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FREQUENCY OF SOCIO-DEMOGRAPHIC CHARACTERISTICS IN SUBSTANCE USERS WITH SUBSTANCE-INDUCED PSYCHOSIS

[1]Dr. Aisha Roshan, [2]Dr. Muhammad IlyasJat, [3]Dr. Noormah Z Ahmed

[1]Dr. A.Q Khan Institute of Behavioral Sciences, DIMC, Karachi, Postgraduate Trainee, MBBS, FCPS
[2]Dr. A.Q Khan Institute of Behavioral Sciences, DIMC, Karachi, Assistant Professor, MBBS, FCPS
[3]CAMHS Blanchardstown, Dublin North Mental Health Services, Registrar, MBBS, FCPS

ABSTRACT

OBJECTIVE

To determine the frequency of socio-demographic characteristics among substance users presenting with substance-induced psychosis.

METHODOLOGY

This descriptive cross-sectional study was conducted in both the inpatient and outpatient psychiatric departments of the Institute of Behavioral Sciences, Dow University of Health Sciences, Karachi. A total of 139 patients diagnosed with substance use disorder and substance-induced psychosis were included after confirmation through detailed psychiatric evaluation. Socio demographic variables such as age, gender, marital status, educational level, place of residence, and employment status were collected using a structured questionnaire. Data were analyzed using IBM SPSS Statistics version 26.

RESULTS

In this study of 139 patients diagnosed with substance-induced psychosis, the average age was 32.48 ± 10.32 years. Males comprised 75.5% of the sample, while 56.1% were married and 61.2% lived in urban settings. Most had primary or secondary education. A significant association existed between age and marital status (p=0.035), whereas other socio-demographic factors were not statistically significant (p> 0.05).

CONCLUSION

The study found that substance-induced psychosis was more common among men, particularly those in early to middle adulthood, married, and living in urban areas with limited educational attainment. These findings emphasize the importance of early screening, preventive education, and community-based mental health programs targeting high-risk populations to reduce the burden of substance-related psychiatric disorders.

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KEYWORDS
Demography, Psychotic disorders, Substance-induced psychoses, Substance users, Socioeconomicfactors

INTRODUCTION

Substance use has emerged as a major global health issue, contributing substantially to psychiatric illness, disability, and social dysfunction. Reports from the World Health Organization (WHO) and the United Nations Office on Drugs and Crime (UNODC) highlight an escalating prevalence of psychoactive substance use worldwide, with millions of individuals developing dependence or drug-related psychiatric disorders every year [1,2]. Among these complications, substance-induced psychosis (SIP) represents one of the most severe outcomes, characterized by hallucinations, delusions, and behavioral disturbances that appear during or shortly after substance use or withdrawal [3,4]. Because its presentation often resembles primary psychotic disorders such as schizophrenia, clinical differentiation remains a persistent diagnostic challenge[5].

The neurochemical basis of SIP has been linked to dysregulation of dopaminergic and glutamatergic pathways, leading to impaired neurotransmission and altered brain function [6]. Prolonged or high-dose exposure to psychoactive agents—particularly cannabis, amphetamines, hallucinogens, and opioids—can trigger or exacerbate psychotic symptoms in susceptible individuals [7,8]. Beyond clinical consequences, substance-related psychosis carries a heavy social burden, increasing rates of relapse, unemployment, homelessness, and family disruption [9].

In Pakistan and neighboring South Asian countries, the misuse of narcotics and stimulants has risen steadily, especially among young adults and middle-aged men [10,11]. National and provincial data reveal that opioids, cannabis, and amphetamine-type stimulants are among the most commonly used substances, reflecting a pattern of growing accessibility and sociocultural normalization [12]. Despite this trend, limited local research has examined the demographic profiles of individuals presenting with SIP. Understanding socio-demographic patterns—such as age, gender, marital status, education, and place of residence—is essential to identify vulnerable groups and to inform context-specific prevention and rehabilitation programs [13,14]. Studies from high-income countries have demonstrated that SIP is more frequent among males, individuals with lower educational attainment, and residents of urban environments where exposure to drugs and psychosocial stressors is higher [15,16]. However, these findings may not fully reflect the social and cultural dynamics of low- and middle-income settings like Pakistan,

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where socioeconomic conditions, family structures, and treatment-seeking behaviors differ significantly. Existing national data mainly focus on substance abuse in general, with little emphasis specifically induced by substance use [17].

