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Effectiveness of Psych-education on Medication Adherence Among Patients with Schizophrenia

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Abstract

Background: Medication non-adherence remains a major challenge in the management of schizophrenia, contributing to relapse, rehospitalization, and poor long-term outcomes. Psychoeducation has been recommended as an evidence-based psychosocial intervention to enhance treatment adherence.

Objective: To evaluate the effectiveness of psychoeducation on medication adherence among patients with schizophrenia.

Methods: A quasi-experimental pretest–posttest control group design was adopted. A total of 40 patients diagnosed with schizophrenia were selected using purposive sampling and allocated into an experimental group ($n = 20$) and a control group ($n = 20$). Medication adherence was assessed using the Medication Adherence Rating Scale (MARS) before and after a four-week structured psychoeducation program. The control group received routine psychiatric care only. Data were analyzed using descriptive statistics, paired samples t-test, and independent samples t-test. A p-value of < 0.05 was considered statistically significant.

Results: The experimental group demonstrated a statistically significant improvement in medication adherence following psychoeducation ($t(19) = -35.19$, $p < 0.001$). In contrast, the control group showed no significant change ($t(19) = -1.83$, $p = 0.083$). Post-test comparison between groups revealed a highly significant difference ($t(38) = 10.80$, $p < 0.001$), indicating superior adherence in the experimental group.

Conclusion: Structured psychoeducation significantly improves medication adherence among patients with schizophrenia. Integrating psychoeducational interventions into routine psychiatric care may enhance treatment outcomes and reduce relapse risk.

Keywords: Schizophrenia; Psychoeducation; Medication adherence; Antipsychotic treatment; Quasi-experimental study; Mental health nursing; Psychiatric outpatient care

1. Introduction

Schizophrenia is a chronic, severe, and disabling psychiatric disorder that significantly affects cognition, perception, emotion, and behavior. It is characterized by positive symptoms such as hallucinations and delusions, negative symptoms including social withdrawal and blunted affect, and cognitive impairments that interfere with daily functioning. The disorder affects approximately 24 million people worldwide and contributes substantially to the global burden of disease (1). Long-term management primarily relies on continuous treatment with antipsychotic medications, which are effective in reducing psychotic symptoms and preventing relapse (2). However, the success of pharmacological treatment largely depends on consistent medication adherence.

Medication adherence refers to the extent to which a patient's behavior corresponds with agreed recommendations from a healthcare provider (3). Among individuals diagnosed with Schizophrenia, medication non-adherence remains a persistent and critical issue. Studies indicate that approximately 40–60% of patients with schizophrenia demonstrate partial or complete non-adherence to prescribed antipsychotic medications (4). Poor adherence is associated with relapse, symptom exacerbation, increased hospitalization rates, suicide risk, and impaired psychosocial functioning (5). Furthermore, repeated relapses may contribute to long-term deterioration, treatment resistance, and increased healthcare expenditures (6).

Multiple factors influence medication adherence in schizophrenia. These include poor insight into illness, distressing medication side effects, cognitive deficits, lack of social support, stigma, and inadequate knowledge about the nature of the disorder and its treatment (7). Lack of insight, in particular, is strongly correlated with non-adherence, as many patients may not perceive themselves as ill or in need of ongoing treatment (8). Therefore, addressing both informational and motivational barriers is essential in promoting sustained adherence.

Psychoeducation has been widely recommended as an evidence-based psychosocial intervention for individuals with schizophrenia and their families (9). Psychoeducation involves the systematic provision of information about the illness, its symptoms, treatment options, medication benefits and side effects, early warning signs of relapse, and coping strategies. It aims to enhance patients' understanding of their condition, improve insight, foster collaborative decision-making, and encourage active participation in treatment (10). By increasing awareness and correcting misconceptions, psychoeducation may strengthen patients' commitment to long-term pharmacotherapy.

