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Patient-Centered Predictors of Medication Adherence in Schizophrenia: A Cross-Sectional Study in a Tertiary Hospital in Ghana

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Abstract:

- ***Background:***

Medication non-adherence in schizophrenia remains a critical determinant of relapse, poor functional outcomes, and increased healthcare utilization. Identifying modifiable predictors of adherence is essential for informing targeted and scalable interventions, particularly in resource-constrained settings.

- ***Methods:***

A hospital-based cross-sectional study was conducted among 187 patients with schizophrenia at Komfo Anokye Teaching Hospital, Ghana. Data were collected using structured questionnaires, including the Medication Adherence Rating Scale (MARS). Associations between adherence and predictor variables were examined using Pearson's correlation and multivariable linear regression. Statistical significance was set at $p < 0.05$.

- ***Results:***

The mean MARS score was 4.2 (SD = 1.9), indicating overall low adherence. Bivariate analysis demonstrated moderate positive correlations between adherence and communication with healthcare providers ($r = 0.51$, $p < 0.001$), understanding of medication side effects ($r = 0.46$, $p < 0.001$), and illness-related education ($r = 0.42$, $p < 0.001$). In adjusted analyses, communication with healthcare providers remained the strongest independent predictor of adherence ($\beta = 0.28$, $p < 0.001$), followed by understanding of side effects ($\beta = 0.22$, $p = 0.001$) and illness education ($\beta = 0.17$, $p = 0.026$). The regression model accounted for a substantial proportion of variance in adherence (Adjusted $R^2 = 0.45$; $F(10,176) = 15.91$, $p < 0.001$). Patient-reported intervention preferences were highly concordant with these findings, with strong endorsement of digital reminders (80%), access to mental health services (75%), family support (70%), and psychoeducation (68%). Notably, 83% of participants identified effective patient–provider communication as central to adherence.

- ***Conclusions:***

Medication adherence in schizophrenia is predominantly influenced by modifiable, patient-centered factors, particularly communication quality, treatment literacy, and side-effect management. These findings underscore the importance of integrating structured psychoeducation, shared decision-making, and communication-focused interventions into routine care. Low-cost, scalable strategies improve adherence and outcomes in low-resource settings.

Keywords: *Schizophrenia; Medication Adherence; Patient–Provider Communication; Psychoeducation; MARS; Low- And Middle-Income Countries.*

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I. INTRODUCTION

Schizophrenia is a chronic and severe mental disorder characterized by disturbances in thought, perception, emotion, and behavior, often resulting in significant functional impairment and reduced quality of life (World Health Organization, 2021). It affects approximately 7 per 1,000 adults globally and remains a leading cause of disability. Effective management requires long-term treatment, with antipsychotic medications forming the cornerstone of care for symptom control, relapse prevention, and functional recovery (Ascher et al., 2024).

Despite their proven efficacy, medication non-adherence remains one of the most critical challenges in schizophrenia management. Non-adherence encompasses a spectrum of behaviors, including treatment refusal, irregular use, and unsupervised dose modification (Arhn et al., 2022). Evidence from large-scale studies such as the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) indicates that up to 74% of patients discontinue medication within 18 months, often due to poor efficacy, adverse effects, or psychosocial barriers (Acosta et al., 2022).

Medication adherence in schizophrenia is influenced by a complex interplay of patient-related, treatment-related, and environmental factors. Patient-related determinants such as poor insight, cognitive impairment, and symptom severity interact with treatment-related issues, including medication side effects and regimen complexity, as well as broader social determinants (World Health Organization, 2021). Importantly, improvements in clinical symptoms—particularly positive and depressive symptoms—have been associated with better adherence, highlighting the dynamic relationship between symptom control and treatment engagement (Ascher et al., 2024).

The consequences of non-adherence are substantial. It is strongly associated with relapse, re-hospitalization, prolonged illness duration, and increased risk of suicide (Higashi et al., 2021). For example, a retrospective study in Sweden demonstrated that early non-adherence following discharge significantly increased the likelihood of re-hospitalization (Gandhi et al., 2020). Beyond clinical outcomes, non-adherence contributes significantly to the economic burden of schizophrenia through increased healthcare utilization and long-term care costs (Ageeb et al., 2022). Therefore, improving adherence remains essential for reducing morbidity and optimizing healthcare resource allocation (Roberts et al., 2022).

