ENSIGN GLOBAL UNIVERSITY

KPONG, EASTERN REGION, GHANA

FACULTY OF PUBLIC HEALTH
DEPARTMENT OF COMMUNITY HEALTH

ON

# BARRIERS AND FACILITATORS OF ANTIRETROVIRAL THERAPY (ART) ADHERENCE AMONG PEOPLE LIVING WITH HIV: A STUDY AT HO TEACHING HOSPITAL IN THE VOLTA REGION, GHANA

BY

ADETOR COMFORT

247100294

A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH,
FACULTY OF PUBLIC HEALTH, ENSIGN GLOBAL COLLEGE IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE
MASTER OF PUBLIC HEALTH DEGREE

SEPTEMBER, 2025

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## DECLARATION

I hereby certify that, except for references to other people's work, which I have duly cited, this project submitted to the Department of Community Health, Ensign Global University, Kpong, is the result of my own investigation and has not been presented for any other degree elsewhere.

5 –10 - 25

**ADETOR COMFORT** ……………………… …………
(ID – 247100294) Signature Date
(STUDENT)

(Certified by)

3-10-25

DR. STEPHEN MANORTEY ……………………… …………………
(Supervisor) Signature Date

(Certified by)

3-10-25

**DR. STEPHEN MANORTEY** ……………………… ………………….
(Head of Academic Program) Signature Date

# DEDICATION

This work is dedicated to all people who are living with HIV and have been receiving ART at Ho Teaching Hospital.

# ACKNOWLEDGEMENT

First and foremost, I give thanks to Almighty God for the gift of life, strength, and wisdom to complete this study.

Additionally, I express my heartfelt gratitude to my supervisor, Dr. Stephen Manortey, for his invaluable guidance, constructive feedback, and encouragement at every stage of this work.

I am also grateful to the Faculty of Public Health, Department of Community Health, Ensign Global University, for their academic support and resources provided.

My deepest appreciation goes to the staff and management of Ho Teaching Hospital, especially the ART unit, for permitting me and providing the necessary support during data collection.

To the study participants, who willingly shared their experiences despite the sensitivity of the topic, I owe you a debt of gratitude. Without your contributions, this research would not have been possible.

Finally, to my family and friends, especially my parents, colleagues, and peers, thank you for your continuous love, motivation, and encouragement throughout this academic journey.

# ABSTRACT

**Background:** Despite the scale-up of Antiretroviral Therapy (ART) in Ghana, sustaining optimal adherence remains a significant challenge. Poor adherence compromises treatment outcomes, increases the risk of drug resistance, and undermines the country's progress toward the UNAIDS 95-95-95 targets. Exploring the barriers and facilitators of ART adherence is therefore crucial for designing effective interventions.

**General Aim:** The study explored the barriers and facilitators to adherence to ART among people living with HIV at Ho Teaching Hospital, Ghana.

**Methodology:** A phenomenological qualitative design was employed. Fifteen participants aged 18 years and above who had been on ART for at least six months were purposively sampled, based on the principle of thematic saturation. Data were collected through semi-structured, in-depth interviews, transcribed verbatim, and thematically analyzed using Braun and Clarke's framework.

**Results:** Four key themes emerged: (i) individual-level factors such as knowledge, beliefs, psychological responses, forgetfulness, and side effects; (ii) interpersonal influences including family and partner support, peer influence, and stigma within relationships; (iii) community factors such as stigma, discrimination, and religious interpretations; and (iv) institutional and healthcare-related conditions such as accessibility of services, patient–provider relationships, and confidentiality. Facilitators included strong family and religious support, improved physical health, and positive patient–provider interactions, while barriers included stigma, medication side effects, forgetfulness, and long-term treatment fatigue.

**Conclusion:** ART adherence at Ho Teaching Hospital is shaped by complex, multilevel influences. Effective interventions must address not only individual behaviors but also the broader interpersonal, community, and institutional contexts. Strengthening psychosocial support systems, reducing stigma, and improving healthcare delivery are critical for enhancing adherence and advancing Ghana's HIV response.

**Keywords:** Antiretroviral Therapy, Adherence, Barriers, Facilitators, HIV/AIDS, Ho Teaching Hospital, Ghana, Social Ecological Model.

