

Psychological intervention to enhance adherence to antipsychotic medication among patients with severe mental illnesses in Zambia: A Pilot Study

Charles Mungenisa Shamayinda

`charles.shamayinda@lmmu.ac.zm`

Levy Mwanawasa Medical University

Didduh Mubanga

Levy Mwanawasa Medical University

Lasgih Musukuma Maimba

Levy Mwanawasa Medical University

Richard Chitoshi

Levy Mwanawasa Medical University

Albina Chitembo

Levy Mwanawasa Medical University

Sibongile Mashaphu

University of KwaZulu-Natal

Nduku Wambuwa

University of KwaZulu-Natal

Research Article

Keywords: Antipsychotic medication, service user, psychological intervention, mental health hospital, mental illness and care

Posted Date: July 9th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-9944416/v1>

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Additional Declarations: No competing interests reported.

Abstract

Background: Nonadherence to antipsychotic medication among service users living with severe mental illnesses (SULWSMI) contributes to high relapse rates, functional impairment, strained relationships with family and friends, suicide risk, and hospital readmissions. Psychological interventions, such as motivational interviewing (MI), have proven effective in enhancing medication adherence.

Objectives: To assess feasibility, refine methods and identify potential barriers before implementing a full-scale study on psychological intervention to improve antipsychotic medication adherence among service users living with severe mental illnesses at Chainama Mental Hospital (CMH).

Method: A total of twenty-five participants diagnosed with schizophrenia, severe depression, and bipolar I manic episodes were recruited from the psychiatric unit of Kabwe General Hospital. A purposive sampling technique was used to select study participants, utilising an attendance book, with the support of two psychiatric nurses on duty. The primary study comprises a population of 200 participants, while this pilot aimed to interview 10% of this figure, alongside an additional 5 participants, to account for potential refusals.

Results: Twenty-one out of twenty-five participants were interviewed using an adapted Medication Adherence Rating Scale (MARS) questionnaire. Additionally, four out of twenty-one participants were randomly selected and consented to be interviewed using a self-developed interview guide. Four participants opted out, citing the need to attend to other matters.

Conclusion: The intervention has shown feasibility and the potential to effectively improve adherence to antipsychotic medication. However, minor logistical adjustments are needed before launching a full-scale study.

1.0 Introduction

Nonadherence to antipsychotics medication among service users (SUs) living with severe mental illnesses (SMI) remains a critical barrier to effective management of SMIs in low and middle-income countries like Zambia. Nonadherence to antipsychotic medication is a serious public mental health challenge, associated with heightened risk of relapse, hospitalization, and diminished quality of life (Erohubie et al., 2024; Mohammed, Geda, Yadeta, & Dessie, 2024; Robinson, 2024). Although pharmacological management is critical, integrating psychological interventions has shown (Lühnen et al., 2024; McCutcheon et al., 2024; Morrison et al., 2020) to significantly enhance antipsychotic medication adherence.

1.1 Statement of problem

Antipsychotic drugs play a crucial role in managing mental illnesses such as schizophrenia, bipolar disorder, depression and other psychotic conditions. Despite advancement in psychopharmacology,

more than 70% (Ismail, Gan, & Ahmad, 2020; McCutcheon et al., 2024; Rubio et al., 2020) of SUs do not take their antipsychotic medications correctly, miss their doses, or take them at the wrong times, while others prematurely discontinue their therapy before their carer advises them to do so. Psychological interventions have proven effective in enhancing adherence to medications; however, they are still underutilized. Furthermore, there is a notable absence of locally adapted psychological interventions aimed at improving adherence to antipsychotic medication among service users in Zambia's mental health care facilities (Biswal et al., 2024; Przemyslaw Kardas, 2024; Teasdale et al., 2025).

1.2 Rationale

Before initiating the main study, it is crucial to assess the feasibility of conducting research on psychological intervention within the local context, assess its acceptability, and identify any logistical barriers.

1.3 Objectives

This pilot study aimed to:

1. Assess the feasibility of implementing a full-scale study
2. Evaluate the validity of data collecting instruments
3. Identify and address any barriers that would impede the full-scale study

2.0 Methodology

2.1 Study design

The pilot study used an explanatory sequential design (ESD) within the framework of mixed-method research (MMR). This ESD approach combined quantitative and qualitative methodologies to provide a thorough understanding of the issue under investigation. The four participants that consented had the MI procedure explained. Further, a descriptive single-arm intervention session was conducted involving four participants who received group motivational interviewing (GMI). The participants were booked for a re-assessment at the end of the month (July) when they return for a drug refill.