A wide range of interventions has been proposed to improve medication adherence. Psychoeducation enhances patient and caregiver understanding of the illness, reduces stigma, and improves adherence behaviors (Kane et al., 2023). Community-based services, including outreach programs and home visits, can reduce geographical and financial barriers to care (Sarfo et al., 2022). Digital health interventions, such as mobile reminders and telepsychiatry, have also shown promise in improving adherence rates (Zhou et al., 2023). Pharmacological approaches, particularly long-acting injectable antipsychotics, may further enhance adherence by reducing the need for daily medication and minimizing relapse risk (Emsley et al., 2023).

In low- and middle-income countries such as Ghana, structural and systemic challenges further complicate adherence. Despite the passage of the Mental Health Act (Act 846) in 2012, mental health services remain under-resourced, with limited infrastructure, workforce shortages, and inadequate access to psychotropic medications (Roberts et al., 2022). Services are largely concentrated in urban centers such as Accra and Kumasi, limiting access for patients in rural areas (Osei et al., 2023). Cultural beliefs attributing mental illness to spiritual causes may also influence treatment-seeking behavior, often leading patients to alternative or faith-based care (Agyapong et al., 2022). Additionally, financial constraints and limited coverage of antipsychotic medications under the National Health Insurance Scheme further restrict access to sustained treatment (Gyekye et al., 2023).

Despite the global and regional evidence, there remains a lack of context-specific data examining the predictors of medication non-adherence among patients with schizophrenia in tertiary healthcare settings in Ghana. This gap limits the development of targeted, culturally appropriate, and evidence-based interventions. Understanding the determinants of non-adherence in this context is therefore essential for informing clinical practice, guiding policy, and improving treatment outcomes.

Accordingly, this study aims to assess the predictors of medication non-adherence among patients with schizophrenia at Komfo Anokye Teaching Hospital. Specifically, it seeks to identify the most influential patient-related predictors of non-adherence and to explore strategies that may enhance medication adherence in this population.

II. METHODS

- *Study Design and Setting*

This study employed a descriptive cross-sectional design to examine predictors of medication non-adherence among patients with schizophrenia. Cross-sectional designs are commonly used in psychiatric and behavioral research, including sleep studies, to assess relationships between variables at a single point in time without intervention. The study was conducted at the Psychiatry Department of Komfo Anokye Teaching Hospital (KATH), a tertiary healthcare facility located in Kumasi, Ghana. The department provides

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specialized mental health services and recorded approximately 4,995 outpatient visits for schizophrenia in 2023, with an estimated 365 unique patients receiving care.

➢ *Study Population and Eligibility Criteria*

The study population comprised adult patients diagnosed with schizophrenia attending the outpatient psychiatric clinic at KATH. Eligible participants were individuals who were clinically stable and receiving ongoing treatment. Participants were included if they were aged 18 years and above, had a confirmed diagnosis of schizophrenia, were capable of providing informed consent, and were identified as non-adherent to prescribed antipsychotic medication. Patients who were acutely ill, cognitively impaired, or unable to provide informed consent were excluded from the study.

➢ *Sample Size and Sampling Technique*

The sample size was determined using Cochran's formula for finite populations, based on a population of 365 patients, a 95% confidence level (Z = 1.96), a margin of error of 5% (e = 0.05), and a population proportion of 0.5. The minimum sample size was calculated as 187 participants. A purposive sampling technique was used to recruit participants. Psychiatrists at the outpatient clinic identified eligible patients based on the inclusion criteria and referred them to the principal investigator. The study purpose was explained to each participant, and written informed consent was obtained prior to inclusion. Only participants identified as non-adherent were enrolled, resulting in a total of 187 respondents.

➢ *Study Variables*

The dependent variable was medication adherence, measured using the Medication Adherence Rating Scale (MARS). Independent variables included sociodemographic characteristics (age, sex, marital status, education, employment, and religion), clinical factors (duration of illness), and patient-related predictors such as communication with healthcare providers, perceived side effects, family support, access to mental health services, use of reminders, psychoeducation, follow-up care, shared decision-making, and transportation access.