# LIST OF ABBREVIATIONS

| | |
|---|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| ART | Antiretroviral Therapy |
| ARV | Antiretroviral |
| GAC | Ghana AIDS Commission |
| HIV | Human Immunodeficiency Virus |
| HTH | Ho Teaching Hospital |
| PLHIV | People Living with HIV |
| SDG | Sustainable Development Goals |
| SEM | Social Ecological Model |
| UNAIDS | Joint United Nations Programme on HIV/AIDS |
| WHO | World Health Organization |

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# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background Information

Human Immunodeficiency Virus (HIV) continues to be a critical global health concern, with widespread implications for individual well-being and public health systems (World Health Organization [WHO], 2024). According to the Joint United Nations Programme on HIV/AIDS (UNAIDS, 2023), an estimated 39 million people were living with HIV by the end of 2023, with over 1.3 million new infections and approximately 630,000 AIDS-related deaths recorded in the same year. The scale-up of antiretroviral therapy (ART) over the past two decades has transformed HIV from a terminal illness into a manageable chronic condition, significantly reducing mortality and improving the quality of life of those affected (Boadu *et al.,* 2023; Tarkang *et al.,* 2024). ART is now a fundamental component of the global response to HIV, endorsed by the World Health Organization as a standard of care for all individuals diagnosed with the virus, regardless of CD4 count or clinical stage (WHO, 2021). Despite the wide availability of ART in many countries, its effectiveness depends heavily on patients maintaining high levels of adherence to the prescribed regimen (Selin, Mills and Nachega, 2022).

Adherence to ART, often defined as taking at least 95 percent of prescribed doses, is essential for achieving and maintaining viral suppression, strengthening immune function, and preventing the development of drug-resistant HIV strains (Chakraborty *et al.,* 2023). In contrast, poor adherence increases the risk of virologic failure, accelerates disease progression, and limits the overall effectiveness of national treatment programs (Shubber *et al.,* 2022). Inconsistent adherence also contributes to continued HIV transmission within communities (Wang and Wu, 2022). Numerous studies have highlighted a range of factors that influence adherence, including psychological conditions such as depression, HIV-related stigma, and substance use, as well as structural challenges like distance to health facilities, medication side effects, long waiting times, and inadequate health literacy (Eyassu, Mothiba and Mbambo-Kekana, 2022; Nortey *et al.,* 2024; Tarkang *et al.,* 2024). Facilitators of adherence include strong patient-provider relationships, psychosocial support, consistent medication availability, and targeted counseling programs (Igwegbe, Ugboaja and Nwajiaku, 2022).

Sub-Saharan Africa remains disproportionately affected by the HIV epidemic, accounting for nearly two-thirds of all global HIV cases and over 60 percent of AIDS-related deaths (UNAIDS, 2023). While ART coverage in the region has improved significantly due to policy reforms and international funding, treatment adherence continues to be undermined by multifactorial barriers (Shigdel *et al.,* 2021). These include poverty, transportation constraints, food insecurity, limited access to accurate health information, and the influence of traditional health beliefs (Kadia *et al.,* 2021). A meta-analysis by Ortego *et al.* (2011) reported that only 77 percent of patients in sub-Saharan Africa met optimal adherence levels, a figure that remains below the 95 percent threshold required for sustained viral suppression. The diversity of cultural and health system contexts across the region underscores the need for localized research to inform effective adherence interventions (Kamaingi and Meng'anyi, 2019).

In Ghana, the national adult HIV prevalence was estimated at 1.7 percent by the end of 2022, with approximately 355,000 people living with HIV (Ghana AIDS Commission, 2023). Since the rollout of ART services in 2003, the country has expanded access through public and private health facilities, enrolling more than 250,000 people on ART nationwide (Tarkang *et al.,* 2024). However, adherence rates remain inconsistent across regions (Boadu *et al.,* 2023). Biney *et al.* (2021) reported an adherence level of 78.7% among adolescents and young adults in the Greater Accra region. Similarly, Obirikorang *et al.* (2013) and Sefah *et al.* (2021) have reported adherence levels of 62.2, and 42.9, among PLHIV, respectively. Studies have found that adherence is hindered by factors such as limited transportation, stigma from peers and family, inadequate understanding of treatment protocols, long clinic waiting times, and adverse side effects of medication (Obirikorang *et al.,* 2013; Atuhaire *et al.,* 2022). This study, therefore, seeks to explore the barriers and facilitators of ART adherence among people living with HIV receiving care at Ho Teaching Hospital.

## 1.2 Problem Statement

Despite notable progress in expanding access to antiretroviral therapy (ART) across Ghana, sustaining optimal adherence remains a major public health challenge (Ghana AIDS Commission, 2023). The effectiveness of ART depends not only on drug availability but also on patients' consistent use, with at least 95 percent adherence required to achieve viral suppression, prevent resistance, and improve survival outcomes (World Health Organization, 2022). However, national and regional data show that adherence rates in Ghana range between 60 and 88 percent, well below the optimal threshold (Atuhaire *et al.,* 2022; Abdul-Samed *et al.,* 2024). This persistent gap undermines national HIV control efforts and contributes to continued transmission, treatment failure, and poor health outcomes among people living with HIV (Boadu *et al.,* 2023).