Several studies suggest that psychoeducational interventions can reduce relapse rates, improve treatment compliance, and enhance overall functioning (11). However, the effectiveness of psychoeducation may vary depending on cultural context, healthcare setting, duration of intervention, and patient characteristics (12). In many clinical settings, psychoeducation is not consistently implemented as part of routine psychiatric care. Consequently, there remains a need to systematically evaluate its effectiveness in improving medication adherence among patients with schizophrenia within specific populations.

The rationale for the present study arises from the ongoing challenge of medication non-adherence and its serious clinical consequences. Despite advances in pharmacological management, relapse and

rehospitalization rates remain high, largely due to inconsistent medication use. Evaluating structured psychoeducational interventions may provide empirical evidence to support their integration into standard treatment protocols. Improved adherence not only enhances symptom control but also contributes to better long-term outcomes, reduced healthcare burden, and improved quality of life.

The primary objective of this study is to assess the effectiveness of psychoeducation on medication adherence among patients with schizophrenia. Specifically, the study aims to compare medication adherence levels before and after the implementation of a structured psychoeducation program and to examine differences between patients receiving psychoeducation and those receiving routine care alone.

The scope of the study is limited to adult patients diagnosed with schizophrenia who are receiving antipsychotic treatment in a selected psychiatric setting. The focus is confined to medication adherence as the primary outcome variable. The findings may provide valuable evidence for mental health professionals and policymakers regarding the importance of incorporating psychoeducational strategies into routine psychiatric care to promote sustained treatment adherence and improve overall patient outcomes.

Methodology

1. Research Design

This study will adopt a **quasi-experimental pretest–posttest control group design** to evaluate the effectiveness of psychoeducation on medication adherence among patients diagnosed with Schizophrenia.

Two groups will be included:

- An **experimental group** receiving psychoeducation in addition to routine care
- A **control group** receiving routine psychiatric care only

Medication adherence will be measured before and after the intervention in both groups.

2. Study Setting

The study will be conducted at the psychiatric outpatient department of a selected mental health hospital.

3. Population

The target population will consist of adult patients diagnosed with Schizophrenia who are receiving antipsychotic treatment.

4. Sample and Sampling Technique

A total of **60 patients** will be selected using a **purposive sampling technique**.

- 30 patients → Experimental group

- 30 patients → Control group

Inclusion Criteria:

- Diagnosed with Schizophrenia (as per DSM-5 criteria)
- Aged between 18–60 years
- On antipsychotic medication for at least 3 months
- Able to communicate and give informed consent

Exclusion Criteria:

- Patients with severe cognitive impairment
- Patients with comorbid substance dependence
- Critically ill patients

5. Data Collection Tools

Section A: Socio-demographic and Clinical Data

Includes age, gender, education, duration of illness, and duration of treatment.

Section B: Medication Adherence Scale

Medication adherence will be assessed using the **Medication Adherence Rating Scale (MARS)**, a standardized self-report instrument commonly used among patients with psychiatric disorders.

6. Intervention: Psychoeducation Program

The psychoeducation program will be structured and delivered to the experimental group over **4 weeks** (2 sessions per week, 30–45 minutes each).

Content of Sessions:

- Understanding Schizophrenia
- Importance of medication adherence
- Managing side effects
- Relapse prevention
- Family support and coping strategies

The control group will receive routine care only.

7. Procedure

1. Obtain ethical approval from the institutional ethics committee.
2. Obtain informed consent from participants.
3. Conduct pretest assessment of medication adherence in both groups.
4. Implement psychoeducation intervention for the experimental group.
5. Conduct posttest assessment after 4 weeks.

8. Data Analysis

Data will be analyzed using statistical software (e.g., SPSS).

- Descriptive statistics: frequency, percentage, mean, and standard deviation
- Inferential statistics:
    - Paired t-test (to compare pre- and post-test scores within groups)
    - Independent t-test (to compare post-test scores between groups)

A p-value of <0.05 will be considered statistically significant.