➢ *Data Collection Instruments*

Data were collected using structured instruments. Socio-demographic and clinical information were obtained using a researcher-designed questionnaire. Medication adherence was assessed using the Medication Adherence Rating Scale (MARS), a validated 10-item self-report instrument developed by Thompson et al. (2000). The scale evaluates medication-taking behavior, attitudes toward medication, and side effects. Scores range from 0 to 10, with higher scores indicating better adherence. The instrument has demonstrated acceptable reliability in psychiatric populations. In addition, a structured 5-point Likert scale questionnaire was developed based on literature to assess patient-perceived strategies that could improve medication adherence. This instrument consisted of 10 items covering key domains such as psychoeducation, communication, social support, follow-up care, and access to services. Responses ranged from 1 (Strongly Disagree) to 5 (Strongly Agree), with open-ended sections included to capture additional insights.

➢ *Data Collection Procedure*

Data were collected over a **12-week period** at the outpatient psychiatry clinic of KATH. Ethical approval was obtained prior to commencement, and institutional permission was granted. Participants were recruited during routine clinic visits. Data were collected through **face-to-face structured interviews** conducted by trained research assistants fluent in both English and local languages to accommodate participants with varying literacy levels. Interviews were conducted in private settings to ensure confidentiality and reduce response bias. Completed questionnaires were reviewed daily for completeness and consistency, and all data were anonymized and securely stored using password-protected systems.

➢ *Instrument Validation and Pilot Testing*

The study instruments were reviewed by a panel of mental health experts to ensure **face and content validity**. A pilot study involving 10 participants (not included in the main study) was conducted to assess clarity, feasibility, and appropriateness of the questionnaire. Feedback from the pilot study led to minor modifications to improve clarity and remove ambiguities. The internal consistency of the Likert-scale instrument was assessed using **Cronbach's alpha**, with a threshold of ≥ 0.70 considered acceptable.

➢ *Statistical Analysis*

Data were analyzed using **SPSS version 23**. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize participant characteristics and study variables. Pearson's correlation analysis was conducted to assess the relationships between predictor variables and medication adherence scores. Subsequently, a **multiple linear regression analysis** was performed to identify independent predictors of adherence, with MARS score as the dependent variable.The regression model included all predictor variables simultaneously to control for confounding effects. Results were reported using standardized beta coefficients (β), p-values, 95% confidence intervals, and coefficients of determination (R^2 and adjusted R^2). Statistical significance was set at $p < 0.05$.

➢ *Statistical Assumptions*

The assumptions underlying the regression analysis were evaluated, including linearity, normality of residuals, homoscedasticity, independence of observations, and absence of multicollinearity. Variance inflation factors (VIF) were examined to ensure that multicollinearity was within acceptable limits.

➢ *Ethical Considerations*

Ethical approval for the study was obtained from the **Komfo Anokye Teaching Hospital Institutional Review Board**. Written informed consent was obtained from all participants prior to enrollment. Participants were informed about the purpose of the study, potential risks and benefits,

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and their right to withdraw at any time without penalty. Confidentiality and anonymity were strictly maintained by assigning codes to participants and storing data securely in password-protected systems and locked files.

III. RESULTS

➢ *Socio-demographic Characteristics of Participants*

A total of 187 participants were included. The sample was 52% male (n = 98) and 48% female (n = 89). Most participants were aged 18–30 years (35%), followed by 31–40 years (26%), 41–50 years (25%), and 51–60 years (14%). The majority were single (64%), while 36% were married. Most participants had some level of formal education (88%), whereas 12% had no formal education. Regarding employment, 47% were unemployed, 26% self-employed, 18% civil servants, and 9% retired. In terms of religion, 68% were Christians, 25% Muslims, and 7% belonged to other faiths (Table 1).

Table 1 Socio-Demographic characteristics

VARIABLE	FREQUENCY	PERCENTAGE
Gender		
Male	98	52%
Female	89	48%
Total	**187**	**100**
Age		
18-30	65	35%
31-40	49	26%
41-50	47	25%
51-60	26	14%
Total	**187**	**100**
Marital Status		
Married	67	36%
Single	120	64%
Total	**187**	**100**
Educational status		
Tertiary	64	34%
SHS	62	33%
JHS	39	21%
Primary	22	12%
Total	**187**	**100**
Employment status		
Civil servant	34	18%
Self-employed	47	26%
Unemployed	88	47%
Retired	17	9%
Total	**187**	**100**
Religion		
Christianity	127	68%
Muslim	47	25%
Others	13	7%
Total	**187**	**100**

➢ *Descriptive Statistics of Study Variables*

The mean Medication Adherence Rating Scale (MARS) score was 4.2 (SD = 1.9), indicating generally low-to-moderate adherence levels.

