

Most of the studies have not established a significant association between suicidal ideation and negative symptoms^[12] similar to the findings in our study.

Several studies have reported depressive symptoms to be strongly associated with suicidal behavior among patients with schizophrenia. Kuo *et al.*, 2005, reported that depressive symptoms even during the residual phases of schizophrenia to be related to higher suicidal ideation.^[13] All these have emphasized that feelings of hopelessness as one of the major factors related to suicidal attempts among individuals with schizophrenia. The results of our study also came to the same conclusion. There was a strong and significant relationship between the presence of depressive symptoms and suicidal ideation. The majority was males belonging to the 31–40 years age group, single or separated, with education levels up to secondary levels or was graduates and was unemployed. Most of them were having good insight into their illness, had a family history of psychiatric illness, and were living in a nuclear family.

Just after discharge from the hospital, patients with schizophrenia may experience new adversities or have to return to ongoing difficulties. Moreover, as a result they have become dejected and experienced feelings of hopelessness and helplessness. They eventually reach a depressed state and later act on suicidal ideas. Impulsive acts are also common in schizophrenia, where the individuals were found to have a low threshold for tolerance. Nearly one-third of those with the history of suicide attempts in our study attributed depression as the reason behind their attempt.

Although reported to be a prominent contributory factor for suicidal attempts, hallucinations are the leading factors for suicidal attempts only in a very small proportion in our study. Command hallucinations have been found to be rare in both attempted and completed suicides.^[14] Harkavy also reported that individuals with schizophrenia who are already at risk for suicide (depressive features and past suicidal attempts) may be at an increased risk for suicidal attempts while experiencing command hallucinations.

The notion that better insight into the illness may be associated with greater suicidal behavior is supported by the study done by Amador *et al.*^[15] They have also stated that awareness in patients about the negative symptoms and delusions were associated with suicidal thoughts. Contrary to expectations, general awareness of suffering from a mental disorder did not predict suicidal tendencies. In our study, 7 of 11 individuals with suicidal ideation had good insight into their illness. There are also chances for more than one factor operating in an individual at the time of suicide attempt (for example, individual getting depressed due to persistent hallucinations and attempting suicide) that was our conclusion while we evaluated the reasons behind the past suicide attempts.

Individuals suffering from schizophrenia are at a high risk of making suicidal attempts, especially when accompanied by depressive symptoms. Psychiatrists must be wary of this fact and should intervene aggressively and early. More attention should be reserved for the higher risk group, which includes those with a history of suicidal attempts and those having an insight into their illness.

The study had the following limitations. As this study was conducted in a tertiary care government hospital, the sample population cannot be considered representative of the illness. Certain variables such as socio-economic status, educational, and employment status were not adequately represented. Since it is a cross-sectional study in which each individual was assessed over a single session, it is possible that some of them might have minimized the symptoms of depression and suicidal ideation. Recall bias could have influenced the patients recollecting details regarding past suicidal attempts. Only the individuals who have survived the past suicidal attempts were analyzed. To analyze the entire suicidal behavior, completed suicide also needs to be studied.

CONCLUSION

Clinicians should be aware of the protective factors. They include adherence to therapy, family support for affected individuals, and against the stigma that arises from the illness, prompt and appropriate antidepressive therapy, simple and hebephrenic subtypes of schizophrenia, the possibility of communicating the intent to commit suicide, and negative family history for suicide. Atypical antipsychotics have also proven to be a protective factor. There should be regular sessions of family therapy following discharge from the hospital. Psychiatrists should also focus on state-dependent risk factors such as depression, substance abuse, social isolation, loss of faith in treatment, and psychotic symptoms rather than on trait-dependent risk factors such

as age, gender, socio-economic status, and marital status which are difficult to modify.

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