Given these gaps, the present study was designed to determine the frequency and distribution of socio-demographic characteristics among individuals diagnosed with substance-induced psychosis. Identifying these patterns may assist in developing targeted strategies for early detection, prevention, and management of SIP, contributing to more effective public health and psychiatric interventions in the local context.

METHODOLOGY

This descriptive cross-sectional study was undertaken in the Department of Psychiatry at the Institute of Behavioural Sciences, Dow University of Health Sciences, Karachi. The purpose was to examine socio-demographic features among individuals diagnosed with substance-induced psychosis (SIP), a disorder characterized by psychotic symptoms such as hallucinations, delusions, or disorganized thought occurring in close temporal relation to substance use or withdrawal, as defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*. The study was conducted over a six-month period after receiving formal approval from the Institutional Ethical Review Committee (ERC) of Dow University of Health Sciences.

Participants were selected using a non-probability consecutive sampling approach. Eligible individuals were between 18 and 60 years of age and met DSM-5 criteria for both substances use disorder and associated psychotic features. Both male and female patients were included. Those with previously diagnosed primary psychotic disorders—such as schizophrenia, schizoaffective disorder, or bipolar disorder with psychotic features—or with neurological or organic brain conditions were excluded to avoid diagnostic overlap.

Before enrolment, all participants were informed about the study objectives and procedures in detail, and written informed consent was obtained. Data collection was carried out using a structured and pretested questionnaire that gathered demographic and clinical information. The recorded variables included age, sex, marital status, educational level, occupation, place of residence, and the main substance used. Diagnostic accuracy was ensured through comprehensive psychiatric evaluations performed by consultant psychiatrists using standardized assessment procedures.

To maintain ethical integrity, all information was treated as strictly confidential. Each participant was assigned a unique identification number, and data were stored securely with access limited

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to authorized research personnel. The study fully complied with the ethical principles outlined in the Declaration of Helsinki (2013) for research involving human participants.

Data analysis was performed using IBM SPSS Statistics version 26. Quantitative variables, such as age, were expressed as means with standard deviations, while qualitative data were presented as frequencies and percentages. The Chi-square test was applied to explore associations between socio-demographic characteristics and substance-induced psychosis, with statistical significance established at a *p*-value of less than 0.05.

RESULTS

A total of 139 individuals meeting the diagnostic criteria for substance-induced psychosis were included in the analysis. The participants had a mean age of 32.48 ± 10.32 years, with 54 (38.8%) belonging to the 18–30-year age group, and 85 (61.2%) aged above 30 years. The majority were male (105; 75.5%), while 34 (24.5%) were female. A family history of psychiatric illness was identified in 27 (19.4%) cases, whereas 112 (80.6%) reported no such background. More than half of the participants (75; 54.0%) were active substance users, and the remainder (64; 46.0%) were in the withdrawal phase during data collection. The average duration of substance use was 11.29 ± 6.81 months, with most (91; 65.5%) having used substances for 2–12 months, and 48 (34.5%) for over one year **(Table I)**.

The analysis of marital status revealed that 78 (56.1%) participants were married, 52 (37.4%) were single, and a smaller number were separated (5; 3.6%) or divorced (4; 2.9%). Regarding education, the highest proportions were observed among individuals with primary education (46; 33.1%) and secondary education (41; 29.5%), followed by higher secondary education (26; 18.7%). A smaller subset had attained postgraduate education (20; 14.4%), while only two participants (1.4%) reported tertiary-level education. Four participants (2.9%) had no formal schooling.

In terms of residential background, urban residents constituted a greater share of the sample (85; 61.2%) compared to rural residents (54; 38.8%). The employment distribution indicated that 47 (33.8%) participants were employed full-time, 29 (20.9%) were part-time employees, 21 (15.1%) were self-employed, and 20 (14.4%) were unemployed. The remaining participants were students (19; 13.7%) or retired (3; 2.2%) **(Table II)**.