In the Volta Region, the Ho Teaching Hospital serves as a key referral centre for HIV care and ART delivery. Although it plays a critical role in the regional HIV response, limited research has examined the multi-level factors influencing adherence in this setting. A recent study by Nortey *et al.* (2024) identified individual and social barriers such as stigma, fear of disclosure, and transportation challenges, but did not explore how institutional and healthcare system-level factors shape adherence. There is therefore a clear need for comprehensive, context-specific research guided by a robust theoretical framework. The Social Ecological Model (SEM) provides an effective lens for examining how adherence behaviour is influenced by interacting factors at the individual, interpersonal, community, and institutional levels (Nachega *et al.,* 2018; Addo *et al.,* 2022).

This research gap is particularly significant given Ghana's commitment to achieving the UNAIDS 95-95-95 targets by 2030 (Ghana AIDS Commission, 2023). Poor adherence not only increases the risk of viral rebound and treatment failure but also intensifies the burden on healthcare systems managing rising ART resistance (Kadia *et al.,* 2021; Ouner *et al.,* 2025). By generating qualitative evidence on the barriers and facilitators of ART adherence among patients at Ho Teaching Hospital, this study will provide critical insights to inform public health policy through the design of targeted, multi-level interventions; strengthen clinical practice by improving adherence counselling and patient support systems; guide future research on structural and behavioural determinants of adherence; and contribute to health education initiatives that empower both healthcare providers and patients to address the psychosocial and institutional challenges surrounding long-term HIV care in Ghana.

### 1.3 Rationale of the Study

Adherence to ART is critical in managing HIV/AIDS and improving the quality of life for people living with HIV. Despite significant advancements in HIV treatment, non-adherence remains a major challenge, leading to poor health outcomes, drug resistance, and increased transmission rates. This study is essential because it seeks to identify the multi-level barriers and facilitators influencing ART adherence among patients at the Ho Teaching Hospital, Ghana, using the Social Ecological Model.

The study aligns closely with the Sustainable Development Goal 3 (SDG 3), which aims to ensure healthy lives and promote well-being for all at all ages. Specifically, SDG Target 3.3 focuses on ending the epidemics of AIDS and other communicable diseases by 2030. Improving adherence to ART is a vital strategy in achieving this goal, as it directly impacts viral suppression and reduces the spread of HIV.

From a public health perspective, understanding the factors affecting ART adherence is crucial to designing effective interventions and policies that enhance treatment outcomes and reduce the burden of HIV/AIDS on individuals, families, and the healthcare system. This study's findings will provide valuable insights for healthcare providers, policymakers, and community stakeholders to tailor support services, improve healthcare delivery, and strengthen adherence programs. Ultimately, this research contributes to the broader public health objective of controlling HIV/AIDS and promoting equitable access to treatment, thereby improving the health and well-being of vulnerable populations in Ghana and beyond.

## 1.4 Conceptual Framework

This study was guided by the SEM, a theoretical framework that explains health behavior as the outcome of dynamic interactions between individuals and multiple levels of their environment (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The SEM recognizes that individual health actions, such as adherence to ART, are influenced not only by personal factors, but also by social relationships, community norms, and institutional systems. Using the Social Ecological Model allows for a comprehensive, theory-driven exploration of the adherence landscape. It supports the study's goal of generating contextual, multi-level insights that can inform practical interventions, strengthen ART services, and contribute to Ghana's broader strategy for improving HIV care outcomes.

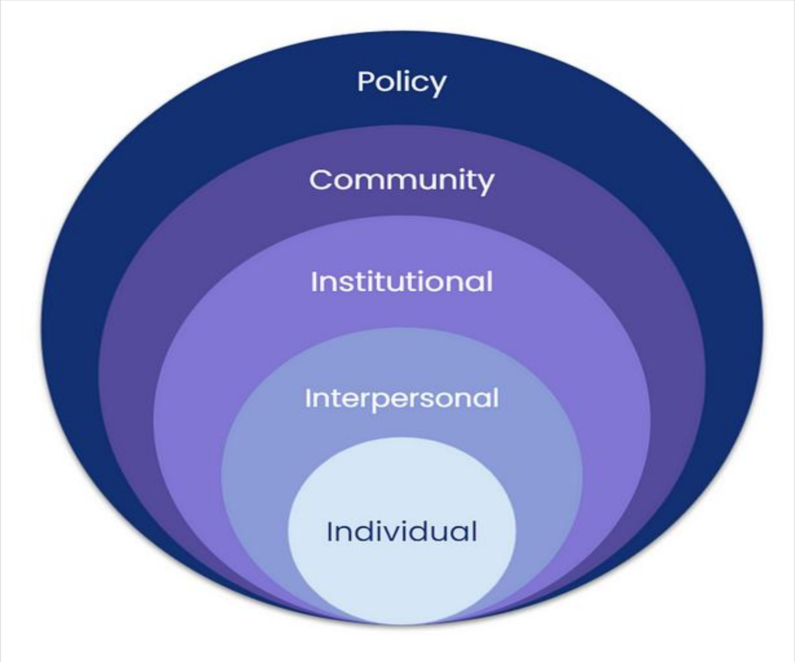

**Figure 1:** *Conceptual Framework for the study*

**Source:** Adapted from McLeroy *et al.* (1988)

The framework encompasses five key levels relevant to this study:

1. **Individual level** factors refer to patients' personal characteristics, including knowledge of HIV, beliefs about ART, perceived side effects, motivation, forgetfulness, and self-efficacy. Previous studies in Ghana and other low- and middle-income settings have shown that lack of understanding about treatment and fear of long-term side effects often contribute to non-adherence (Obirikorang *et al.,* 2013; Mills *et al.,* 2006).

