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FREQUENCY OF FACTORS RELATED TO NON-ADHERENCE IN PATIENTS WITH SCHIZOPHRENIA PRESENTING TO PSYCHIATRY DEPARTMENT AT CIVIL HOSPITAL KARACHI

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ABSTRACT

OBJECTIVE
To determine the factors associated with non-adherence to antipsychotic medication among adult patients with schizophrenia.

STUDY DESIGN
Cross-sectional study

PLACE AND DURATION OF STUDY
The study was conducted at the Department of Psychiatry, Dr. Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan over a period of six months from November 16, 2020, to May 15, 2021.

METHOD
A total of 155 patients were recruited through consecutive sampling. Data on socio-demographic characteristics, clinical history and factors influencing non-adherence were collected using structured interviews. Data were analysed using SPSS version 22.0. Chi-square tests were used to determine associations, with $p < 0.05$ considered statistically significant.

RESULTS
The mean age of participants was 40.67 ± 11.44 years, with 63.2% being male. Non-adherence to medication was observed in 77.4% of patients, with significant contributing factors including adverse drug effects (61.5%), stigma (42.3%) and financial barriers (46.2%).

CONCLUSION
Non-adherence to antipsychotic medications is high among patients with schizophrenia in Pakistan. Targeted interventions addressing economic, social, and clinical challenges are needed to improve adherence rates.

KEYWORDS
Adult; Antipsychotic Agents; Hospitals; Non-Adherence; Pakistan; Schizophrenia.

INTRODUCTION
Schizophrenia is a chronic and debilitating mental disorder that affects approximately 1% of the global population, with an estimated 20 million individuals suffering from the condition worldwide.[1] Characterised by a spectrum of positive symptoms (e.g., delusions and hallucinations), negative symptoms (e.g., social withdrawal and lack of motivation) and cognitive impairments, schizophrenia profoundly impacts patients' quality of life and functional abilities.[2] Its effective management is essential to reducing the disease burden, but this is contingent upon adherence to prescribed treatment regimens, particularly antipsychotic medications.

Non-adherence to antipsychotic medication remains one of the most significant challenges in the treatment of schizophrenia. Research suggests that nearly 50% of patients with schizophrenia are non-adherent at some point during their treatment journey.[3] This has far-reaching implications, including increased rates of relapse, hospitalization, treatment resistance and even mortality due to suicide or comorbid physical conditions.[4] Despite the availability of effective medications, factors such as side effects, stigma, financial barriers and inadequate patient education often contribute to non-adherence.[5]

Moreover, in low-resource settings such as Pakistan, these challenges are amplified. Pakistan's mental health services are underdeveloped, with limited resources allocated to psychiatric care. The prevalence of schizophrenia is estimated at 1.5% of the population, with rural and underserved communities facing significant barriers to diagnosis and treatment.6 Cultural factors, including stigma and reliance on traditional healers, exacerbate these challenges, often delaying appropriate care.[7] Medication non-adherence in this context is particularly concerning, given the lack of robust community-based mental health programs and sparse financial safety nets for patients.[8]

The existing body of research highlights the multifaceted nature of non-adherence in schizophrenia. For instance, adverse effects of medications, such as weight gain and sedation, have been consistently linked to discontinuation.[9] Stigma, both social and self-imposed, further discourages patients from seeking or continuing treatment.[10] Economic constraints, including the high cost of medications and healthcare services, pose additional hurdles, especially in low- and middle-income countries like Pakistan.[11]

Given the complex interplay of factors, there is an urgent need for localised targeted research to identify and address the specific barriers to adherence in resource-limited settings. Therefore, this study aims to evaluate the socio-demographic and history-related factors contributing to medication non-adherence among patients with schizophrenia in Karachi, Pakistan. By identifying these factors, the study seeks to inform evidence-based interventions that can improve adherence rates and consequently improve patient outcomes.

METHOD

Procedure

This cross-sectional study was conducted at the Department of Psychiatry, Dr. Ruth K.M. Pfau Civil Hospital, Karachi, Pakistan over a period of six months, from November 16, 2020, to May 15, 2021. The study was initiated after approval of the FCPS dissertation synopsis from the College of Physicians and Surgeons Pakistan (ref. no. REU-40899), and ethical approval from the Department of Psychiatry, Dr Ruth K.M. Pfau. Civil Hospital Karachi, Pakistan. Before the interviews were conducted, informed consent was sought from the participants, and their confidentiality and voluntary participation was ensured. The data collected were analysed using SPSS version 22.0. Descriptive statistics summarised the data, and chi-square tests were used to assess associations between the variables.

Participants

A total of 155 adult patients diagnosed with schizophrenia based on DSM-5 criteria were included using a consecutive sampling technique. Patients unable to provide informed consent or those with comorbid severe cognitive impairments were excluded to ensure reliable self-reporting.

Instruments

Data were collected using structured interviews. The questionnaire assessed socio-demographics (age, gender, income, education), clinical history (duration of illness, comorbidities) and adherence status. Adherence was defined as taking 80% or more of prescribed doses in the past month.[12]

RESULTS

A total of 155 patients diagnosed with schizophrenia were included in the study. The mean age of the sample was 40.67±11.44 (Mean±SD). The majority were male (63.2%) patients. Most patients were married (63.2%) and 53.5% were residents of urban areas. Regarding education, 27.7% had primary education, while 40.0% had no formal education. Details of sociodemographic characteristics are summarised in Table 1.

TABLE 1

Stratification of Demographic Variables as per Adherence through Chi-Square Test (n=155).

