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FREQUENCY OF SUICIDAL IDEATION IN DIAGNOSED CASES OF SCHIZOPHRENIA

Original Research

Bushra Javed[1]*, Rizwan Taj[1], Aamina Danial[2]
[1]Department of Psychiatry, Pakistan Institute of Medical Sciences (PIMS), Islamabad, Pakistan.
[2]Department of Family Medicine, University of British Columbia, Canada, Pakistan.
Corresponding Author: Bushra Javed, Department of Psychiatry, Pakistan Institute of Medical Sciences (PIMS), Islamabad, Pakistan, bushraj31@gmail.com
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ABSTRACT

Background: Schizophrenia is a chronic psychiatric disorder associated with high morbidity and premature mortality, with suicide being a major contributor. Globally, 20% to 40% of individuals with schizophrenia attempt suicide at least once in their lifetime. Despite the severity of this concern, limited research has been conducted locally to assess the burden of suicidal ideation among individuals diagnosed with schizophrenia. This study aims to address this gap and support future preventive strategies and interventions.

Objective: To determine the frequency of suicidal ideation in patients diagnosed with schizophrenia presenting to a tertiary care hospital.

Methods: This cross-sectional study was conducted at the Department of Psychiatry, Pakistan Institute of Medical Sciences (PIMS), Islamabad, from July 5, 2024, to January 4, 2025. A total of 142 patients (68 males, 74 females), aged 18–60 years and diagnosed with schizophrenia per DSM-5 criteria, were enrolled through non-probability consecutive sampling. Patients with substance abuse, intellectual disability, or neurological disorders were excluded. Suicidal ideation was assessed using the Beck Scale for Suicidal Ideation, with a score of ≥7 taken as the cutoff. Demographic and clinical data were analyzed using SPSS version 26, with significance set at $p<0.05$.

Results: The mean age of participants was 38.00 ± 10.63 years, with 64.8% under 40 years of age. Females constituted 52.1% of the sample. A BMI above 25.0 kg/m² was observed in 44.4% of cases. Suicidal ideation was present in 33 patients (23.2%). Significant associations were found between suicidal ideation and BMI ($p = 0.032$) as well as profession ($p = 0.001$), while other variables showed no statistically significant correlation.

Conclusion: A substantial proportion of patients with schizophrenia reported suicidal ideation, particularly among those with higher BMI and salaried occupations. These findings highlight the need for targeted screening and intervention strategies to mitigate suicide risk in this vulnerable population.

Keywords: Beck Depression Inventory, Body Mass Index, Mental Disorders, Occupational Groups, Schizophrenia, Suicidal Ideation, Suicide Prevention.

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INTRODUCTION

Schizophrenia is a chronic and severely disabling mental disorder characterized by distorted thinking, perceptual disturbances, and disorganized behavior. Among its many clinical challenges, suicide stands out as one of the most tragic and preventable outcomes, contributing significantly to the reduced life expectancy observed in affected individuals. Studies estimate that individuals with schizophrenia have a lifetime suicide risk ranging between 9% and 13%, with an overall life expectancy shortened by approximately 10 to 25 years (1). Suicidal ideation affects a substantial proportion of this population, with prevalence estimates varying between 11% and 50%, and suicide attempt rates reported to range from 20% to 40% (2). Despite advances in psychiatric care, suicide remains a persistent and under-addressed threat in this population. The trajectory of suicidal behavior in schizophrenia is often shaped by multiple biopsychosocial factors. A large proportion—up to 60%—of suicides occur within the first decade following diagnosis, highlighting the critical importance of early intervention (3). Risk factors associated with suicidal behavior include untreated illness for prolonged periods, repeated hospitalizations, brief intervals post-discharge, personal or family history of mental disorders and suicide, co-occurring depressive symptoms, and the presence of positive symptoms such as hallucinations and delusions (4). Findings from a meta-analysis of 51 studies further emphasize the role of emotional despair, past suicide attempts, substance use, and psychosocial stressors in elevating suicide risk (5,6). Moreover, certain demographic attributes—such as younger age, male sex, and higher educational attainment—are independently associated with increased vulnerability (7).

