

Title

**EXPLORING THE CHALLENGES OF SUBOPTIMAL ADHERENCE TO  
ANTIRETROVIRAL THERAPY (ART) AND ITS EFFECT ON VIRAL LOAD SUPPRESSION:  
A CASE STUDY OF AREA 25 HEALTH CENTRE, LILONGWE, MALAWI**

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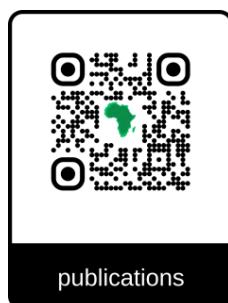
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## ABSTRACT

Adherence to antiretroviral therapy (ART) is a fundamental determinant of viral load suppression and long-term treatment success among people living with HIV. Suboptimal adherence remains a persistent challenge in sub-Saharan Africa and is associated with virological failure, drug resistance, disease progression, and increased HIV transmission. This study explored the challenges of suboptimal ART adherence and examined the role of Enhanced Adherence Counselling (EAC) in improving viral load suppression among HIV- positive clients at Area 25 Health Centre in Lilongwe, Malawi.

A cross-sectional mixed-methods design was adopted. Quantitative data were obtained from secondary sources, including ART registers and electronic medical records, to assess adherence patterns and viral load outcomes. Qualitative data were collected through semi- structured interviews with purposively selected ART clients to capture lived experiences and adherence-related challenges. Quantitative data were analyses descriptively, while qualitative data were analyzed thematically.

The findings indicate that ART adherence is influenced by a complex interaction of individual, psychosocial, socioeconomic, and health system factors. Common barriers included forgetfulness, medication side effects, treatment fatigue, stigma, fear of disclosure, transport costs, and long waiting times at health facilities. Clients who demonstrated consistent adherence were more likely to achieve viral load suppression. Enhanced Adherence Counselling emerged as a critical facilitator of adherence by improving treatment literacy, motivation, and coping strategies.

The study concludes that strengthening Enhanced Adherence Counselling and addressing broader structural and psychosocial barriers are essential for improving ART adherence and sustaining viral load suppression in urban Malawian

settings.

**Keywords:** ART adherence, viral load suppression, enhanced adherence counselling, HIV, Malawi

## INTRODUCTION

Human Immunodeficiency Virus (HIV) remains a major global public health concern, with an estimated 39 million people living with the virus worldwide, the majority of whom reside in sub-Saharan Africa (UNAIDS, 2022). The introduction of *antiretroviral therapy* (ART) has transformed HIV from a fatal disease into a manageable chronic condition by suppressing viral replication, improving immune function, and prolonging life expectancy (World Health Organization (WHO), 2020). However, the effectiveness of ART is highly dependent on sustained adherence to prescribed treatment regimens.

Viral load suppression is the primary clinical marker of successful HIV treatment and is associated with reduced morbidity, mortality, and risk of transmission. Evidence indicates that individuals who achieve and maintain undetectable viral loads cannot sexually transmit HIV, a concept widely referred to as “Undetectable = Untransmittable (U=U)” (UNAIDS, 2021).

Despite this, many ART clients in low-resource settings continue to experience suboptimal adherence, leading to unsuppressed viral loads and treatment failure.

Enhanced Adherence Counselling (EAC) has been introduced as a structured intervention to support clients with elevated viral loads by addressing behavioral, psychosocial, and structural barriers to adherence (WHO, 2020). While EAC is routinely implemented in Malawi, limited empirical evidence exists on its effectiveness within specific facility-level contexts. This study therefore sought to

explore the challenges of suboptimal ART adherence and assess the contribution of EAC to viral load suppression among HIV-positive clients at Area 25 Health Centre in Lilongwe.

## Background of the Study

Optimal adherence to ART, commonly defined as taking at least 95% of prescribed doses, is essential for achieving and maintaining viral load suppression (WHO, 2020). Suboptimal adherence results in virological failure, increased viral replication, and the development of drug-resistant HIV strains, which complicate future treatment options and increase healthcare costs (Nachege *et al.*, 2019). At a population level, poor adherence undermines national and global HIV control efforts, including the attainment of the UNAIDS 95–95–95 targets (UNAIDS, 2022).

In Malawi, ART services are widely available through public health facilities, yet adherence challenges persist. Studies conducted in similar sub-Saharan African contexts highlight that adherence is influenced by multiple intersecting factors, including stigma, poverty, mental health challenges, and health system inefficiencies such as long waiting times and limited counselling capacity (Mills *et al.*, 2019; Kalichman *et al.*, 2020).

Enhanced Adherence Counselling was introduced by the World Health Organization as an evidence-based response to unsuppressed viral loads. EAC involves a series of structured counselling sessions, typically delivered over several months, aimed at identifying individual barriers to adherence, reinforcing positive behaviors, and improving treatment literacy (WHO, 2020). Research suggests that approximately 70% of clients with initially high viral loads achieve suppression following EAC; however, real-world outcomes vary depending on contextual and implementation factors

(Mutambo and Hlongwana, 2019).

At Area 25 Health Centre, EAC has been integrated into routine HIV care. Understanding the lived experiences of ART clients and the barriers they face is crucial for strengthening adherence interventions and improving long-term treatment outcomes.