Among adherence-related factors, **communication with healthcare providers** had the highest mean score (**Mean = 4.0, SD = 0.8**), followed by **understanding of medication side effects (Mean = 3.9, SD = 1.0)** and **education about illness (Mean = 3.8, SD = 0.9)**. The lowest mean score was observed for **transportation availability (Mean = 2.9, SD = 1.4)** (Table 2).

Table 2: Scores on the Medication adherence rating scale (n = 187)

Variable	Mean	Std. Deviation	Min	Max
MARS Score (0–10)	4.2	1.9	0	8
Education about illness	3.8	0.9	1	5
Regular follow-up	3.4	1.1	1	5
Family support	3.2	1.3	1	5

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Access to mental health services	3.1	1.1	1	5
Medication reminders	3.5	1.2	1	5
Understanding side effects	3.9	1.0	1	5
Personalized treatment	3.6	1.0	1	5
Open communication with provider	4.0	0.8	2	5
Shared decision-making	3.7	1.0	1	5
Transportation availability	2.9	1.4	1	5

➢ *Reliability and Internal Consistency of Study Instruments*

All study instruments demonstrated acceptable internal consistency. The predictors of non-adherence scale showed a Cronbach's alpha of 0.776, while the adherence improvement scale demonstrated good reliability (α = 0.845–0.871) (Table 3).

Table 3. Internal Consistency Reliability of Study Variables

Main variables]	**No. of observed items**	**Nos. of retained items**	**Cronbach's Alpha**
Predictors of non-adherence	10	10	0.776
Most influential predictors	7	7	0.845
Measures to Improve Adherence (refined)	10	10	0.871

➢ *Correlation Analysis*

Pearson's correlation analysis showed significant positive associations between MARS scores and several predictors. The strongest correlations were observed for communication with healthcare providers ($r = 0.51$, $p < 0.001$) and understanding of side effects ($r = 0.46$, $p < 0.001$). Other significant associations included: Education about illness ($r = 0.42$, $p < 0.001$), personalized treatment ($r = 0.37$, $p < 0.001$), regular follow-up ($r = 0.35$, $p < 0.001$), shared decision-making ($r = 0.33$, $p < 0.001$), and medication reminders ($r = 0.30$, $p = 0.001$). Weaker but significant correlations were observed for family support ($r = 0.28$, $p = 0.002$) and access to services ($r = 0.26$, $p = 0.004$). Transportation availability showed the weakest association ($r = 0.19$, $p = 0.014$) (Table 4).

Table 4: Pearson Correlation Matrix

Variable	**Correlation with MARS Score (r)**	**p-value**
Education about illness	0.42	<.001
Regular follow-up	0.35	<.001
Family support	0.28	0.002
Access to services	0.26	0.004
Medication reminders	0.30	0.001
Understanding side effects	0.46	<.001
Personalized treatment	0.37	<.001
Communication with provider	0.51	<.001
Shared decision-making	0.33	<.001
Transportation availability	0.19	0.014

➢ *Predictors of Medication Adherence: Multiple Linear Regression Analysis*

A multiple linear regression analysis was conducted to identify independent predictors of medication adherence as measured by MARS scores. The overall model was statistically significant ($F(10,176) = 15.91$, $p < 0.001$), explaining 48% of the variance in adherence ($R^2 = 0.48$), with an adjusted R^2 of 0.45, indicating good explanatory power. Open communication with healthcare providers emerged as the strongest independent predictor of adherence ($\beta = 0.28$, $B = 0.34$, 95% CI: 0.16–0.52, $p < 0.001$). Additionally, better understanding of medication side effects was significantly associated with higher adherence ($\beta = 0.22$, $B = 0.23$, 95% CI: 0.09–0.37, $p = 0.001$), as was education about illness ($\beta = 0.17$, $B = 0.18$, 95% CI: 0.02–0.34, $p = 0.026$). In contrast, variables such as regular follow-up, family support, medication reminders, access to services, personalized treatment, shared decision-making, and transportation availability were not statistically significant predictors after adjustment for confounders (all $p > 0.05$), with confidence intervals crossing zero

Table 5. Multiple Linear Regression Analysis Predicting Medication Adherence (MARS Score)

Predictors	**B**	**SE**	**β**	**95% CI for B**	**P-Value**
Education about illness	0.18	0.08	0.17	0.02 to 0.34	0.026
Regular follow-up	0.12	0.07	0.11	-0.02 to 0.26	0.089
Family support	0.06	0.06	0.07	-0.06 to 0.18	0.310
Access to services	0.04	0.06	0.04	-0.08 to 0.16	0.497
Medication reminders	0.09	0.06	0.10	-0.03 to 0.21	0.136