2.2 Study Setting

The study was conducted at the psychiatric unit of Kabwe General Hospital. The Kabwe psychiatric unit is a Provincial mental health facility located within the Kabwe General Hospital in the central province of Zambia. The mental health facility serves as a referral center for 12 districts found in central province. The facility offers both outpatient and inpatient care and has a total bed capacity of 32. The hospital is 142 kilometers south of the capital city, Lusaka.

2.3 Study Participants

A total of 25 participants were recruited in the study. However, only 21 participants consented participation, as 4 opted out, citing lack of time. All participants were diagnosed with severe mental

illnesses using the diagnostic and statistical manual volume 5 (DSM-V) and were further assessed to participate in the study using the capacity assessment form (Appendix IV). Thirteen were diagnosed with schizophrenia, five with Bipolar I manic episode and three had severe depression. All participants were recruited using purposive sampling technique with the aid of an attendance register book. All participants were on antipsychotic medication for at least 3 months and; were aged 18 years old, with no upper limit.

2.4 Instruments Tested

- Adapted medication adherence rating scale questionnaire
- Self-developed interview guide
- Information and consent form and the
- Capacity assessment form

2.5 Data collection procedure and interview guides

The 21 participants were interviewed using an adopted Medication Adherence Rating Scale (MARS) questionnaire after obtaining informed consent. Interviews were conducted privately in the screening rooms (Horne & Hankins, 2008; Khoiry, Alfian, Van Boven, Jatnika, & Abdulah, 2026; Malaya et al., 2024; Vanelli, Chendo, Gois, Santos, & Levy, 2011). The principal investigator with the help of two registered mental health nurses conducted interviews which lasted 10 minutes on average. Further, 5 participants from among the 21 were randomly selected to participate in the qualitative section using a self-developed interview guide. The interview guide is available in the supplementary material. Four participants consented while one declined. The interviews were conducted by the principal investigator in one of the screening rooms. An interview guide was designed to explore the lived experiences behind nonadherence to antipsychotic medication. It was designed with open-ended questions to provide in-depth information on the subjective beliefs and attitudes of participants, than could be obtained by means of a questionnaire. Each qualitative interview took 25 minutes on average.

2.6 Intervention

Four participants, who had been interviewed using the interview guide, were scheduled for a group motivational interview (GMI) session on a Friday at 10:00. Prior to the GMI session, the participants underwent an assessment to determine their capacity to take part in the session. Following this assessment, they provided their written consent to participate and were escorted to a boardroom where the chairs had been arranged in a circle, fostering a friendly atmosphere. The PI reintroduced himself and his research assistants (RAs) and warmly welcomed the four participants for the motivational interviewing (MI) session. The PI began the session with a definition of MI as a collaborative and client-centered counselling approach aims at eliciting and exploring clients' motivation and commitment to improve their antipsychotic medication adherence (Miller, 2023; Schwenker et al., 2023; Sukmaningrum et al., 2024). Using the core skills of motivational interviewing - open questions, affirmation, reflections, and summaries - participants were encouraged to adhere to their daily antipsychotic medication

regimen. A follow-up meeting was arranged for the subsequent month when they would return for their medication refill.

3.0 Results (Participant's Profile)

A total of 25 participants were recruited for the pilot study. However, only 21 ($n = 84\%$), with a mean age of 27, ultimately participated. Four could not consent. A significant proportion of participants exhibiting nonadherence to antipsychotic medication were diagnosed with schizophrenia ($n = 13$; 62%), bipolar I manic episodes ($n = 5$; 24%), and severe depression ($n = 3$; 14%). A notable proportion of participants with nonadherence to antipsychotic medications were males ($n = 15$, 72%). On average, participants had been receiving antipsychotic treatment for a duration of four months ($n = 16$, 76%). Furthermore, most participants ($n = 18$, 86%) in this pilot study were prescribed first-generation (typical) antipsychotics and were on other drugs other than antipsychotic medication. High pill-burden was observed to decrease antipsychotic medication adherence in many participants.