2. **Interpersonal level** factors involve close relationships such as those with family, intimate partners, and peers. These relationships can influence adherence positively through emotional and practical support, or negatively through stigma, lack of disclosure, or unsupportive social environments (Nortey *et al.,* 2024; Hardon *et al.,* 2007).

3. **Community level** factors encompass broader cultural norms, social stigma, religious beliefs, and community attitudes toward HIV and ART. In many Ghanaian communities, persistent stigma and misinformation continue to affect how openly people seek treatment and adhere to it (Atuhaire *et al.,* 2022; UNAIDS, 2023).
4. **Institutional (healthcare system) level** factors include the structure and quality of healthcare services, such as clinic accessibility, availability of ART, waiting times, provider-patient communication, and privacy during consultations. Studies have demonstrated that these system-level conditions significantly affect patients' ability and willingness to remain in care (Mills *et al.,* 2006; WHO, 2021).
5. **Policy level:** It encompasses national laws, health policies, and strategic frameworks that govern the provision of HIV-related services. While this study does not directly assess policy-level influences, acknowledging this level is essential for understanding the broader systemic context in which individual adherence behaviors are shaped. National policies such as Ghana’s National HIV and AIDS Strategic Plan (GAC, 2023) and guidelines provided by the World Health Organization (WHO, 2021) play a critical role in shaping access to ART, funding allocations, decentralization of care, and efforts to combat stigma. These structural components, although external to the immediate focus of the study, create enabling or constraining environments that influence adherence outcomes across all other levels of the Social Ecological Model (O’Laughlin *et al.,* 2021; Golden & Earp, 2012).

### 1.5 Research Questions

1. What individual-level barriers and facilitators do people living with HIV at Ho Teaching Hospital experience in adhering to antiretroviral therapy?

2. How do interpersonal factors shape the experiences of ART adherence among people living with HIV?
3. What community-level factors do people living with HIV identify as supporting or hindering their adherence to antiretroviral therapy?
4. What institutional and healthcare service-related conditions do people living with HIV identify as supporting or hindering their adherence to antiretroviral therapy?

### 1.6 General Objective

The study explored the barriers and facilitators to adherence to ART among people living with HIV at Ho Teaching Hospital, Ghana.

### 1.7 Specific Objectives

1. To explore the individual-level barriers and facilitators to adherence to antiretroviral therapy among people living with HIV at Ho Teaching Hospital.
2. To understand how interpersonal factors affect ART adherence among adherence among people living with HIV.
3. To explore the community-level factors that affect ART adherence among people living with HIV.
4. To examine institutional and healthcare service-related conditions that support or hinder adherence to ART.

### 1.8 Profile of Study Area

The study was conducted at Ho Teaching Hospital (HTH), a major tertiary healthcare facility located in the Volta Region of Ghana. Originally established as the Volta Regional Hospital, the facility commenced operations in 1999, following its construction by Kaevener Construction International, United Kingdom. In 2019, the hospital was elevated to teaching hospital status, becoming the primary clinical training site for the University of Health and Allied Sciences (UHAS), also located in Ho.

Ho Teaching Hospital currently has a bed capacity of approximately 300, with ongoing expansion plans to develop into a 600-bed tertiary-level hospital. It serves as the principal referral center for the Volta Region and parts of the Oti Region, offering both general and specialized services. Key units within the hospital include the Accident and Emergency Centre, Intensive Care Unit (ICU), Maternal and Child Health Centre, ART (Antiretroviral Therapy) Unit, Renal Dialysis Unit, Radiology Department, Cardiology Unit, and Surgical Services including general and orthopedic surgery.

The hospital's ART Unit is a core component of its service delivery model. It provides HIV diagnosis, counseling, initiation of ART, adherence counseling, and long-term clinical monitoring. The facility serves a diverse patient population, with an annual ART attendance of approximately 2,972 clients in 2023, averaging around 180 patients per month. This high patient volume, combined with its regional referral status, makes HTH a strategically appropriate setting for exploring ART adherence dynamics.

The study site was selected due to its clinical significance in Ghana's HIV response, its diverse patient demographics, and its capacity to support context-specific, theory-informed qualitative research into barriers and facilitators of ART adherence.