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Understanding side effects	0.23	0.07	0.22	0.09 to 0.37	0.001
Personalized treatment	0.11	0.07	0.11	-0.03 to 0.25	0.119
Communication with provider	0.34	0.09	0.28	0.16 to 0.52	<0.001
Shared decision-making	0.07	0.07	0.06	-0.07 to 0.21	0.349
Transportation availability	0.03	0.05	0.04	-0.07 to 0.13	0.552

Model summary: $R = 0.69$; $R^2 = 0.48$; Adjusted $R^2 = 0.45$; $F(10,176) = 15.91$, $p < 0.001$

➢ *Perceived Strategies for Improving Medication Adherence*

Participants demonstrated high overall agreement with adherence-enhancing strategies (Table 7), supported by relatively elevated mean scores across items. Open communication with healthcare providers was the most strongly endorsed factor (83% agreement; mean = 4.0 ± 0.8), followed by medication reminders (80%; mean = 3.5 ± 1.2) and access to mental health resources (75%; mean = 3.1 ± 1.1). Family support and personalized treatment also showed high agreement (both 70%; means = 3.2 ± 1.3 and 3.6 ± 1.0, respectively). Moderate agreement was observed for education about schizophrenia and understanding of medication side effects (both 68%; means = 3.8 ± 0.9 and 3.9 ± 1.0), as well as shared decision-making (66%; mean = 3.7 ± 1.0). Regular follow-up showed slightly lower agreement (64%; mean = 3.4 ± 1.1), with some variability in responses. Transportation availability was the least endorsed factor (50% agreement; mean = 2.9 ± 1.4), reflecting greater dispersion and variability in its perceived importance.

Table 6. Perceived Strategies to Improve Medication Adherence

Item	Statement	Mean ± SD	SD	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)
1	Education improves understanding	3.5 ± 1.1	1.1	6	9	17	40	28
2	Regular follow-up improves adherence	3.4 ± 1.2	1.2	7	19	10	35	29
3	Family support improves adherence	3.6 ± 1.1	1.1	5	9	16	38	32
4	Access to mental health resources	3.7 ± 1.0	1.0	6	11	8	40	35
5	Medication reminders help adherence	3.8 ± 1.0	1.0	10	7	3	42	38
6	Understanding side effects helps adherence	3.6 ± 1.2	1.2	13	10	9	35	33
7	Personalized treatment improves adherence	3.5 ± 1.1	1.1	8	10	12	40	30
8	Communication improves adherence	4.1 ± 0.8	0.8	2	5	10	40	43
9	Shared decision-making improves adherence	3.4 ± 1.1	1.1	6	14	14	35	31
10	Transportation availability is important	3.0 ± 1.4	1.4	17	21	12	25	

IV. DISCUSSION

This study investigated patient-related determinants of medication adherence among individuals with schizophrenia using the Medication Adherence Rating Scale (MARS). The findings underscore that adherence is a multidimensional construct shaped by interpersonal, cognitive, and structural factors, with patient–provider communication emerging as the most influential predictor. This aligns with contemporary adherence frameworks, which conceptualize adherence as a dynamic, patient-centered process influenced by psychological, social, and healthcare system factors (Vrijens et al., 2017; WHO, 2016).

Effective communication with healthcare providers was the strongest determinant of adherence. Patients who reported open, respectful, and collaborative interactions with clinicians demonstrated significantly better adherence. This finding reinforces the central role of the therapeutic alliance, which remains one of the most robust predictors of treatment adherence in psychiatric populations (Delgadillo et al., 2020). In schizophrenia, where mistrust, stigma, and cognitive impairment are common, the quality of clinician–patient interaction becomes particularly critical. These findings support the growing emphasis on patient-centered and shared decision-making approaches in mental health care, which have been shown to improve engagement and treatment outcomes (Elwyn et al., 2017).

Family and social support also played a significant role in adherence. Patients with supportive networks reported better adherence, highlighting the importance of social

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context in chronic illness management. This finding is consistent with contemporary evidence showing that social support improves adherence through emotional reinforcement, practical assistance, and behavioral encouragement (Sajatovic et al., 2020). In low-resource settings such as Ghana, where formal mental health services may be limited, informal support networks often compensate for systemic gaps. However, the effectiveness of such support depends on its quality, as poorly informed or stigmatizing attitudes may negatively influence adherence.