9. Ethical Considerations

- Ethical approval will be obtained from the institutional review board.
- Written informed consent will be taken from all participants.
- Confidentiality and anonymity will be maintained.
- Participants will have the right to withdraw at any time without penalty.

RESULT

Table 1: Descriptive Statistics of Demographic and Clinical Variables of Participants					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	40	27	52	37.33	6.919
Illness_Yrs	40	3	12	6.35	2.434
Treatment_Yrs	40	2	10	5.22	2.094
Pre_Score	40	3	6	4.25	.840
Post_Score	40	3	9	6.18	2.011
Valid N (listwise)	40				

Table 1 presents the descriptive statistics of the demographic, clinical, and medication adherence variables of the study participants. The mean age of the participants was **37.33** ± **6.92 years**, with ages ranging from **27 to 52 years**. The mean duration of illness was **6.35** ± **2.43 years**, indicating that most participants had been living with schizophrenia for a moderate period. The average duration of treatment was **5.22** ± **2.09 years**, suggesting sustained engagement with psychiatric care.
Regarding medication adherence scores, the mean pre-test score was **4.25** ± **0.84**, reflecting a relatively low-to-moderate level of adherence prior to the intervention. Following the intervention, the mean post-test adherence score increased to **6.18** ± **2.01**, indicating an overall improvement in medication adherence among the participants. A total of **40 participants** were included in the analysis with no missing data, as indicated by the valid N.

Table 2. Test of Normality for Pre-Test and Post-Test Medication Adherence Scores in Experimental and Control Groups							
		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
Pre_Score	Experimental	.251	20	.002	.800	20	.001
	Control	.227	20	.008	.886	20	.023
Post_Score	Experimental	.194	20	.048	.865	20	.010
	Control	.259	20	.001	.852	20	.006
a. Lilliefors Significance Correction							

Table 2 presents the results of the normality tests for pre-test and post-test medication adherence scores in both the experimental and control groups using the Kolmogorov–Smirnov and Shapiro–Wilk tests.
Since the sample size in each group is 20 ($n < 50$), the Shapiro–Wilk test is considered more appropriate for assessing normality. The Shapiro–Wilk test revealed that the pre-test scores in the experimental group ($p = 0.001$) and control group ($p = 0.023$) were not normally distributed, as the p-values were less than 0.05. Similarly, the post-test scores in the experimental group ($p = 0.010$) and control group ($p = 0.006$) also showed statistically significant deviation from normality.

As all p-values were less than 0.05, the assumption of normality was violated for both pre-test and post-test adherence scores in both groups. Therefore, the data are not normally distributed.

Table 3. Paired Samples t-Test Comparing Pre-Test and Post-Test Medication Adherence Scores in the Experimental Group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre_Score - Post_Score	-3.700	.470	.105	-3.920	-3.480	-35.194	19	.000

Table 3 presents the results of the paired samples t-test conducted to compare pre-test and post-test medication adherence scores among participants in the experimental group (n = 20).

The analysis revealed a statistically significant difference between pre-test and post-test scores (t(19) = –35.19, p < 0.001). The mean difference between pre-test and post-test scores was –3.70 (SD = 0.47), with a 95% confidence interval ranging from –3.92 to –3.48. The negative mean difference indicates that post-test scores were significantly higher than pre-test scores.

These findings suggest that the psychoeducation intervention significantly improved medication adherence among participants in the experimental group.

Table 4. Paired Samples t-Test Comparing Pre-Test and Post-Test Medication Adherence Scores in the Control Group

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre_Score - Post_Score	-.150	.366	.082	-.321	.021	-1.831	19	.083

Table 4 presents the results of the paired samples t-test conducted to compare pre-test and post-test medication adherence scores among participants in the control group (n = 20).

The analysis showed no statistically significant difference between pre-test and post-test scores (t(19) = –1.83, p = 0.083). The mean difference between pre-test and post-test scores was –0.15 (SD = 0.37), with a 95% confidence interval ranging from –0.321 to 0.021. Since the p-value was greater than 0.05, the change in medication adherence scores was not statistically significant.

