RJNMSR
Review Journal of Neurological & Medical Sciences Review

Volume 3, Issue 4, 2025

SOCIO-DEMOGRAPHIC AND CLINICAL CORRELATES OF SCHIZOPHRENIA PREVALENCE: A CROSS-SECTIONAL ANALYSIS OF SYMPTOM PATTERNS AND RISK FACTORS IN A PAKISTANI PSYCHIATRIC COHORT

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DOI: https://doi.org/

Received	Accepted	Published
02 Aug, 2025	23 Aug, 2025	24 Aug, 2025

ABSTRACT

At Sarhad Hospital for Psychiatric Diseases in Peshawar, Pakistan, a six-month study from March to August 2018 explored the prevalence and characteristics of schizophrenia among 700 patients with various mental health conditions. Using DSM-IV criteria, we found that schizophrenia was the most common diagnosis, affecting 243 individuals (34.7%), followed by depression (26.1%), obsessive-compulsive disorder (10.0%), bipolar disorder (8.1%), and anxiety (7.9%). Most schizophrenia patients were male (76.5%), over 35 years old (40.7%), and uneducated (57.6%), with many being married (46.5%) or single (46.1%) and from middle-class backgrounds (71.2%). Financially, patients often relied on self-employment (24.3%) or family support. The onset of schizophrenia was most frequent within the first year or between 5–10 years. Clinically, positive symptoms like delusions (moderately severe in 4.1%) and hallucinations (moderately present in 5.3%) were prominent, while negative symptoms, such as blunted affect (severe in 1.6%) or passive social withdrawal (minimal in 39.9%), varied in intensity. Statistical analysis (SPSS, $p<0.05$) showed no significant link between predisposing factors and symptom severity (p-values: 0.4 for positive, 0.3 for negative, 0.5 for general symptoms), possibly due to cultural underreporting. These findings highlight schizophrenia's significant burden and call for targeted interventions to address its socio-demographic and clinical challenges in Pakistan.

1. INTRODUCTION

Schizophrenia is a Greek word meaning split mind. It is a particular type of psychosis that is characterized by inherent dysfunction of brain and is broadly characterized by fundamental and characteristic impairment of thinking, perceptions and affects that are inappropriate or blunted (Young, 1982). Clear consciousness and mental capacity are usually retained although certain cognitive deficits may develop in the course of time (Roy, 1995). It is one of the top twenty five leading causes of impairment worldwide (Ayusa-Mateous, 2013). Despite of its low-level prevalence, its health and socioeconomic burden has been marvelous, not only for patients but also for families, caregivers and society (Chong and Crow, 1980).

The schizophrenic symptoms include disorganized behavior, withdrawal, apathy and cognitive impairment, which lead to problems in occupational, social functioning and self-care. About 1% of the total population is struck by schizophrenia worldwide, whereas in Pakistan previous research conducted in 2008 have concluded a frequency of 1.5% of entire population that is suffering from this ailment (Akhtar, 2008). The relative frequency of schizophrenia affecting both men and women is equal. But in some cases it has been reported that onset is earlier in women as compared to men and tends to evolve between 15 to 40 years of age and mostly endure throughout the patient's lifetime. The etiology of schizophrenia is unknown, but indications suggest that genetic factors, early environmental influences like obstetrical complications and social factors like poverty have contributed a lot. Antipsychotic medications are the protagonist for managing schizophrenia. A variety of psychosocial treatments are also helpful like family intervention, cognitive-behavioral therapy for psychosis, supported employment, social skills training, assertive community treatment, psycho-education, self-management skills and embedded treatment of co-occurring substance abuse (Ablensky, 1992). The most essential psychopathological phenomena relevant to schizophrenia includes thought echo, thought broadcasting, thought insertion or withdrawal, delusional perception, delusions of control, hallucinatory voices commenting the patient in the third person, thought disorders and negative symptoms.

2. RESEARCH METHODOLOGY

2.1. Study Design

It was a cross sectional study in which we have evaluated and identified the frequency and clinical characteristics of patients suffering from schizophrenia according to Diagnostic and statistical manual of mental disorders, fourth edition (DSM-IV) for the period of six months at Sarhad hospital for psychiatric Diseases (SHFPD) Peshawar, Pakistan.