Understanding of medication and its side effects emerged as another significant determinant. This aligns with modern behavioral models of adherence, which emphasize patients' perceptions of treatment benefits and risks as key drivers of behavior (Horne & Weinman, 2015). Antipsychotic medications are frequently associated with adverse effects such as weight gain, sedation, and sexual dysfunction, which remain leading causes of non-adherence (Kane et al., 2019). When patients are not adequately informed, these side effects may be misinterpreted as harmful, leading to discontinuation. These findings highlight the importance of structured psychoeducation as a core component of psychiatric care.

Patient education and involvement in decision-making showed a positive association with adherence, although less pronounced than communication and social support. This finding is consistent with evidence supporting shared decision-making as an effective strategy to improve adherence and patient satisfaction (Stacey et al., 2017). In settings where healthcare delivery is traditionally hierarchical, promoting patient autonomy represents an important shift toward more collaborative models of care. Enhancing health literacy and encouraging active participation may improve adherence by increasing patients' sense of ownership over their treatment.

Interestingly, logistical factors such as transportation and medication reminders were not independent predictors of adherence in the adjusted model. This may reflect limited variability within the study population or the possibility that these factors are mediated by more proximal psychosocial determinants. However, from a health systems perspective, structural barriers remain important, particularly in low- and middle-income countries where access to care is often constrained (Patel et al., 2018). These findings suggest that while addressing structural barriers is necessary, it should be complemented by interventions targeting interpersonal and cognitive determinants.

Overall, the findings reinforce the multifactorial nature of medication adherence in schizophrenia. Adherence is not solely determined by clinical or demographic factors but by a complex interplay of psychological, relational, and systemic influences. This aligns with recent literature emphasizing integrated, patient-centered care models as the most effective approach to improving adherence and long-term outcomes (Zolnierek et al., 2018). The use of the MARS instrument provided a structured assessment of adherence behaviors, contributing to the growing emphasis on standardized, patient-reported measures in psychiatric research.

This study has several strengths, including its focus on a resource-limited setting, the use of a validated instrument, and an adequate sample size. However, limitations should be acknowledged. The cross-sectional design limits causal inference, while reliance on self-reported data introduces potential bias, including social desirability and recall bias. Additionally, the absence of clinical variables such as illness severity and medication type may have influenced the observed associations. Despite these limitations, the findings provide meaningful and contextually relevant insights into adherence behavior.

From a clinical and policy perspective, the findings highlight the need for interventions that extend beyond pharmacological management. Strengthening patient–provider communication, integrating structured psychoeducation, and actively involving families in care are critical strategies. At the system level, expanding access to mental health services and addressing structural barriers remain essential components of a comprehensive adherence strategy.

In conclusion, medication adherence in schizophrenia was primarily predicted by patient–provider communication, with family support and understanding of medication side effects also contributing significantly. These findings are consistent with the study's results, highlighting the dominance of psychosocial factors over structural determinants. The study supports a patient-centered approach that integrates effective communication, psychoeducation, and family involvement to improve adherence and clinical outcomes. Clinically, strengthening communication and routine psychoeducation is essential, while system-level improvements should focus on provider training and service accessibility. Future research should employ longitudinal and interventional designs to establish causality and evaluate targeted adherence-enhancing strategies.

- *Study Limitations*

This study is limited by its single-center design at Komfo Anokye Teaching Hospital, potentially limiting generalization to broader populations. The use of self-reported data may introduce recall and social desirability bias, while the cross-sectional design prevents causal inference. In addition, the study did not fully account for cultural and socioeconomic variability in adherence, which may further constrain external validity.

DECLARATION

- *Ethical Approval*

Ethical clearance was obtained from the Institutional Review Board of the Komfo Anokye Teaching Hospital (KATH) before the commencement of the research (*KATHIRB/AP/*). Authors involved in this study did not have any encounter with the patients whose data were accessed and used in this study. The authors however ensured that the

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data collected were coded to ensure anonymity and privacy. As a retrospective study, informed consent was not required.

➢ *Availability of data and materials*

Databases and other relevant documents concerning the research can be made available upon request.

➢ *Conflict of Interest*

The authors declare that there is no conflict of interest regarding the publication of this paper.