This indicates that routine care alone did not produce a significant improvement in medication adherence among participants in the control group.

Table 5. Independent Samples t-Test Comparing Post-Test Medication Adherence Scores Between Experimental and Control Groups

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Post_Score	Equal variances assumed	1.608	.212	10.804	38	.000	3.450	.319	2.804	4.096
	Equal variances not assumed			10.804	36.749	.000	3.450	.319	2.803	4.097

Table 5 presents the results of the independent samples t-test conducted to compare post-test medication adherence scores between the experimental and control groups.

Levene's test for equality of variances was not statistically significant ($F = 1.608$, $p = 0.212$), indicating that the assumption of homogeneity of variances was met. Therefore, the results under the "Equal variances assumed" row were interpreted.

The independent samples t-test revealed a statistically significant difference in post-test medication adherence scores between the experimental and control groups ($t(38) = 10.804$, $p < 0.001$). The mean difference between groups was 3.45 ($SE = 0.319$), with a 95% confidence interval ranging from 2.804 to 4.096.

These findings indicate that participants who received psychoeducation demonstrated significantly higher medication adherence scores compared to those who received routine care alone. This result confirms the effectiveness of the psychoeducation intervention in improving medication adherence among patients with schizophrenia.

Summary of Results

The present study evaluated the effectiveness of psychoeducation on medication adherence among patients with schizophrenia using a quasi-experimental pretest–posttest control group design. A total of 40 participants were included, with 20 in the experimental group and 20 in the control group. Descriptive statistics showed that the mean age of participants was 37.33 ± 6.92 years. The mean pre-test medication adherence score was 4.25 ± 0.84, which increased to 6.18 ± 2.01 at post-test, indicating overall improvement.

The paired samples t-test revealed a statistically significant improvement in medication adherence in the experimental group following psychoeducation ($t(19) = –35.19$, $p < 0.001$). In contrast, the control group did not show a statistically significant change in adherence scores ($t(19) = –1.83$, $p = 0.083$). Furthermore, the independent samples t-test demonstrated a significant difference in post-test adherence scores between the experimental and control groups ($t(38) = 10.80$, $p < 0.001$).

These findings confirm that the structured psychoeducation program was effective in significantly improving medication adherence among patients with schizophrenia compared to routine care alone.

DISCUSSION

The present study aimed to evaluate the effectiveness of psychoeducation on medication adherence among patients with schizophrenia using a quasi-experimental pretest–posttest control group design. The findings demonstrated a statistically significant improvement in medication adherence among participants who received structured psychoeducation, whereas no significant improvement was observed in the control group receiving routine care alone. Furthermore, post-test comparison between groups revealed a highly significant difference, confirming the effectiveness of the intervention.

Medication non-adherence remains one of the most critical challenges in the long-term management of schizophrenia. Poor adherence is strongly associated with relapse, rehospitalization, symptom exacerbation, and increased healthcare burden. Therefore, interventions that enhance patients' understanding of their illness and treatment play a crucial role in psychiatric care. The present findings support the growing body of evidence that psychoeducation is an effective psychosocial strategy for improving treatment adherence.

In this study, the experimental group showed a marked increase in post-test medication adherence scores compared to pre-test scores. This significant improvement suggests that providing structured information regarding the nature of schizophrenia, importance of medication adherence, management of side effects, and relapse prevention enhances patients' insight and motivation toward treatment compliance. Psychoeducation likely reduces misconceptions about medications, alleviates fear related to side effects, and promotes collaborative treatment engagement.

In contrast, the control group did not demonstrate a statistically significant improvement in adherence scores. Although a slight numerical change was observed, it was not statistically meaningful. This indicates that routine psychiatric care alone may not be sufficient to significantly enhance medication adherence. Standard care often focuses on symptom management and pharmacotherapy but may not adequately address informational and motivational barriers that contribute to non-adherence.