2.2. Patients and their History

The data we have presented in our research work is from Sarhad Hospital for Psychiatric Diseases (SHFPD) Peshawar, Pakistan (humans) that were patients suffering from all psychiatric diseases. This data wasa used for identifying the frequency and evaluating clinical characteristics of patients suffering from schizophrenia in relationship with socio-demographic characteristics like age, gender, region and socioeconomic aspects etc. All patients were recruited for the period of six months from March 2018 to August 2018 and before collecting data from them they were first asked to read and understand the consent form with the help of their attendants before they put their signatures.

2.2.1 Ethical Approval

This study was approved by the Ethical Committee of Abdul Wali Khan University Mardan (AWKUM). These patients were diagnosed and admitted to the psychiatric wards of Sarhad Hospital for Psychiatric Diseases (SHFPD) Peshawar, Pakistan. These patients were clinically evaluated by expert psychiatrists and psychologists by taking their history and clinical examinations.

2.2.2 Participants / Subjects Inclusion Criteria

In this study we have included patients above 18 years of age of both gender and of all socio-economic status suffering from any psychiatric disease reported to psychiatry out - patient department (OPD) at Sarhad

Hospital for Psychiatric Diseases (SHFPD) Peshawar, Pakistan.

2.2.3. Participants / Subjects Exclusion Criteria

Those patients have been excluded who did not want to participate and refused to sign the consent form that were given to them before collecting information including breast feeding and pregnant women because of culture constraints.

2.2.4. Study Procedure

Objective of the study was explained to every patient and verbal / informed consent was taken from them.

All filled / completed Questionnaire was evaluated statistically and data interpreted.

2.2.5. Development/ Designing of a Questionnaire

Appropriate self made demographic questionnaire was developed to obtain personal information. It is used to identify socio-demographic and socio-economic parameters that could be responsible for the onset of schizophrenia and a validated Positive and Negative Syndrome Scale (PANSS) was used to evaluate and identify the clinical features and characteristics of schizophrenia.

2.2.6. Demographic Form

Appropriate self made semi structured questionnaire that is mentioned in Table 1 was developed to obtain patient's demographic information and to identify the factors responsible for the onset of schizophrenia. Table 1 represents a general format of the demographic form used.

Table 1: General Information About Patients

DEMOGRAPHIC FORM
Age
Gender
Address
Onset
Education
Marital Status
Region
Predisposing Factors
History of Present Illness
Family History
Financial History
Occupational History
Children you have
Source of income
Review of system
Laboratory Investigations
Diagnosis
Past Medication History
Present Drugs Prescribed

2.2.7. Positive and Negative Syndrome Scale (PANSS) Form

This scale has been used by researchers worldwide, as it is a detailed assessment tool covering all clinical symptoms and characteristics relating to schizophrenia. Data collected from this assessment procedure are applied to the Positive and Negative Syndrome Scale ratings. Each of the 30 items is attended by a specific definition as well as elaborated for all seven rating points. These seven points symbolize the growing levels of abnormal psychology.

2.2.8. Consent Form

Consent form that was translated verbally into native language (Pashto) was distributed

among the patients and their families in order to get permission for data collection.

2.2.9. Sample Size

It was a cross-sectional study and sample size was calculated from all reported patients of both gender and of all socio-demographic features suffering from general psychological diseases including schizophrenia that was reported to Sarhad Hospital for Psychiatric Diseases (SHFPD) Peshawar, Pakistan. A total of seven hundred (700) human subjects were included in which two hundred and forty three (243) patients were suffering from schizophrenia. All subjects (patients) were between the age of 18 to 70 years (male and female).