When comparing age categories with socio-demographic characteristics, a statistically significant association was observed between age and marital status (p = 0.035). A larger proportion of married individuals were found in the >30-year group (48; 56.5%) compared to those aged 18–30 years (30; 55.6%). However, no statistically significant relationship was

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observed between age and educational level (p = 0.581), residential area (p = 0.470), or employment status (p = 0.474). Educational patterns were comparable across both age groups, with most individuals having completed primary or secondary education. Employment status also showed similar trends in both categories **(Table III)**.

DISCUSSION

The present study diagnosed substance-induced psychosis (SIP) in accordance with the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)*, which defines the condition as the occurrence of psychotic features—such as hallucinations, delusions, or disorganized thinking—during or shortly after substance use or withdrawal [3]. Each case was confirmed through comprehensive psychiatric assessment to ensure that symptoms were temporally related to substance exposure and not attributable to a primary psychotic disorder. The mean age of participants was 32.48 ± 10.32 years, which is comparable to findings by Khan et al. [13] (33.6 years) and Jha et al. [14] (31.8 ± 9.5 years), indicating that SIP most commonly affects individuals in early to middle adulthood, a period characterized by greater psychosocial stress and risk-taking behaviours. In this study, males represented 75.5% of the sample, closely resembling the proportions reported by Malik et al. [19] (78%) and Latif et al. [15] (72%), reinforcing the observation that substance-related psychosis is markedly more frequent among men. This male predominance may reflect sociocultural factors, including gender-based differences in social mobility, peer influence, and the stigma associated with substance use among women in South Asian societies.

Educational level showed that 33.1% of participants had primary education and 29.5% secondary education, while only 14.4% held higher qualifications. This distribution corresponds with Jahan et al. [20], who reported that 62% of SIP patients had education below secondary level, highlighting that lower educational attainment is a consistent vulnerability factor for substance-related psychiatric disorders. The present study also found that 61.2% of participants resided in urban areas, which aligns with Latif et al. [15], who reported 64% urban residency among SIP cases. Urban environments are associated with easier access to drugs, greater peer pressure, and heightened economic or social stressors that may contribute to substance misuse and psychosis. Malik et al. [19] found a slightly lower proportion (57%) of urban participants, likely due to the inclusion of peri-urban and rural populations in their sample.

A statistically significant association between age and marital status (p = 0.035) was observed, with a higher proportion of married participants in the older age group. This finding suggests that marital and financial stressors may contribute to the initiation or continuation of substance

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use, leading to psychotic episodes. Comparable findings were described by Sulaiman et al. [21], who also found a significant link between marital stress and psychosis onset ($p< 0.05$). In contrast, Khan et al. [13] and Jha et al. [14] reported no significant relationship ($p> 0.05$), which may be attributed to differences in cultural context and sample composition. Other socio-demographic characteristics such as education, employment, and place of residence did not demonstrate statistically significant associations ($p> 0.05$), consistent with the results of Niemi-Pynttäri et al. [18], who found no significant link between these variables and psychotic outcomes in a large Finnish cohort of 18,478 SIP cases. These findings collectively indicate that, once substance dependence is established, psychosis can manifest across varying demographic backgrounds.

Clinically, the majority of patients exhibited acute psychotic symptoms including auditory hallucinations, paranoid delusions, and disorganized behaviour soon after substance intake or withdrawal. These manifestations are consistent with the descriptions by Bramness and Rognli [22], who observed that stimulant- or cannabis-induced psychoses typically develop rapidly and tend to resolve following abstinence. In the current study, cannabis and opioids were the most frequently implicated substances, aligning with Malik et al. [19], who reported cannabis in 42% and opioids in 25% of SIP cases. This similarity underscores the predominant role of these substances as triggers of psychotic symptoms in South Asian contexts.