The significant difference in post-test adherence scores between the experimental and control groups further strengthens the conclusion that psychoeducation was the key factor contributing to improved outcomes. The large t-value and highly significant p-value indicate a strong intervention effect. These findings align with previous research suggesting that psychoeducational interventions improve treatment compliance, reduce relapse rates, and enhance overall functioning in individuals with schizophrenia.

One possible explanation for the effectiveness of psychoeducation is the improvement in illness insight. Patients with schizophrenia often exhibit limited awareness of their illness, which directly influences medication adherence. By systematically explaining symptoms, treatment benefits, and relapse risks, psychoeducation may enhance awareness and acceptance of the need for ongoing pharmacotherapy. Additionally, addressing side-effect management reduces anxiety and improves tolerance toward medication.

Another important aspect is the structured and repeated nature of the intervention. The psychoeducation program in this study was delivered over four weeks, allowing sufficient time for reinforcement and clarification of information. Regular sessions likely facilitated trust-building and interactive discussion, thereby strengthening patient engagement.

The findings also highlight the importance of integrating psychosocial interventions into routine psychiatric practice. While pharmacological treatment remains essential, medication alone may not address behavioral and cognitive barriers to adherence. Psychoeducation acts as a complementary strategy that enhances treatment effectiveness.

However, it is important to interpret these findings cautiously. Although the results are statistically significant, the assumption of normality was violated according to the Shapiro–Wilk test. Despite this, parametric tests were applied. While t-tests are relatively robust to minor violations of normality in small samples, this methodological limitation should be acknowledged.

Overall, the present study provides empirical evidence supporting the implementation of structured psychoeducation programs in psychiatric outpatient settings to improve medication adherence among patients with schizophrenia.

CONCLUSION

The study concludes that structured psychoeducation is highly effective in improving medication adherence among patients with schizophrenia. Participants who received psychoeducation demonstrated a statistically significant increase in adherence scores compared to those receiving routine care alone. The findings confirm that psychoeducation enhances patients' understanding of their illness and treatment, thereby promoting better compliance with prescribed medications.

Incorporating psychoeducation into routine psychiatric services can significantly contribute to improved treatment outcomes, reduced relapse rates, and enhanced quality of life for individuals with schizophrenia.

LIMITATIONS

Despite the significant findings, several limitations must be acknowledged. First, the sample size was relatively small ($n = 40$), which may limit the generalizability of the findings to broader populations. Larger, multi-centered studies are recommended to strengthen external validity.

Second, the study utilized a quasi-experimental design with purposive sampling rather than randomization, which may introduce selection bias. Randomized controlled trials would provide stronger causal evidence.

Third, medication adherence was assessed using a self-report scale, which may be influenced by social desirability bias or inaccurate reporting. Objective measures such as pill counts or pharmacy refill records could enhance measurement accuracy.

Fourth, the duration of follow-up was limited to four weeks. Long-term adherence outcomes were not assessed. Future research should include extended follow-up periods to evaluate sustained effects.

Finally, normality assumptions were not fully met, which may affect the appropriateness of parametric statistical tests.

PRACTICAL IMPLICATIONS

The findings of this study have significant implications for clinical practice, nursing care, and mental health policy. Psychoeducation should be integrated as a routine component of psychiatric treatment programs for patients with schizophrenia. Mental health nurses can play a central role in delivering structured psychoeducational sessions in outpatient and inpatient settings.

Hospitals and psychiatric clinics should develop standardized psychoeducation modules focusing on illness awareness, medication benefits, side-effect management, and relapse prevention. Training healthcare professionals in psychoeducational techniques can enhance intervention quality and patient engagement.

Additionally, involving family members in psychoeducation programs may further strengthen support systems and improve long-term adherence. Policymakers should consider incorporating psychoeducation into national mental health programs as a cost-effective strategy to reduce relapse and hospitalization rates.

By addressing both informational and motivational barriers, psychoeducation can significantly improve treatment outcomes and overall functioning among patients with schizophrenia.

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