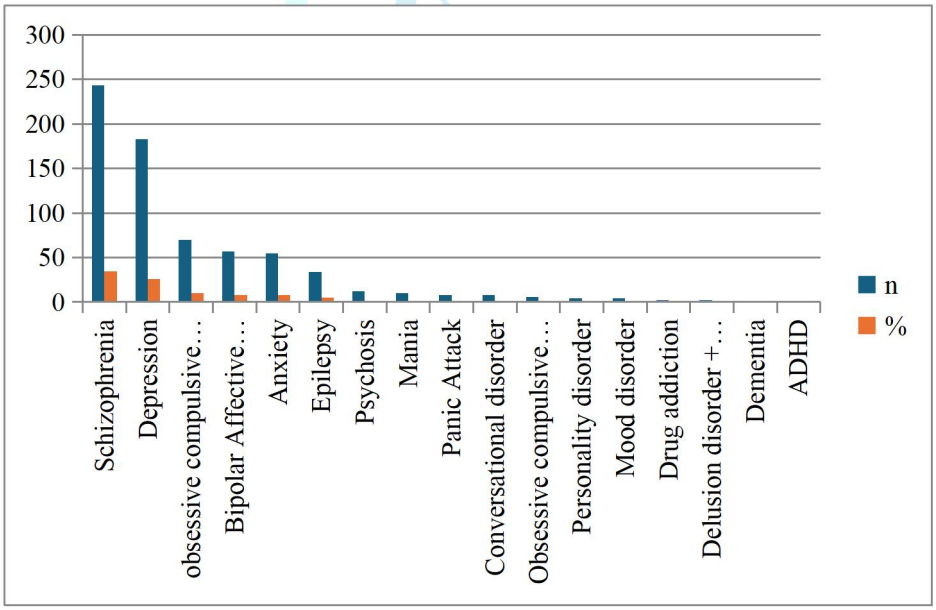
2.2.10. Statistical Analysis

All data analysis was performed using latest version of statistical package for social sciences (SPSS®) keeping significant level P< 0.05. Analysis of descriptive statistics was conducted on the relevant variables and was computed as mean and frequencies i.e. count and percentages. Students t-test was used to compare and finding relationship between the socio-demographics parameters like age, gender, region and socio-economic aspects etc. with schizophrenia.

3. RESULTS

3.1. Frequency of Schizophrenia

The study group consist of seven hundred patients (n=700) for the period of six months. Among these seven hundred patients that were diagnosed according to DSM-IV criteria, the most frequently diagnosed medical illness was schizophrenia [n=243] 34.7%. Among other psychiatric disorders depression was the second most frequent psychiatric disorder [n=183] 26.1% followed by obsessive compulsive disorder [n=70] 10.0%, bipolar affective disorder [n=57] 8.1% and anxiety [n=55] 7.9%. Personality disorder were seen in few patients [n=4] 0.5%. Only [n=2] 0.2% patients were drug addicted. Dementia was least reported that is [n=1] 0.1% as mentioned in the below:



3.2. Socio-Demographic Characteristics Associated With Schizophrenia

The socio-demographic characteristics associated with schizophrenic patients [n=243] according to DSM-IV criteria has been presented in Table 4. Majority of the patients were male [n=186] 76.5%. Most of them falls above thirty five years of age [n=99] 40.7%, and less number of patients were between 25-35 years of age [n=61] 25.1%. Majority of them were uneducated [n=140] 57.6%, followed by primary education [n=53], secondary education 14.0%, informal education [n=1] and post graduation [n=15] 6.2% as mentioned below in the table 2.

Table 2: Socio-Demographic Correlates

Demographics		Frequency(n)	Percentage (%)
Age(Years)	18-25	83	34.2
	25-35	61	25.1
	>35	99	40.7
Gender	Male	186	76.5
	Female	57	23.5
Education	Uneducated	140	57.6
	Primary education	53	21.8
	Secondary education	34	14.0
	Informal education	1	0.4
	Graduation /Post graduation	15	6.2
Region	Rural	155	63.8
	Urban	88	36.2
Occupation	Employed	118	48.6
	Unemployed	125	51.4
Marital status	Single	112	46.1
	Married	113	46.5
	Divorced / Separate	18	7.4
Children	No	152	62.6
	Yes	91	37.4
Financial	Higher	29	11.9
	Middle	173	71.2
	Lower	41	16.9
Source of Income	Nil	5	2.1
	Self	59	24.3
	Father	53	21.8
	Brother	29	11.9
	Husband	25	10.3
	Son	19	7.8
	Others	53	21.8

Significant number of patients were married 46.5% [n=113] followed by single 46.1% [n=112] and divorced/ separated 17.4% [n=18] as mentioned below in

Financially majority of them belongs to middle class family [n=173] 71.2% and most of them were self employed [n=59] 24.3% followed by father's support [n=53] 21.8% and brother support [n=29] 11.9% as mentioned in the above table 2.