Clinically, schizophrenia is marked by both positive symptoms, including hallucinations and delusions, and negative symptoms, such as apathy and social withdrawal. Positive symptoms, particularly auditory hallucinations, are frequently observed and may drive impulsive or command-directed suicidal behaviors (8,9). These psychotic features create unique vulnerabilities for suicide due to the overwhelming nature of distorted perceptions and disorganized thought processes. In a study by Chong BTW and colleagues, suicidal ideation was present in 29.3% of patients diagnosed with schizophrenia, further underscoring the magnitude of the problem (10,11). Despite the established global burden, local data on the prevalence and determinants of suicidal thoughts among individuals with schizophrenia remain scarce. This gap in literature limits the development of targeted prevention strategies tailored to regional socio-cultural contexts. Therefore, this study was conducted to evaluate the burden of suicidal ideation in individuals diagnosed with schizophrenia within the local population. The findings aim to inform mental health practitioners, policymakers, and researchers, offering valuable insights for future investigations and suicide prevention initiatives in schizophrenia.

METHODS

This cross-sectional study was conducted at the Department of Psychiatry, Pakistan Institute of Medical Sciences (PIMS), Islamabad, over a six-month period from July 5, 2024, to January 4, 2025. A total of 142 patients, both male and female, aged between 18 and 60 years and clinically diagnosed with schizophrenia, were enrolled through non-probability consecutive sampling. The diagnosis of schizophrenia was confirmed using the DSM-5 criteria, which requires the presence of at least two characteristic symptoms—delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior, and negative symptoms—persisting for a significant portion of a one-month period. Patients were excluded if they had neurological conditions such as meningoencephalitis or space-occupying lesions in the brain, a history of substance abuse, were currently taking antipsychotics, or were diagnosed with intellectual disability. The sample size was calculated using the WHO sample size calculator, based on an anticipated prevalence of suicidal ideation in schizophrenia of 29.3% (7), a margin of error of 7.5%, and a 95% confidence level. Ethical approval was obtained from the Institutional Review Board (IRB). Written informed consent was obtained from all participants after explaining the objectives and procedures of the study. Eligible patients were recruited from the outpatient psychiatric department, and interviews were conducted in a private and compassionate setting to ensure confidentiality and psychological comfort.

Data collection included documentation of demographic and clinical characteristics such as age, gender, body mass index (BMI), place of residence (urban or rural), educational level, occupational status, socioeconomic status, and duration of illness. Suicidal ideation was assessed using the Beck Scale for Suicidal Ideation (BSSI), with a score of ≥7 considered indicative of clinically significant suicidal thoughts (12,13). Under the scope of suicidal ideation, patients were asked about thoughts of ending life with or without actual plans or

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attempts, focusing particularly on the desire to die rather than on self-harm behavior. Data were analyzed using IBM SPSS Statistics version 24. Quantitative variables, including age, BMI, and duration of illness, were presented as means with standard deviations, while qualitative variables such as gender, residence, education, occupation, socioeconomic status, comorbidities, and presence or absence of suicidal ideation were reported as frequencies and percentages. To explore the association between suicidal ideation and demographic or clinical factors, post-stratification chi-square tests were applied, with a p-value <0.05 considered statistically significant.

RESULTS

The study included 142 participants diagnosed with schizophrenia. The mean age was 38.00 ± 10.63 years, and the mean body mass index (BMI) was 25.11 ± 1.01 kg/m². The average duration of complaints was 7.77 ± 2.64 weeks. A majority of participants were aged 40 years or below (n = 92, 64.8%), and females accounted for 52.1% (n = 74) of the total sample. BMI above 25.0 kg/m² was noted in 44.4% (n = 63) of patients, while 52.8% (n = 75) had a duration of complaints exceeding 7 weeks. Participants predominantly belonged to rural areas (57.0%) and had educational attainment up to matric or below (48.6%). Regarding occupation, 54.2% (n = 77) were salaried employees. Most of the sample reported poor socioeconomic status (58.5%), and comorbid conditions were present in 20.4% (n = 29). Suicidal ideation, as measured by a Beck Scale score of ≥7, was reported in 23.2% (n = 33) of participants. The prevalence of suicidal ideation was higher among individuals with BMI >25.0 kg/m² (31.7%) compared to those with BMI ≤25.0 kg/m² (16.5%), and this difference was statistically significant (p = 0.032). Similarly, suicidal thoughts were significantly more frequent among salaried individuals (33.8%) than those engaged in business (10.8%), with a p-value of 0.001. No significant association was found between suicidal ideation and variables such as age (p = 0.322), gender (p = 0.095), duration of illness (p = 0.172), comorbidities (p = 0.716), residence (p = 0.944), education level (p = 0.344), or socioeconomic status (p = 0.185).