With regards to marital status and adherence to antipsychotic medication, this pilot identified that single respondents with no formal social support were not compliant with antipsychotic medication adherence. The study also revealed that single respondents misused substances such as alcohol, tobacco and other illicit drugs, a behavior that compounded on their adherence to antipsychotic medication. A middle-aged respondent was observed citing the relationship alcohol misuse and nonadherence to antipsychotic medications in the following statement, *"I take my medications [Chlorpromazine and carbamazepine] twice a day..... when I go to drink, I forget to take my meds (medications) when I return, since I would be drunk to remember doing so. And in the morning, because of the hang-over (withdrawal symptoms), I am just not in the mood of taking them [medications]."* (24-year-old male, participant, 2).

4.0 Discussion

4.1 Introduction

This pilot study aimed to assess the feasibility and acceptability of implementing motivational interviewing (MI) as an intervention to improve adherence to antipsychotic medication among SUs. Nonadherence to antipsychotic medication has been documented in various pieces of literature (Erohubie et al., 2024; P. Kardas et al., 2024; Li et al., 2025; Mohammed et al., 2024) as a significant cause of relapse, leading to increased utilization of healthcare services and a greater burden on family care. Preliminary findings from the study indicate that instruments used (Appendix. 1–4) were relatively effective and both the MI intervention and the recruitment process were well received by participants. Additionally, the findings suggest that there is potential for implementing a full-scale study at Chainama Mental Health. However, a few areas need to be improved on.

4.2 Limitations

This study had limited sample sizes (21 participants for the quantitative and 4 for qualitative), which restricted generalizability, and had no follow up of participants to ascertain the effectiveness of the intervention. Moreover, the pilot study had no control group to contrast the efficacy of the intervention. The ethical clearance for the pilot study took longer than anticipated, due to administrative issues. The pilot was intended to be conducted at Chainama Mental Hospital. However, permission could not be granted because one of the necessary requirements was a copy of the student identification card, which the Principal Investigator (PI) did not have at that time. To mitigate this challenge, the study was moved to the Psychiatric Unit of Kabwe General Hospital.

4.3 Study Modifications

Large-scale research should incorporate randomized controlled designs with larger samples and longer follow-up to better evaluate MI's effectiveness and sustainability. Investigating the integration of MI into routine clinical workflows could also enhance its applicability. The following are the suggested study modifications:

- i. Study title to read: "Adapting and piloting motivational interview (MI) to enhance adherence to antipsychotic medications among service users (SU) with severe mental illnesses (SMI) in Lusaka, Zambia."
- ii. Specific Objectives to read:
 - a. To conduct a systematic review on the effectiveness of psychological interventions in enhancing antipsychotic medications adherence among SULWSMI: systematic review and meta-analysis
 - b. To determine the prevalence of non-adherence to antipsychotic medication and its correlates among SULWSM
 - c. To adapt the group Motivational Interviewing (GMI) to enhance adherence to antipsychotic medications in SULWSMI in Zambia for delivery by non-specialized healthcare providers,
 - d. To pilot the adapted GMI intervention and evaluate its acceptability and feasibility to enhance adherence to antipsychotic medication in SULWSMI

4.4 Conclusion

This pilot's findings provide preliminary evidence supporting the feasibility of using motivational interviewing in enhancing adherence to antipsychotic medication among SULWSMI. Results warrant further investigation through more rigorous study to establish efficacy and inform implementation strategies in diverse mental healthcare settings.

Declarations

5.1 Ethical Considerations

In compliance with the International Ethical Guidelines for Health-related Research Involving Humans, which require that all research involving human subjects or personal information receive approval from a local ethical committee (CIOMS, 2016), ethical clearance of this study was obtained from the Levy Mwanawasa Medical University Research Ethics Committee (**LMMU-REC 0000760 – 25**). All the 21 participants gave informed consent. Permission to conduct a study was also sought from the senior medical superintendent at Kabwe general hospital. Service Users were informed about the purpose and nature of the study, and they were asked to participate in the study voluntarily. They were also informed that they were free to leave the study at any time without any consequence. All participants' information was kept confidential.

5.2 Consent for publication

The authors and study participants give consent to publish this study

5.4 Competing Interest

Authors declare that they have no financial or personal relationships with participants that could have inappropriately influenced the writing of this document

5.5 Funding:

This pilot study was self-funded, and so will the main study.

Author Contribution

All authors contributed equally to the conception and design of the study, data collection, data analysis and interpretation, manuscript drafting, and the critical revision of the manuscript. All authors read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

5.7 Acknowledgements

We would like to thank all the services users who participated in this study

Data Availability

Anonymized data supporting the findings of this study may be made available from the corresponding author upon reasonable request, subject to ethical approval.

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