The percent onset of duration of schizophrenia shown in figure 2, indicated highest percent at less than one year followed by 5-10 years .

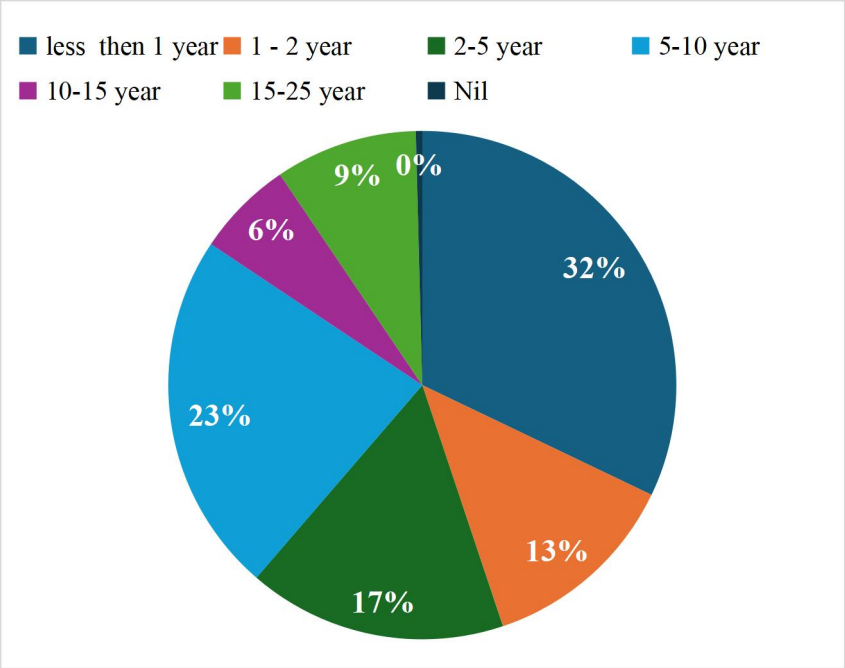


Figure 3: Duration of onset of Schizophrenia (%)

3.6. Clinical Characteristics Of Schizophrenia

The positive symptoms associated with schizophrenic patients [n=243] are mentioned in Table 3. Among them delusions were seen as moderately severe in 4.1% patients, conceptual disorganization were absent in 29.6% patients, hallucinatory behavior were moderately present in 5.3% patients. Severity of suspiciousness and hostility were seen in 1.6% patients.

Table 3: Positive Symptoms Of Schizophrenia

Positive	*Absent*	*Minimum*	*Mild*	*Moderate*	*Moderately severe*	*Severe*	*Extreme*
Delusions	30.5%	28.8%	31.3%	4.5%	4.1%	0.0%	.8%
Conceptual Disorganization	29.6%	23.5%	36.6%	4.9%	3.7%	.8%	.8%
Hallucinatory Behavior	25.5%	21.0%	45.3%	5.3%	2.1%	0.0%	.8%
Excitement	33.7%	30.0%	24.3%	9.9%	1.2%	0.0%	.8%
Grandiosity	41.6%	33.3%	19.8%	3.3%	0.0%	1.2%	.8%
Suspiciousness	46.5%	18.5%	24.3%	6.2%	2.1%	1.6%	.8%
Hostility	40.7%	16.0%	30.5%	8.6%	.8%	1.6%	1.6%

The negative features associated with schizophrenic patients [n=243] are mentioned in Table 4. Among them blunted affect were severely seen in 1.6% patients, emotional withdrawal were mildly seen in 2.5% patients, poor rapport were absent in 25.1% patients, passive social withdrawal were minimum in 39.9% patients and stereo type thinking seen moderately in 1.2% of studied group.

