INTERNATIONAL JOURNAL OF HEALTH & MEDICAL RESEARCH

ISSN(print): 2833-213X, ISSN(online): 2833-2148

Volume 05 Issue 05 May 2026

DOI : 10.58806/ijhmr.2026.v5i5n20

Page No. 480-484

Determinants of Psychotic Relapse in Patients with Schizophrenia: A Cross-Sectional Study at the Federal Medical Center, Gusau, Zamfara State

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ABSTRACT

Background: Schizophrenia remains a major public health concern globally due to its chronic, recurrent nature and the substantial burden it places on patients, caregivers, and health systems Schizophrenia is a chronic psychiatric disorder characterized by a relapsing-remitting course. This problem is even more pronounced in low-resource settings such as Nigeria, where socioeconomic instability, insecurity, inadequate access to mental health services, high treatment costs, cultural misconceptions, and caregiver burden significantly heighten relapse risk. In Northern Nigeria, high rates of readmission pose significant challenges to functional recovery and healthcare resources. This study investigated the factors contributing to relapse among patients with schizophrenia at Federal Medical Center (FMC) Gusau.

Methods: A cross-sectional descriptive design was employed with a sample of 154 patients at the FMC Gusau, psychiatric unit. Data were collected using a structured questionnaire and medical record reviews. Logistic regression was used to identify independent predictors of relapse, with significance set at $p < 0.05$.

Results: The majority of respondents were aged 26–35 years (35.7%) and male (63.6%). Significant patient-related factors included medication non-adherence (68.2%) and stopping medication upon symptom improvement (64.3%). Regression analysis identified the strongest predictors of relapse as missing medications (AOR = 3.85), high medication cost (AOR = 3.45), and lack of family supervision (AOR = 3.12).

Conclusion: Relapse in this setting is primarily driven by economic barriers and failures in the community support system. Interventions should prioritize the affordability of antipsychotics and structured family psychoeducation to reduce the revolving door of psychiatric readmission.

KEYWORDS: Schizophrenia, Relapse, Medication Adherence, Family Support, Zamfara State.

INTRODUCTION

Schizophrenia still remains a serious mental illness that affects 1% of the global population and is marked by hallucinations, delusions, disorganized speech, grossly disorganized behavior, and negative signs and symptoms such as reduced emotional expression, avolition, and cognitive impairment (Hany et al, 2024). According to World Health Organization reports on the magnitude and impact of Schizophrenia in 2025, schizophrenia affects approximately 23 million people or 1 in 345 people (0.29%) worldwide. The rate is 1 in 233 people (0.43%) among adults, In Nigeria, the prevalence is estimated at 2.4 per 1,000 individuals, but relapse rates are alarmingly high, ranging from 50% to 92% depending on the clinical setting. It is not as common as many other mental disorders. Onset is most often during late adolescence and the twenties, and onset tends to happen earlier among men than among women (World Health Organization, 2025).

The disorder typically follows a relapsing-remitting course in which patients experience periods of stability punctuated by episodes of deterioration known as relapses. Relapses are characterized as the recurrence of symptoms of mental ailments compared to those that have already been experienced. Relapse is also characterized by acute psychotic exacerbation which

may have serious implications. It alludes to a return of symptoms after a period of improvement or recuperation. Most patients with Schizophrenia may also encounter numerous relapses during the course of the sickness. Schizophrenia relapse after recovery remains a significant challenge, with multiple factors contributing to its occurrence (Balarabe et al, 2022).

Mi et al. (2020) demonstrated that relapse in schizophrenia is shaped by a constellation of interrelated biological, psychological, social, and environmental determinants. Their findings revealed that several socioeconomic and clinical factors—including unemployment, limitations in daily functioning, lack of medical insurance or high medical costs, and low household income—were significantly associated with relapse. Notably, poor medication adherence emerged as the strongest predictor, with 55.8% of non-adherent patients experiencing relapse compared to 23% of adherent patients, underscoring the central role of treatment adherence in sustaining remission.

Another study by Moges et al (2021), highlighted stressful life events and the presence of other primary comorbid mental illnesses are other factors that can lead to relapse. The study indicated that participants who experienced three or more stressful life events had two times odds of experiencing relapse than their counterparts. In the study, patients with relapses had more frequent relationship difficulties and personal stressors when compared with patients who had not relapsed and this was explained by the Stress-Vulnerability model which emphasizes that individuals with Schizophrenia have a biologically mediated vulnerability to stressful events that can result in acute psychosis; stress has a direct psychological effect on the body, cognitive and behavioral effects, and secondary effects by exacerbating illnesses, and delaying recovery..