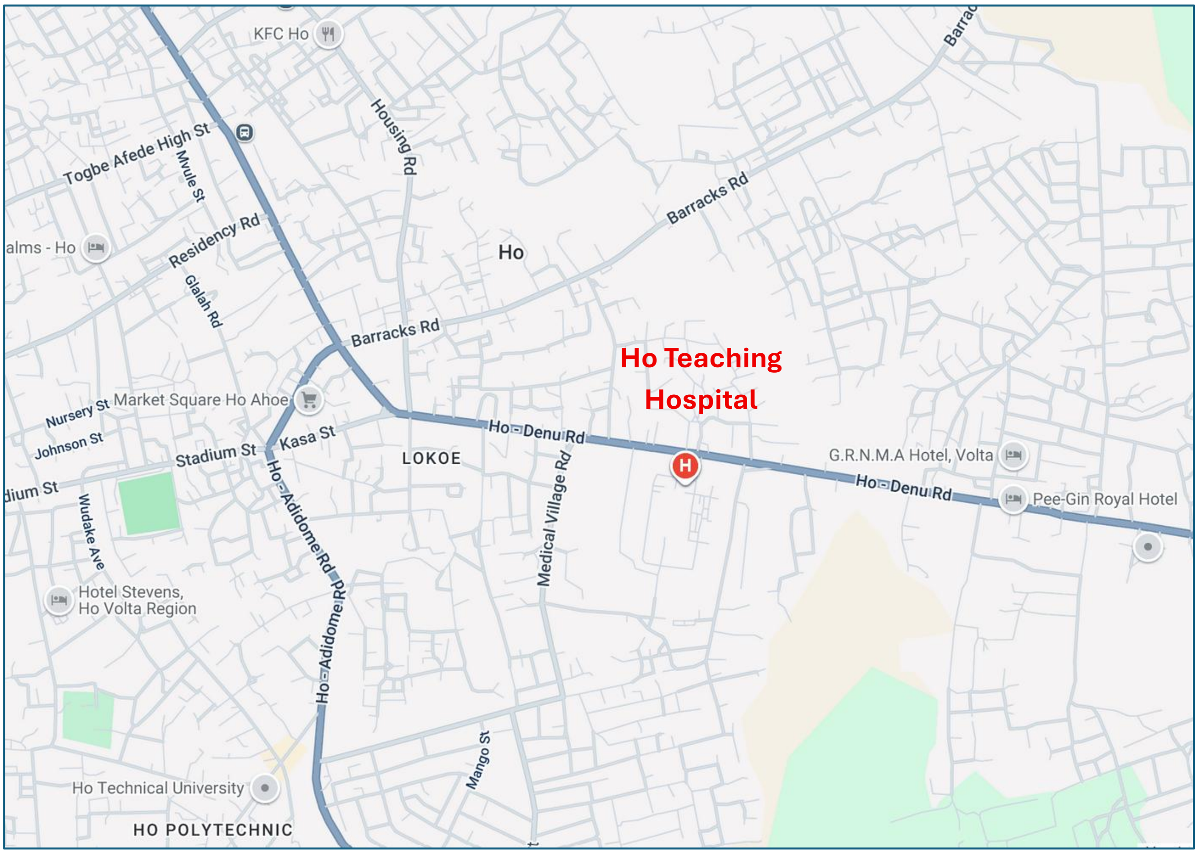

**Figure 2:** ***Map of Ho Teaching Hospital***

### 1.9 Scope of Study

This study was delimited to adults aged 18 years and above who were living with HIV and had been on ART for a minimum of six months at the Ho Teaching Hospital in the Volta Region of Ghana. A phenomenological qualitative design was employed, using semi-structured interviews to examine the barriers and facilitators influencing adherence to ART. The inquiry was guided by the Social Ecological Model, which analysed factors at the individual, interpersonal, community, and institutional levels. While policy-level influences were acknowledged in the conceptual framing, they were not the primary focus of the empirical analysis. The study did not extend to paediatric or adolescent populations below 18 years, PLHIV receiving care outside Ho Teaching Hospital, or quantitative assessments of clinical adherence outcomes. The findings therefore provided context-specific insights into the multilevel factors influencing ART adherence, rather than broad generalisations to all people living with HIV in Ghana.

### 1.10 Organization of Report

This thesis is structured into six chapters, each addressing key components of the study.

Chapter One introduces the study, providing background information, problem statement, rationale, and research objectives. It also includes the research questions, hypothesis or conceptual framework, a profile of the study area, scope, and the organization of the report.

Chapter Two presents the literature review, organized around the main study variables. It synthesizes relevant research findings, theoretical perspectives, and conceptual frameworks that support the study while citing appropriate references.

Chapter Three details the methodology, outlining the research design, study population, data collection techniques, and tools. It also covers study variables, sampling methods, pre-testing, data handling, data analysis techniques, ethical considerations, study limitations, and assumptions.