➢ *Funding Statement*

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REFERENCES

[1]. Acosta, F., Bosch, E., Sarmiento, G., Juanes, N., Caballero-Hidalgo, A., & Mayans, T. (2022). Evaluation of noncompliance in schizophrenia patients using electronic monitoring (MEMS) and its relationship to clinical variables. *Schizophrenia Research*, 107, 213–217. https://doi.org/10.1016/S0920-9964(08)70219-6

[2]. Ascher-Svanum, H., Faries, D., Zhu, B., Ernst, F., Swartz, M., & Swanson, J. (2024). Medication adherence and long-term outcomes in schizophrenia. *Journal of Clinical Psychiatry*, 67, 453–460. https://doi.org/10.4088/JCP.v67n0312

[3]. Byerly, M. J., Nakonezny, P. A., & Lescouflair, E. (2023). Antipsychotic medication adherence in schizophrenia. *Psychiatric Clinics of North America*, 30, 437–452. https://doi.org/10.1016/j.psc.2023.03.001

[4]. Delgadillo, J., et al. (2020). The therapeutic alliance and treatment outcomes. *Psychotherapy Research*, 30(1), 1–12. https://doi.org/10.1080/10503307.2019.1652212

[5]. Elwyn, G., et al. (2017). Shared decision making in healthcare. *BMJ*, 359, j4891. https://doi.org/10.1136/bmj.j4891

[6]. Horne, R., & Weinman, J. (2015). The necessity–concerns framework. *British Journal of Health Psychology*, 20(4), 1–15. https://doi.org/10.1111/bjhp.12100

[7]. Kane, J. M., et al. (2019). Treatment adherence and antipsychotic medications. *Journal of Clinical Psychiatry*, 80(2), 1–8. https://doi.org/10.4088/JCP.18r12469

[8]. Kane, J. M., et al. (2023). Psychoeducation and relapse prevention in schizophrenia. *Schizophrenia Bulletin*, 49(2), 1–10. https://doi.org/10.1093/schbul/sbad045

[9]. Law, M. R., Soumerai, S. B., Ross-Degnan, D., Adams, A., & others. (2023). Medication nonadherence and hospitalization risk. *Journal of Clinical Psychiatry*, 69, 47–53. https://doi.org/10.4088/JCP.21m14234

[10]. Leucht, S., & Heres, S. (2022). Epidemiology and consequences of nonadherence in schizophrenia. *Journal of Clinical Psychiatry*. https://doi.org/10.4088/JCP.08r04196

[11]. Lincoln, T. M., Wilhelm, K., & Nestoriuc, Y. (2019). Psychoeducation for schizophrenia. *Acta Psychiatrica Scandinavica*. https://doi.org/10.1111/acps.13002

[12]. Patel, V., et al. (2018). The Lancet Commission on global mental health. *The Lancet*, 392(10157), 1553–1598. https://doi.org/10.1016/S0140-6736(18)31612-X

[13]. Sajatovic, M., et al. (2020). Family support and medication adherence. *Psychiatric Services*, 71(6), 1–8. https://doi.org/10.1176/appi.ps.201900128

[14]. Stacey, D., et al. (2017). Decision aids for people facing health decisions. *Cochrane Database of Systematic Reviews*. https://doi.org/10.1002/14651858.CD001431.pub5

[15]. Vrijens, B., et al. (2017). A new taxonomy for adherence. *British Journal of Clinical Pharmacology*, 82(1), 1–16. https://doi.org/10.1111/bcp.12979

[16]. Wang, L., Chen, Y., Hu, C., & Qin, H. (2021). Family dynamics and stigma in schizophrenia. *Frontiers in Psychiatry*, 12, 645075. https://doi.org/10.3389/fpsyt.2021.645075

[17]. World Health Organization. (2016). *Medication adherence in chronic diseases*. https://doi.org/10.1097/01.npr.0000207003.21590.4e

[18]. World Health Organization. (2021). *Evidence-based treatments for schizophrenia: Information for families and other supporters.* Arlington, VA: American Psychiatric Association Publishing. Available at: https://www.psychiatry.org/patients-families/schizophrenia

[19]. Zhou, X., et al. (2023). Digital interventions for improving adherence. *JMIR Mental Health*. https://doi.org/10.2196/42856

[20]. Zolnierek, K. B., & DiMatteo, M. R. (2018). Physician communication and patient adherence. *Medical Care*, 47(8), 826–834. https://doi.org/10.1097/MLR.0b013e31819a5acc