Table 1: Descriptive statistics of study participants (n = 142)

Parameters	Mean	Std. Deviation
Age (years)	38.00	10.631
BMI (kg/m^2)	25.105	1.0075
Duration of complaints (weeks)	7.77	2.637

Table 2: Distribution of participants according to baseline characteristics and outcome variable (n = 142)

Parameters	Subgroups	Frequency	Percent
Age (years)	40 or below	92	64.8
	More than 40	50	35.2
Gender	Male	68	47.9
	Female	74	52.1
BMI (kg/m^2)	25.0 or below	79	55.6
	More than 25.0	63	44.4
Residence	Rural	81	57.0
	Urban	61	43.0
Education	No formal schooling	33	23.2
	Matric or below	69	48.6
	Above matric	40	28.2
Profession	Salaried	77	54.2
	Business	65	45.8
Duration of complaints (weeks)	7 or below	67	47.2
	more than 7	75	52.8
Comorbidities	Yes	29	20.4
	No	113	79.6
SES	Fair	59	41.5
	Poor	83	58.5
Suicidal Ideation	Yes	33	23.2
	No	109	76.8

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Table 3: Stratification of suicidal ideation with respect to various parameters (n = 142)

		Suicidal Ideation		Total	P value
		Yes	No		
Age(years)	40 or below	19	73	92	0.322
		20.7%	79.3%	100.0%	
	More than 40	14	36	50	
		28.0%	72.0%	100.0%	
Gender	Male	20	48	68	0.095
		29.4%	70.6%	100.0%	
	Female	13	61	74	
		17.6%	82.4%	100.0%	
BMI (kg/m^2)	25.0 or below	13	66	79	0.032
		16.5%	83.5%	100.0%	
	More than 25.0	20	43	63	
		31.7%	68.3%	100.0%	
Duration	7 or below	19	48	67	0.172
		28.4%	71.6%	100.0%	
	more than 7	14	61	75	
		18.7%	81.3%	100.0%	
Comorbidities	Yes	6	23	29	0.716
		20.7%	79.3%	100.0%	
	No	27	86	113	
		23.9%	76.1%	100.0%	
Residence	Rural	19	62	81	0.944
		23.5%	76.5%	100.0%	
	Urban	14	47	61	
		23.0%	77.0%	100.0%	
Education	No formal schooling	9	24	33	0.344
		27.3%	72.7%	100.0%	
	Matric or below	18	51	69	
		26.1%	73.9%	100.0%	
	Above matric	6	34	40	
		15.0%	85.0%	100.0%	
Profession	Salaried	26	51	77	0.001
		33.8%	66.2%	100.0%	
	Business	7	58	65	
		10.8%	89.2%	100.0%	
SES	Fair	17	42	59	0.185
		28.8%	71.2%	100.0%	
	Poor	16	67	83	
		19.3%	80.7%	100.0%	

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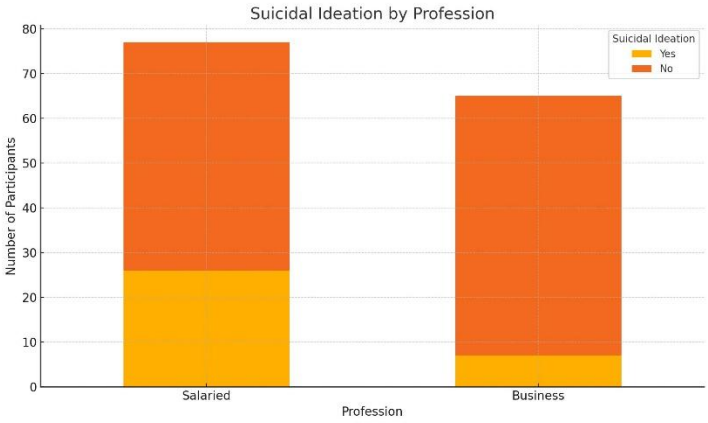