Chapter Four presents the study results. It provides a summary of background variables and presents findings based on key study variables using tables, charts, and graphs where necessary.

Chapter Five discusses the findings in relation to the research questions, objectives, and literature review. The discussion integrates existing studies with the study results, providing a comprehensive analysis while citing relevant references.

Chapter Six provides conclusions and recommendations. The conclusions summarize the key findings with figures, while the recommendations are targeted at relevant stakeholders, including healthcare policymakers, clinicians, and researchers.

Following the main chapters, the report includes a list of references formatted in Harvard style. Appendices contain supplementary materials such as research instruments, raw data, ethical clearance, and other relevant documents.

# CHAPTER TWO

# 2.0 LITERATURE REVIEW

## 2.1 Introduction

This review synthesises evidence from global, regional, and Ghanaian studies to examine the determinants of ART adherence and to identify existing knowledge gaps. The discussion is organised into four thematic areas: individual factors, interpersonal factors, community influences, and institutional or healthcare service-related conditions.

## 2.2 Search Strategy

A systematic search strategy was employed to identify relevant empirical studies on adherence to ART. Electronic databases including PubMed, Scopus, Web of Science, and Google Scholar were searched for peer-reviewed articles published between 2010 and 2024. The search combined keywords and Boolean operators such as *"antiretroviral therapy" OR "ART" AND "adherence" AND ("determinants" OR "factors" OR "barriers" OR "facilitators") AND ("Africa" OR "Ghana")*. Additional search strings were adapted for institutional factors, stigma, disclosure, and healthcare provider attitudes.

The initial search produced a large body of literature. All references were imported into Mendeley, where duplicates were removed automatically. Titles and abstracts were then screened for relevance, and only studies that explicitly examined factors influencing ART adherence among PLHIV were included. Both quantitative and qualitative studies were retained to provide a comprehensive understanding of adherence determinants. Studies that focused exclusively on clinical efficacy of ART drugs, pediatric adherence in specialized contexts, or populations outside sub-Saharan Africa were excluded.

Reference lists of the included studies were also reviewed to identify additional relevant publications (snowballing technique). The final set of studies provided the empirical basis for this review, with particular attention given to individual, interpersonal, community, and institutional determinants of ART adherence.

## 2.3 Individual-Level Barriers and Facilitators to Adherence to Antiretroviral Therapy Among People Living With HIV

Individual-level factors encompass the personal knowledge, attitudes, behaviours, and perceptions of people living with HIV that directly influence their ability to adhere to ART. These determinants are widely recognised as some of the most immediate and significant influences on adherence outcomes (Heestermans *et al.,* 2016; Croome *et al.,* 2017). Studies across diverse settings consistently show that patient knowledge of ART, forgetfulness, self-efficacy, and beliefs about HIV and treatment strongly predict adherence behaviours (Mills *et al.,* 2006; Hodgson *et al.,* 2014). Understanding these personal-level influences is critical because they shape day-to-day treatment practices and interact with broader interpersonal, community, and institutional conditions to either support or hinder adherence (Adefolalu, 2018; Boadu *et al.,* 2023).

### 2.3.1 Knowledge of HIV and antiretroviral therapy

Globally, Mills *et al.* (2016) demonstrated that higher patient knowledge significantly predicted adherence, explaining the comparatively higher adherence rates in sub Saharan Africa (77%) relative to North America (55%). This pattern suggests that in contexts where treatment literacy is prioritized through community programs, patients exhibit greater self efficacy and engagement with therapy. Similarly, Ma *et al.* (2016) and Katz *et al.* (2013) reported that knowledge gaps led to a 30 to 40% decline in adherence and increased risk of missed doses, respectively, reinforcing knowledge as a behavioral driver of adherence. Studies from Asia (Li *et al.,* 2014) and Latin America (Bailey *et al.,* 2017) further highlight that patients' understanding of ART mechanisms rather than mere awareness of treatment determines continuity of care, especially during vulnerable transitions such as adolescence or postnatal periods (Hodgson *et al.,* 2014).

Across sub Saharan Africa (SSA), this relationship remains particularly pronounced. Heestermans *et al.* (2016) and Croome *et al.* (2017) found that patients with inadequate ART knowledge were up to 2.5 times more likely to miss doses, while structured knowledge interventions improved adherence by up to 20 percentage points (Hlophe *et al.,* 2023). These outcomes suggest that in resource limited settings, knowledge amplifies the effectiveness of social support systems and mitigates the impact of stigma or logistical barriers. Studies in South Africa (Peltzer *et al.,* 2010; Terblanche and Stellenberg, 2014) and maternal cohorts (Omonaiye *et al.,* 2018) demonstrate that accurate ART knowledge enhances treatment self management and retention in care. This indicates that knowledge not only shapes adherence but also strengthens patients' capacity to navigate structural challenges inherent in long term therapy.