The strength of this study lies in its use of standardized diagnostic criteria, rigorous clinical evaluation by consultant psychiatrists, and inclusion of both inpatient and outpatient populations, which enhances the representativeness of the findings. However, certain limitations must be acknowledged. The cross-sectional design limits the ability to infer causality, and self-reported data on substance use may be subject to recall or social desirability bias. Moreover, the study was conducted at a single tertiary care centre, which may limit generalizability to community settings. Despite these limitations, the present study adds valuable local data to a limited body of regional evidence on SIP. The findings highlight that SIP primarily affects men aged above 30 years, with low educational attainment and urban residency, emphasizing the need for early screening, public education, and psychosocial interventions aimed at high-risk groups. Strengthening preventive strategies and integrating addiction management with mental health services could significantly reduce the burden of substance-induced psychosis in similar populations.

CONCLUSION

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The study found that substance-induced psychosis was more common among men, particularly those in early to middle adulthood, married, and living in urban areas with limited educational attainment. These findings emphasize the importance of early screening, preventive education, and community-based mental health programs targeting high-risk populations to reduce the burden of substance-related psychiatric disorders.

Table I: Clinical and Demographic Profile of Patients with Substance-Induced Psychosis (n = 139)	
Clinical and Demographic Profile	**n (%)**
Age (Mean ± SD) = 32.48 ± 10.32 years	
18 – 30 years	54 (38.8)
>30 years	85 (61.2)
Gender	
Male	105 (75.5)
Female	34 (24.5)
Family History of psychiatric illness	
Positive	27 (19.4)
Negative	112 (80.6)
Status of Substance Induced Psychosis	
Recent Substance User	75 (54.0)
Withdrawal	64 (46.0)
Duration of Substance Used (Mean ± SD) = 11.29 ± 6.81 months	
2 – 12 months	91 (65.5)
>12 months	48 (34.5)

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Table II: Frequency of Socio-Demographic Characteristics among Substance-Induced Psychosis(n=139)			
Socio-Demographic Characteristics		**Frequency N**	**Percentage (%)**
Marital Status	Single	52	37.4%
	Married	78	56.1%
	Divorced	4	2.9%
	Separated	5	3.6%
Educational Status	No Formal Education	4	2.9%
	Primary Education	46	33.1%
	Secondary Education	41	29.5%
	Higher Secondary Education	26	18.7%
	Tertiary Education	2	1.4%
	Postgraduate Education	20	14.4%
Residential Status	Urban	85	61.2%
	Rural	54	38.8%
Employment Status	Full Time	47	33.8%
	Part Time	29	20.9%
	Self Employed	21	15.1%
	Unemployed	20	14.4%
	Student	19	13.7%
	Retired	3	2.2%

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Table III: Comparison of Age Group with Socio-Demographic Characteristics among Patients with Substance-Induced Psychosis (n=139)				
Socio-Demographic Parameters		**18 – 30 Years** (n=54)	**>30 Years** (n=85)	**P-Value**
Marital Status	Single	18 (33.3%)	34 (40.0%)	0.035
	Married	30 (55.6%)	48 (56.5%)	
	Divorced	1 (1.9%)	3 (3.5%)	
	Separated	5 (9.3%)	0 (0.0%)	
Educational Status	No Formal Education	0 (0.0%)	4 (4.7%)	0.581
	Primary Education	18 (33.3%)	28 (32.9%)	
	Secondary Education	15 (27.8%)	26 (30.6%)	
	Higher Secondary Education	10 (18.5%)	16 (18.8%)	
	Tertiary Education	1 (1.9%)	1 (1.2%)	
	Postgraduate Education	10 (18.5%)	10 (11.8%)	
Residential Status	Urban	31 (57.4%)	54 (63.5%)	0.470
	Rural	23 (42.6%)	31 (36.5%)	
Employment Status	Full Time	18 (33.3%)	29 (34.1%)	0.474

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	Part Time	11 (20.4%)	18 (21.2%)	
	Self Employed	8 (14.8%)	13 (15.3%)	
	Unemployed	11 (20.4%)	9 (10.6%)	
	Student	6 (11.1%)	13 (15.3%)	
	Retired	0 (0.0%)	3 (3.5%)	

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