The Federal Medical Center (FMC) Gusau serves as a vital tertiary link in Zamfara State, where patients face unique challenges including socioeconomic instability and limited access to specialized care. Despite the enactment of the National Mental Health Act 2021, which aimed to modernize care and establish a Mental Health Fund, implementation remains largely non-operationalized as of 2026. This study aims to identify the specific patient, social, and clinical drivers of relapse at FMC Gusau to inform targeted nursing interventions and regional health policy.

METHODOLOGY

Study Design and Setting A quantitative, cross-sectional descriptive design was utilized. The study was conducted at the psychiatric unit of FMC Gusau, which provides both inpatient and outpatient services for a broad catchment area in Northwestern Nigeria.

Participants and Sampling: The target population included patients diagnosed with schizophrenia receiving care at the facility. Using the Yamane formula on an estimated population of 250, a sample size of 154 was determined. Participants were selected using simple random sampling. Inclusion criteria required a confirmed diagnosis of schizophrenia and at least one previous documented relapse and consented to participate

Instruments and Data Analysis A five-section structured questionnaire was developed and validated by experts. Reliability was confirmed via a pilot study yielding a Cronbach's Alpha coefficient 0.70 Data analysis was performed using SPSS, employing descriptive statistics and binary logistic regression to identify independent predictors.

Ethical Considerations Ethical approval was obtained from the FMC Gusau Ethics Committee (FMC/2021/985/008/NHREC/TR/0037/31/01/2026). Informed consent was obtained from all participants, and confidentiality was maintained throughout the study.

RESULTS

Table 1: Socio-Demographic Characteristics of Respondents (N=154)

VARIABLE CATEGORY	FREQUENCY (N)	PERCENTAGE (%)
Age (years)		
18–25	29	18.8
26–35	55	35.7
36–45	43	27.9
46 and above	27	17.5
Sex		
Male	98	63.6
Female	56	36.4
Marital Status		
Single	80	51.9
Married	43	27.9
Divorced	21	13.6
Widow	10	6.5
Religion		

Islam	139	90.3
Christianity	12	7.8
Other	3	1.9
Educational Level		
No Formal Education	46	29.9
Primary	37	24.0
Secondary	43	27.9
Tertiary	28	18.2
Occupation		
Employed	25	16.2
Student	18	11.7
Self-employed	28	18.2

Socio-Demographic Profile The peak age for treatment was 26–35 years (35.7%). Most respondents were male (63.6%), single (51.9%), and unemployed (53.9%). Notably, 48.1% had been ill for more than five years, and 60.4% had experienced three or more relapses.

Table 2: Independent Predictors of Relapse (Logistic Regression Analysis)

Predictor	Adjusted Odds Ratio (AOR)	95% CI	p-value
Misses medications	3.85	2.12–6.98	< 0.001
Medication too expensive	3.45	1.89–6.30	< 0.001
Lack of family supervision	3.12	1.76–5.53	< 0.001
Stops meds when feeling better	2.94	1.68–5.14	< 0.001
Stress stops treatment	2.83	1.60–5.01	< 0.001
Lack of follow-up reminders	2.76	1.55–4.91	< 0.001
Side effects cause avoidance	2.21	1.30–3.76	0.003

Source: Field work 2026

Factors Contributing to Relapse Patient-related factors were dominated by medication non-adherence (68.2%) and the "feeling better" phenomenon, where 64.3% stopped medication once acute symptoms subsided. Clinical barriers included the high cost of medication (72.1%), long waiting times (64.3%), and a lack of follow-up reminders (66.2%). Socially, 70.1% of patients reported that stressful family events negatively affected their mental health, and 60.4% felt stigmatized by their community.

DISCUSSION

The findings demonstrate that medication non-adherence is the primary biological driver of relapse (AOR = 3.85), mirroring trends seen in larger cohorts across China and Ethiopia (Beyene et al., 2025; Minwuyelet et al., 2022; Ran et al., 2015).

This non-adherence is often not a choice but a consequence of the "unaffordability" of care; 72.1% of patients cited high costs as a barrier, and regression confirmed it as a powerful predictor (AOR = 3.45). This finding aligns with Behera, S., et al. (2023) n studies that have shown that non-adherence to prescribed medication is one of the primary causes of relapse in schizophrenia. In Nigeria, where annual treatment can exceed $800, psychiatric care is often beyond the reach of the 53.9% who are unemployed. financial constraints often prevent patients from affording their medications, particularly in rural settings where access to healthcare is limited. Patients in such areas are often unable to consistently obtain their antipsychotic drugs due to high costs, leading to interruptions in their treatment (Kane et al., 2021).

The Stress-Vulnerability model is evident in the impact of family dynamics. While families are the primary caregivers in Northern Nigeria due to a shortage of community services, high levels of family conflict (57.8%) and a lack of supervision (AOR = 3.12) act as catalysts for symptom recurrence. Furthermore, the lack of clinical follow-up reminders (AOR = 2.76) highlights a systemic failure in outpatient management. These findings are aligned with Cuijpers, (2020; Pharoah et al., (2022). Studies shown that family psychoeducation programs are associated with lower relapse rates and improved functional outcomes for schizophrenia patient.