Table 4: Negative Symptoms Of Schizophrenia

Negative Symptoms	Absent	Minimum	Mild	Moderate	Moderately severe	Severe	Extreme
Blunted Affect	27.2%	19.8%	39.5%	6.6%	5.3%	1.6%	0.0%
Emotional Withdrawal	14.4%	44.4%	34.2%	3.7%	2.5%	0.0%	0.8%
Poor Rapport	25.1%	32.9%	23.5%	14.8%	1.6%	1.2%	0.8%
Passive Social Withdrawal	25.5%	39.9%	27.2%	5.3%	1.2%	0.4%	0.4%
Difficulty in Abstract Thinking	25.9%	37.9%	20.6%	14.0%	0.8%	0.0%	0.8%
Lack Of Spontaneous Conversation	30.5%	35.4%	19.3%	13.6%	1.2%	0.0%	0.0%
Stereotype Thinking	39.1%	38.7%	18.9%	1.2%	0.8%	0.4%	0.8%

The general psychiatric symptoms associated with schizophrenic patients [n=243] are mentioned in Table 5.

Table 5: General Symptoms Of Schizophrenia

General	Absent	Minimum	Mild	Moderate	Moderately severe	Severe	Extreme
Somatic Concern	37.0%	32.9%	21.8%	8.2%	0.0%	0.0%	0.0%
Anxiety	39.1%	20.2%	18.9%	14.4%	5.8%	8%	8%
Guilt Feelings	38.3%	23.9%	20.6%	12.3%	3.3%	8%	8%
Tension	17.3%	26.3%	34.2%	15.6%	5.3%	4%	8%
Mannerism and Posturing	31.7%	27.6%	29.6%	8.6%	2.5%	0.0%	0.0%
Depression	20.2%	21.8%	30.9%	21.8%	4.1%	8%	4%
Motor Retardation	17.3%	56.4%	18.9%	3.7%	1.6%	1.6%	4%
Uncooperativeness	34.2%	34.2%	23.5%	6.6%	1.6%	0.0%	0.0%
Unusual Thought Content	13.6%	30.5%	44.0%	9.5%	2.5%	0.0%	0.0%
Disorientation	32.5%	21.0%	35.8%	7.0%	3.7%	0.0%	0.0%
Poor Attention	14.8%	34.6%	30.9%	11.5%	6.6%	1.6%	0.0%
Lack of Judgment and Insight	14.0%	25.9%	43.6%	8.2%	5.8%	2.5%	0.0%
Disturbance of Violation	15.6%	31.7%	40.7%	6.6%	4.5%	8%	0.0%
Poor Impulse control	19.3%	19.8%	48.6%	4.9%	5.8%	1.6%	0.0%

Preoccupation	15.6%	29.2%	33.7%	16.9%	3.7%	.8%	0.0%
Active Social Avoidance	14.4%	25.1%	36.6%	14.0%	8.2%	.8%	.8%

The table 6, from the research outlined how certain factors might affect schizophrenia symptoms, dividing them into positive, negative, and general categories. It listed the number of patients, their average symptom scores, the variation in those scores, and p-values to assess significant differences. For positive symptoms, 78 patients with these factors had an average score of 15.08 (variation of 4.34), while 165 without scored 15.64 (variation of 5.08), with a p-value of 0.4, showing no meaningful difference. For negative symptoms, 78 patients with factors averaged 15.45 (variation 4.51), compared to 16.08 (variation 4.85) for 165 without, with a p-value of 0.3, indicating no significant impact. General symptoms showed averages of 38.88 (variation 9.78) for those with factors and 39.70 (variation 11.00) for those without, with a p-value of 0.5, suggesting no notable connection. Overall, the findings imply that these factors don't strongly influence the intensity of schizophrenia symptoms in this group as shown in the table 6.