In Ghana, empirical findings echo these regional trends while emphasizing contextual influences. Boateng, Kwapong, and Agyei Baffour (2013) and Abdul Samed, Abubakari, and Yussif (2024) observed that patients with comprehensive ART knowledge exhibited substantially higher adherence rates, underscoring knowledge as a modifiable behavioral determinant. Yet, persistent misconceptions and partial understanding such as reliance on herbal or faith based alternatives continue to undermine adherence (Addo *et al.,* 2022; Boadu *et al.,* 2023). Qualitative research (Abdulai *et al.,* 2022) deepens this insight, revealing that experiential learning through visible health improvement reinforces knowledge retention and adherence motivation. Facility based analyses (Adu *et al.,* 2022; Sefah *et al.,* 2022) further confirm that knowledge deficits remain a leading cause of non adherence across Ghanaian treatment centers.

### 2.3.2 Forgetfulness

Evidence from multiple regions demonstrates that forgetfulness is both a direct cause of missed doses and an indirect indicator of underlying stressors such as stigma, fatigue, and competing social or economic demands (Freeman *et al.,* 2021; Croome *et al.,* 2017). Katz *et al.* (2013) showed that individuals reporting frequent forgetfulness were almost twice as likely to experience viral rebound, while qualitative studies in the United States linked forgetfulness to routine disruptions, psychosocial stress, and daily fatigue, indicating that it often masks deeper motivational and emotional barriers rather than representing poor memory alone (Freeman *et al.,* 2021). Comparable trends appear in Latin America and Asia, where social stigma, work demands, and concealment behaviours disrupt medication routines. In Mexico and Brazil, Bailey *et al.* (2017) found that one third of adolescents forgot doses during the transition to adult care, while Li *et al.* (2014, 2017) observed that 22 to 28 percent of Chinese and Vietnamese patients missed medication because of secrecy and the absence of reliable reminder systems.

Across sub Saharan Africa, forgetfulness is one of the most persistent barriers to adherence, though its causes are shaped by socioeconomic conditions such as workload, mobility, and access to care. A systematic review by Croome *et al.* (2017) found that 20 to 37 percent of patients in the region cited forgetfulness as their main reason for nonadherence, while Heestermans *et al.* (2016) estimated that it accounted for a 15 to 25 percent reduction in adherence rates. National studies illustrate these dynamics: in Tanzania, Masika *et al.* (2024) reported that 41 percent of participants missed doses due to forgetfulness, a factor closely associated with work pressures and treatment fatigue. Similar patterns emerged in Cameroon, where Buh *et al.* (2023) attributed nonadherence to work related distractions and pill fatigue. Adolescents remain especially vulnerable. Hlophe *et al.* (2023) found that over one third of young people across the region identified forgetfulness as their most common barrier, and

Kamangu and Mboweni (2024) in Namibia noted that school timetables, stigma related secrecy, and long clinic wait times further compounded this challenge. Structural limitations such as poor appointment scheduling and clinic delays also intensify the problem, as shown in studies from Tanzania, Uganda, and Ethiopia (Ware *et al.,* 2013; Bezabhe *et al.,* 2014).

In Ghana, the evidence mirrors these broader patterns, but forgetfulness appears deeply tied to socioeconomic pressures, stigma management, and gendered responsibilities. Abdul Samed *et al.* (2024) and Prah *et al.* (2018) both found that patients who reported frequent forgetfulness were substantially more likely to be nonadherent, with up to 42 percent citing it as their main reason for missed doses. These findings suggest that everyday routine disruptions caused by employment demands and domestic workloads are major contributors to nonadherence. Similarly, Dzansi *et al.* (2020) and Sefah *et al.* (2022) identified forgetfulness among roughly one third of participants in underserved communities, linking it to economic hardship and limited social support that hinder consistent medication taking. Among adolescents, Ankrah and Koster (2016) revealed that forgetfulness often conceals fear of disclosure and stigma; young people deliberately avoided taking medication in public spaces, later attributing missed doses to forgetfulness. Gendered roles amplify these barriers. Ziblim *et al.* (2024) found that women balancing childcare and household responsibilities frequently forgot doses, while Sabin *et al.* (2014) reported that night work and exhaustion among female patients led to missed evening doses.