Variable		Adherence Status		p-value
		Adherence	Non-Adherence	
Age group in years	18 – 40	22 (14.2%)	47 (30.3%)	0.013
	>40	13 (8.4%)	73 (47.1%)	
Gender	Male	22 (14.2%)	76 (49.0%)	0.959
	Female	13 (8.4%)	44 (28.4%)	
Residence	Urban	5 (3.2%)	67 (43.2%)	0.0001
	Rural	30 (19.4%)	53 (34.2%)	
Socioeconomic status	Less than 10,000 PKR	16 (10.3%)	79 (51.0%)	0.032
	10,000-50,000 PKR	19 (12.3%)	41 (26.5%)	
Marital status	Married	20 (12.9%)	79 (50.9%)	0.005
	Single	15 (9.7%)	22 (14.2%)	
	Widow/widower	0 (0.0%)	19 (12.3%)	

Stratification of age group, duration of disease, gender, place of residence, socioeconomic status, diabetes mellitus, hypertension, family history of psychiatric illness and marital status was done with respect to adherence and non-adherence to find out significant differences. Demographic variables like age group, marital status, residence and socioeconomic status were seen to be associated with non-adherence in chi-square test, while no association was found between gender and non-adherence (Table 1).

TABLE 2

Stratification of History-Related Variables as per Adherence through Chi-Square Test (n=155).

Variable		Adherence Status		p-value
		Adherence	Non-Adherence	
Family history of illness	Positive	14 (9.0%)	84 (54.2%)	0.001
	Negative	21 (13.5%)	36 (23.2%)	
Diabetes Mellitus	Positive	14 (9.0%)	36 (23.2%)	0.265
	Negative	21 (13.5%)	84 (54.2%)	
Hypertension	Positive	14 (9.0%)	55 (35.5%)	0.541
	Negative	21 (13.5%)	65 (41.9%)	
Duration of illness in years	1 – 5	33 (21.3%)	69 (44.5%)	0.0001
	>5	2 (1.3%)	51 (32.9%)	

The Mean Duration of disease was 6.40±7.16 years, and 50 (32.3%) patients had diabetes mellitus, and 69 (44.5%) had hypertension as comorbid medical condition. Out of 155 patients, adherence was noted in 35 (22.6%) patients, while non-adherence was seen in 120 (77.4%) patients.

In history-related variables, the duration of illness and family history of illness were seen to be linked with non-adherence, while comorbid hypertension and diabetes mellitus were not associated with non- adherence (Table 2).

DISCUSSION

This study underscored the persistent challenge of medication non-adherence in schizophrenia, particularly in low-resource settings like Pakistan.[13] The findings align with international research, indicating that non-adherence rates can range between 40% and 80% globally,3 influenced by socio-economic, cultural and systemic factors.[5,9]

Socioeconomic hardship appeared as a major contributor to non-adherence, as nearly half of the participants cited financial constraints as a barrier to adherence. Similar findings have been reported in other low- and middle-income countries where out-of-pocket healthcare expenses are the norm.[6,14] In Pakistan specifically, resource constraints and economic instability frequently hinder patients' ability to maintain regular follow-up appointments and purchase medications.[6,8]

Government-led initiatives such as subsidised medication programs and insurance schemes for mental health disorders could significantly alleviate this burden.[14] Patients residing in rural areas were also significantly more likely to be non-adherent. According to earlier studies, people from underserved or rural locales have greater cultural stigma, longer travel times, and less access to mental health facilities, all of which have a detrimental effect on continuity of care.[7,8] Another key factor linked with non-adherence was the longer duration of illness, which may relate to treatment fatigue, fluctuating insight, or greater sensitivity to overall medication side- effects.[9,10]

Conversely, gender and medical comorbidities (diabetes, hypertension) were not significantly associated with adherence patterns. This aligns with findings from regional studies demonstrating that these variables often have limited influence in comparison to socioeconomic and structural factors.[6,7]

The findings emphasise the need for a multifaceted approach to address medication non-adherence. Psychoeducation is crucial for patients and carers since research shows that understanding illness and treatment greatly improves adherence.[5,11] Integration of long-acting injectable (LAI) antipsychotic agents could reduce the need for daily medication use and improve long-term outcomes.[4] Recent innovations such as digital reminder tools and telepsychiatry services, in addition to structured follow-up systems may offer additional benefits, especially in settings with limited resources.

Policymakers should prioritise the integration of mental health services into general healthcare systems, ensuring accessibility and affordability. Clinicians should adopt a patient-centred approach focusing on education, side effect management and regular follow-ups.

CONCLUSION

Non-adherence to antipsychotic medications is high among schizophrenia patients at a major public-sector hospital in Karachi, which is associated with socio-economic and history-related variables. Socioeconomic disadvantage, rural residence, and longer illness duration were significantly associated with non-adherence. Targeted interventions addressing these barriers are needed, for example, improving affordability, expanding rural mental health outreach, and strengthening psychoeducation which are essential to improving treatment continuity and clinical outcomes.

Limitations and Recommendations

This study is limited by its cross-sectional design, which precludes causal inferences. It is a single-centre study which may limit generalisability to other regions of Pakistan. Self-reported adherence measures may be subject to recall bias. Additionally, psychosocial factors such as insight, family support, and beliefs about medication were not assessed but may play an important role.

Future multi-centred and longitudinal studies with objective adherence measures, such as pharmacy refill records, are recommended. Moreover, further research should explore the long-term impact of adherence interventions and examine the role of emerging technologies such as tele-psychiatry in improving outcomes. Qualitative research could provide deeper insights into patient and caregiver perspectives on adherence.

CONFLICT OF INTEREST

None

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DISCLOSURE

The study is based on an FCPS dissertation approved by the College of Physicians and Surgeons Pakistan (CPSP) on 5th July 2021.

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