## Problem Statement

Despite the widespread availability of ART in Malawi, suboptimal adherence remains a significant challenge affecting viral load suppression among people living with HIV. Poor adherence leads to virological failure, increased risk of drug resistance, disease progression, and continued HIV transmission (Gardner *et al.*, 2011). These outcomes threaten national HIV response efforts and hinder progress toward achieving global viral suppression targets.

Although Enhanced Adherence Counselling has been implemented as a key intervention for clients with unsuppressed viral load, adherence challenges persist within routine care settings. Factors such as stigma, fear of disclosure, socioeconomic hardship, and health system constraints continue to undermine adherence behavior. There is limited facility-level evidence on how these challenges affect ART adherence and how EAC contributes to improving viral load suppression at Area 25 Health Centre.

## Objectives of the Study

### General Objective

- To explore the challenges of suboptimal adherence to antiretroviral therapy and its effect on viral load suppression among HIV-positive clients at Area 25 Health Centre, Lilongwe.

consistent drug intake (*Mills et al., 2019*).

## Specific Objectives

- To identify predictors of ART adherence among HIV-positive clients
- To examine the impact of Enhanced Adherence Counselling on viral load suppression
- To assess levels of viral load suppression among ART clients
- To identify strategies for improving ART adherence and viral suppression

## Significance of the Study

This study contributes to the understanding of ART adherence and viral load suppression in an urban Malawian context. The findings provide valuable insights for healthcare workers, social workers, and policymakers by highlighting the barriers faced by ART clients and the role of Enhanced Adherence Counselling in improving treatment outcomes.

For practitioners, the study underscores the importance of strengthening counselling services and addressing psychosocial challenges such as stigma and fear of disclosure. For policymakers, the findings support the integration of socioeconomic support mechanisms, such as transport assistance, into HIV treatment programs. Overall, the study contributes to improving ART adherence, sustaining viral load suppression, and strengthening HIV care delivery in Malawi.

## LITERATURE REVIEW

### Predictors of ART Adherence

ART adherence is influenced by individual, social, economic, and institutional factors. Psychological challenges such as depression, anxiety, and treatment fatigue are strongly associated with poor adherence (*Gonzalez et al., 2011*). Medication side effects and pill burden further discourage

Socioeconomic factors, including poverty and transport costs, affect clinic attendance and medication refills (*Kalichman et al., 2020*). Social factors such as stigma and fear of disclosure discourage clients from taking medication openly or attending clinics (*Namuddu et al., 2021*).

## Enhanced Adherence Counselling and Viral Load Suppression

Enhanced Adherence Counselling addresses adherence barriers through structured, client-centred sessions. Evidence from sub-Saharan Africa shows higher viral suppression rates among clients who complete EAC sessions compared to those receiving standard care (*WHO, 2020; Mutambo and Hlongwana, 2019*). However, the effectiveness of EAC depends on counsellor competence, consistency of follow-up, and health system capacity.

## THEORETICAL FRAMEWORK

This study is guided by the Health Belief Model and Social Cognitive Theory. The Health Belief Model explains adherence behavior through perceived susceptibility, severity, benefits, barriers, and self-efficacy (*Rosenstock, 1974*). Social Cognitive Theory emphasizes social support, self-efficacy, and outcome expectations in shaping behavior (*Bandura, 1986*). Together, these frameworks explain how Enhanced Adherence Counselling influences ART adherence.

## METHODOLOGY

A cross-sectional mixed-methods design was adopted. Quantitative data were obtained from secondary sources, including ART registers and electronic medical records. Qualitative data were collected through semi-structured interviews with purposively selected

ART clients.

The study was conducted at Area 25 Health Centre in Lilongwe. Ethical approval was obtained, and informed consent, confidentiality, and voluntary participation were ensured. Quantitative data were analyzed descriptively, while qualitative data were analyzed thematically.

## RESULTS AND DISCUSSION

ART adherence was influenced by individual, psychosocial, socioeconomic, and health system factors. Barriers included forgetfulness, medication side effects, treatment fatigue, stigma, fear of disclosure, transport costs, and long waiting times. Clients who adhered consistently were more likely to achieve viral load suppression. Enhanced Adherence Counselling improved adherence by increasing treatment knowledge, motivation, and coping strategies.

### Program Description and Practice Implications

This study is situated within an Enhanced Adherence Counselling-based HIV treatment adherence and psychosocial support program at Area 25 Health Centre. Findings support strengthening EAC through adequate staffing, continuous training, and integration of social work services to address psychosocial and socioeconomic barriers.

### Limitations of the Study

The study was conducted at a single health facility with a small qualitative sample size, which may limit generalizability. Reliance on secondary quantitative data may have affected data completeness. Despite these limitations, the mixed-methods approach provided rich insights into ART adherence challenges.

### Suggestions for Future Research

Future studies should use larger, multi-site samples and longitudinal designs to assess the long-term impact of Enhanced Adherence Counselling. Research exploring the integration of socioeconomic support into ART programs is also recommended.

## CONCLUSION

Suboptimal adherence to ART remains a significant challenge affecting viral load suppression among HIV-positive clients. Adherence is shaped by multiple interacting factors. Enhanced Adherence Counselling plays a critical role in improving adherence and supporting viral load suppression when implemented consistently and in a client-centered manner.

## RECOMMENDATIONS

Health facilities should strengthen Enhanced Adherence Counselling through adequate staffing, regular follow-up, and improved client-provider relationships. Policymakers should integrate social protection mechanisms into HIV programs. Social workers should provide psychosocial support and community-based stigma reduction interventions.

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