The legislative landscape offers a framework for improvement. The National Mental Health Act 2021 mandates the creation of a Mental Health Fund to subsidize care, yet as of 2025, federal mental health spending has declined as a share of the total health budget (from 3.67% to 3.12%). Locally, the Zamfara State government has allocated N87 billion to the health sector in 2026, targeting the upgrade of 23 facilities including Gusau General Hospital. These infrastructure improvements must be matched by a

"task-shifting" approach and the integration of mental health into primary care to address the "distance" and "waiting time" barriers identified by patients.

IMPLICATION AND SUMMARY

This research, conducted at the Federal Medical Center (FMC) Gusau, provides a vital insight into the "revolving door" of psychiatric admissions in low-resource settings, by identifying specific biological, economic, and social triggers for relapse, the study offers a roadmap for improving mental health policy and clinical nursing practice.

Below are the primary implications for mental health and psychiatric nursing based on the study's findings:

1. Clinical Nursing Practice & Patient Education

The study identifies medication non-adherence as the strongest predictor of relapse (AOR = 3.85). This highlights a need for shifts in how psychiatric nurses interact with patients:

- Targeting the "Feeling Better" Phenomenon: Since 64.3% of patients stop medication once acute symptoms subside, nurses must prioritize education that explains the chronic nature of schizophrenia and the necessity of maintenance therapy even during periods of stability.
- Managing Side Effects: With side effects identified as a significant barrier to adherence (AOR = 2.21), nursing assessments must proactively screen for and manage adverse reactions to prevent unsupervised treatment cessation.
- Motivational Interviewing (MI): The research recommends that nurses adopt MI techniques to enhance patient insight and personal investment in their long-term treatment plans.

2. Strengthening Community and Family Support

In Northern Nigeria, families are the primary caregivers but often lack the resources or knowledge to manage the disorder effectively.

- Family Psychoeducation: The lack of family supervision is a major relapse trigger (AOR = 3.12). Psychiatric nursing must extend beyond the patient to include structured family training to reduce conflict and improve supervision.
- The Stress-Vulnerability Model: Nurses should use this model to help families understand how high-stress environments and domestic conflict (reported by 57.8% of patients) directly trigger biological relapses.

3. Health Policy and Systemic Reform

The research underscores that relapse is often a systemic failure rather than just a patient failure.

- Economic Barriers: High medication cost is a leading predictor of relapse (AOR = 3.45), particularly since 53.9% of the study population is unemployed. This implies an urgent need for the government to operationalize the National Mental Health Act 2021 and its Mental Health Fund to subsidize drugs.
- Task-Shifting and Decentralization: To address long waiting times and distance barriers, the study suggests implementing the WHO Mental Health Gap Action Programme (mhGAP). This involves training primary healthcare workers to handle basic mental health tasks, thereby reducing the burden on tertiary centers like FMC Gusau.

4. Technological Innovations in Follow-up

A significant systemic gap identified was the lack of clinical follow-up reminders (AOR = 2.76).

- Mobile Health (mHealth): The study recommends adopting simple mobile-based reminder systems. This is a low-cost, high-impact nursing intervention that can bridge the gap in outpatient attendance and ensure patients remain within the healthcare loop.

SUMMARY OF RELAPSE PREDICTORS

The following factors were identified as the most significant drivers that psychiatric care must address:

Predictor	Adjusted Odds Ratio (AOR)	Implication
Missing Medications	3.85	Primary focus for nursing education
High Medication Cost	3.45	Policy need for subsidies
Lack of Family Supervision	3.12	Need for caregiver support programs
Stopping Meds when "Better"	2.94	Need for long-term adherence counseling
Lack of Follow-up Reminders	2.76	Potential for mHealth interventions

CONCLUSION AND RECOMMENDATIONS

Psychotic relapse at FMC Gusau is a multifactorial crisis rooted in medication non-adherence, economic deprivation, and inadequate social support. To address these determinants, the following is recommended:

Policy: The Federal Ministry of Health should operationalize the Mental Health Fund to subsidize antipsychotic medications for the most vulnerable populations.

Nursing Practice: Psychiatric nurses should utilize Motivational Interviewing (MI) and psychoeducation to enhance patient insight and manage the "feeling better" phenomenon that leads to treatment cessation.

Community Care: Zamfara State should implement the WHO Mental Health Gap Action Programme (mhGAP) to train primary health workers, decentralizing care and reducing the burden on FMC Gusau.

Innovation: The hospital should adopt simple mobile-based reminder systems to bridge the gap in follow-up attendance and improve medication monitoring.

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