Table 6: Pre Disposing Factors

Pre disposing factors		Frequency (n)	Mean	Std. Deviation	P value
Positive Total	Present	78	15.0769	4.34179	0.4
	Absent	165	15.6364	5.08116	
Negative Total	Present	78	15.4487	4.50583	0.3
	Absent	165	16.0848	4.85322	
General Total	Present	78	38.8846	9.77803	0.5
	Absent	165	39.7030	11.00068	

4. DISCUSSION

The discussion section of the provided this paper examines the frequency, socio-demographic factors, and clinical features of schizophrenia in Pakistan, based on a study conducted at Sarhad Hospital. The prevalence of schizophrenia in Pakistan has risen significantly from 1.5% in 2008 (Akhtar, 2008) to 34.7% among psychiatric disorders reported at the hospital, attributed to poor care, lack of awareness, and reliance on spiritual treatments (Nawaz, 2013). Key factors contributing to this high prevalence include age, gender, unemployment, income source, marital status, living region, education, and clinical symptoms. The study utilized a semi-structured questionnaire to collect socio-demographic data and compared findings between genders and newly versus previously diagnosed patients. The research highlights a higher frequency of schizophrenia in males compared to females, consistent with global studies (McGrath, 2008; Abel, 2010; Aleman, 2003). Men typically develop symptoms earlier (ages 16–25) than women (after 30), though the study found the average onset age in Peshawar to be over 35, contrasting earlier findings (Kane, 1982). Factors such as unemployment, lack of education, and delayed intervention exacerbate the condition in males (Kumara, 2001). Rural residents showed a higher schizophrenia prevalence than urban dwellers, linked to social isolation and limited access to quality medical resources (Pedersen, 2001; Niaz, 2008). Urban areas benefit from better education, awareness, and early intervention, reducing disease progression (Amr, 2012). Unemployment was a significant risk factor, with no notable occupational differences, reflecting economic frustrations and cultural stigma around mental illness (Loganathan, 2011). Married individuals showed a higher risk, possibly due to prevalent interfamilial marriages in Pakistan (Akhtar, 2008). Most patients were self-supported due to diminishing family support over time, driven

by the high cost and burden of long-term therapy. Clinically, positive symptoms (e.g., hallucinations, delusions) were more prevalent than negative symptoms, particularly in rural areas ($p<0.05$), with no significant gender-based differences in positive symptoms (Laroi, 2014). Negative symptoms were more common in males and married individuals (Nawka, 2013). Typical antipsychotics, combined with anti-cholinergic/anti-Parkinson drugs like procyclidine, were predominantly prescribed in Pakistan due to cost-effectiveness, unlike atypical antipsychotics favored in wealthier nations (Al Khaja, 2012; Amr, 2012). Tranquilizers and antidepressants were also frequently used to manage mood disorders and schizoaffective symptoms (Linden, 2001). The study employed the Positive and Negative Syndrome Scale (PANSS) to assess clinical features, noting that late intervention in Pakistan exacerbates symptoms due to cultural delays in addressing behavioral changes (Kay, 1987; Ali, 2006). The findings underscore the need for enhanced psychoeducation, early intervention, and tailored health policies to address socio-demographic barriers and reduce schizophrenia's burden in Pakistan.

5. CONCLUSION

This study at Sarhad Hospital, Peshawar, reveals schizophrenia as the leading psychiatric disorder (34.7% frequency), surpassing depression and OCD, driven by socio-demographic factors like male gender, rural residence, unemployment, and low education. Unlike the 1.5% prevalence in 2008, this higher rate reflects a psychiatric hospital focus. Men show earlier onset (16–25 years) and more negative symptoms, while rural patients exhibit more positive symptoms ($p<0.05$). Typical antipsychotics dominate due to cost-effectiveness, unlike atypical ones used elsewhere. Predisposing factors like genetics are underreported due to cultural stigma. No significant symptom differences exist across age, gender, or marital status. Rural isolation and delayed intervention worsen outcomes. Early treatment and psychoeducation are vital to reduce disability. Future research should expand sample sizes, quantify genetic and drug abuse roles, and explore community prevalence. Cost-effectiveness studies of medications can guide mental health policies to address stigma and improve as Future.

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