Figure 1 Suicidal Ideation by Profession

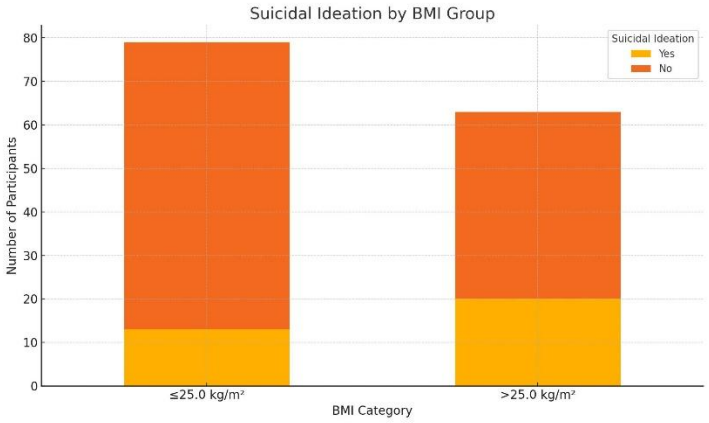

Figure 2 Suicidal Ideation by BMI Group

DISCUSSION

The present study found that 23.2% of individuals diagnosed with schizophrenia experienced suicidal ideation, as determined by the Beck Scale for Suicidal Ideation. This figure aligns closely with several previously reported findings, where suicidal ideation rates ranged between 20% and 40%, emphasizing the persistent and significant risk of suicide in this population (8,9). The higher frequency and severity of suicidal thoughts among male participants in this study further reinforce established evidence indicating that gender may influence suicide vulnerability in schizophrenia, particularly among younger, single males of certain demographic groups (14). Comparative analysis with existing literature reveals variability in reported prevalence, likely influenced by methodological differences, sample characteristics, and socio-cultural factors. While some studies reported rates as high as 37.6% (15), others estimated cumulative lifetime suicide probabilities of 4.9% to 6.8%, with suicide accounting for up to 22.3% of all schizophrenia-related deaths (16,17). Despite differences in findings, a consistent theme emerges—suicidal ideation and behavior are prominent and enduring concerns in schizophrenia and merit systematic attention. Studies have highlighted that contributing factors may include a history of previous suicide attempts, early post-diagnosis depression, substance use, and positive psychotic symptoms such as hallucinations and delusions (18,19). Notably, a significant number of patients who die by suicide have recent contact with healthcare professionals, underscoring missed opportunities for intervention (20).

This study contributes valuable data by addressing a regional gap in literature regarding the prevalence of suicidal thoughts among schizophrenia patients. The use of a validated psychometric tool and standardized diagnostic criteria adds methodological strength. Furthermore, the stratification of ideation by BMI and occupation yielded significant associations, indicating that physical health indicators and social determinants may intersect with psychiatric outcomes. However, certain limitations must be acknowledged. The cross-sectional design restricts the ability to draw causal inferences. The exclusion of patients on antipsychotics, although aimed at reducing treatment bias, may limit the generalizability of findings, as pharmacological therapy forms the core of schizophrenia management. Moreover, the absence of symptom severity assessment and lack of multivariate analysis reduce the depth of interpretability regarding contributing factors. Despite these limitations, the study underscores the critical need for targeted suicide prevention strategies in patients with schizophrenia, particularly in early phases post-diagnosis where risk is highest (21,22). The findings support the need for more robust community-based mental health services, routine screening for suicidal ideation, and integration of suicide risk management into individualized treatment plans. Future studies should incorporate longitudinal designs, consider symptom profiles and medication effects, and employ regression modeling to identify independent predictors of suicidal ideation. Broader population sampling and inclusion of qualitative variables may further illuminate the psychosocial dimensions influencing suicide risk. The enduring elevated risk of suicide in schizophrenia, as demonstrated across global and local contexts, affirms that suicide prevention must remain a central objective in psychiatric care. Comprehensive and proactive approaches that integrate early identification, psychosocial support, and evidence-based pharmacological management can significantly mitigate this preventable cause of mortality.

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Conclusion

This study underscores the significant burden of suicidal ideation among individuals diagnosed with schizophrenia, reflecting a pressing mental health concern that warrants proactive clinical attention. The findings revealed meaningful associations between suicidal thoughts and specific factors such as occupational background and elevated body mass index, suggesting these variables may contribute to increased vulnerability within this population. These insights emphasize the importance of routine suicide risk assessments, particularly for high-risk subgroups, and advocate for integrated interventions such as psychological support and weight management programs. By identifying key correlates, this research contributes to a more nuanced understanding of suicide risk in schizophrenia and supports the development of targeted, preventive strategies.

AUTHOR CONTRIBUTION

Author	Contribution
Bushra Javed*	Substantial Contribution to study design, analysis, acquisition of Data Manuscript Writing Has given Final Approval of the version to be published
Rizwan Taj	Substantial Contribution to study design, acquisition and interpretation of Data Critical Review and Manuscript Writing Has given Final Approval of the version to be published
Aamina Danial	Substantial Contribution to acquisition and interpretation of Data Has given Final Approval of the version to be published

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