### 2.3.3 Self-efficacy

Self efficacy, understood as an individual's confidence in their ability to manage treatment consistently, is widely recognised as a foundational psychological driver of antiretroviral therapy (ART) adherence. Rather than functioning as an isolated belief, self efficacy operates as a behavioural mechanism that connects personal motivation with social and emotional resilience (Gitahi *et al.,* 2022; Alemu *et al.,* 2025). Global evidence demonstrates that individuals with strong self efficacy are better able to sustain adherence because they perceive themselves as capable of overcoming barriers such as stigma, side effects, and treatment fatigue. In a systematic review, Gitahi *et al.* (2022) showed that individuals with high adherence self efficacy were up to twice as likely to maintain optimal adherence, highlighting its dual role as both a predictor and a mediator of psychosocial influences. Similarly, Alemu *et al.* (2025) found that caregivers who expressed confidence in managing ART routines achieved significantly higher adherence among children, demonstrating that self efficacy can be reinforced within social and caregiving contexts. Among adults, studies consistently show that high self efficacy promotes persistence with ART even under challenging circumstances, as confidence in one’s ability to manage treatment buffers the negative effects of psychological stress and social discouragement (Gitahi *et al.,* 2022; Alemu *et al.,* 2025).

Across sub Saharan Africa, self efficacy consistently emerges as a decisive element in ART adherence, reflecting how confidence interacts with social context and structural realities. Aregbesola and Adeoye (2018) in Nigeria and Buh (2024) in Cameroon both found that individuals with higher self efficacy demonstrated significantly better adherence, with nearly threefold and sixfold improvements respectively, highlighting that self belief amplifies the motivational impact of treatment literacy and empowerment. Among adolescents, Ashaba *et al.* (2024) and Nabunya *et al.* (2020) showed that self efficacy is strengthened by supportive family networks, with cohesive relationships fostering confidence and indirectly improving adherence outcomes by over 20 percent. Collectively, these studies position self efficacy as a socially embedded construct shaped by empowerment, interpersonal trust, and environmental support rather than an isolated psychological trait. In Ghana, the same mechanisms are evident, though they are mediated by education and social learning processes. Addo, Aboagye, and Tarkang (2022) found that patients with higher self efficacy were almost twice as likely to adhere to ART compared to those with lower confidence, while Abdul Samed *et al.* (2024) reported that limited education substantially reduced treatment confidence and increased the risk of nonadherence. Together, these findings reveal that self efficacy operates through patients' understanding of treatment, perceptions of control, and reinforcement from social or peer interactions.

### 2.3.4 Beliefs and Perceptions

Beliefs and perceptions about ART profoundly shape adherence behaviour by influencing how individuals interpret treatment, illness, and healing within their social and cultural realities. Studies in the United States and Asia have shown that when patients perceive ART as harmful, unnecessary, or toxic, adherence declines significantly, whereas those who view it as essential and life-sustaining maintain higher consistency (Gaston and Alleyne Green, 2013; Li *et al.,* 2017). In Ghana, similar findings by Addo *et al.* (2022) confirmed that individuals who believed ART was only required when symptoms were present were more likely to miss doses. These findings collectively suggest that the perceived necessity of ART, rather than clinical knowledge alone, determines long-term adherence motivation. Furthermore, as patients experience visible improvements in health, scepticism often transforms into confidence, a pattern observed among Ghanaian women and other African populations who gained trust in ART after witnessing its effects (Boateng *et al.,* 2013; Dzansi *et al.,* 2020).

Beliefs about ART are also deeply embedded within cultural and spiritual worldviews that influence whether biomedical treatment is accepted, resisted, or combined with alternative healing practices. In many African and Asian societies, patients attempt to reconcile traditional and religious explanations of illness with biomedical interventions. Li *et al.* (2014) and Li *et al.* (2017) found that Chinese and Vietnamese patients who believed herbal or spiritual remedies were more effective than ART were less adherent, while those who saw ART as life-prolonging were more consistent. In Eswatini, Mango *et al.* (2024) reported that some newly diagnosed patients initially relied on prayer or herbalists before beginning treatment. However, when faith leaders reframed ART as part of God's healing process, adherence improved, a trend also observed in Pentecostal Christian communities where faith and medicine were integrated (Azia *et al.,* 2023). These findings show that spirituality functions not as a fixed barrier but as a mediating factor through which individuals legitimise or reject biomedical care. In Ghana, Abdul Samed *et al.* (2024) and Atanuriba *et al.* (2022) similarly reported that socio-cultural beliefs favouring herbal or spiritual remedies contributed to non-adherence, particularly among caregivers who interrupted children's treatment to pursue alternative cures. Interventions that engage faith leaders and align ART education with religious narratives have therefore been found more effective than purely informational campaigns in modifying beliefs and improving adherence (Mango *et al.,* 2024; Azia *et al.,* 2023).

Social trust and collective norms further mediate how beliefs influence adherence. In many settings, mistrust of healthcare providers and fear of side effects interact with stigma to create negative perceptions of ART (Gaston and Alleyne Green, 2013; Adefolalu, Nkosi, and Olorunju, 2014). In Uganda, Perkins *et al.* (2022) found that individuals who perceived strong community norms promoting adherence were nearly twice as likely to remain on treatment, demonstrating how social trust reinforces positive beliefs about ART. Conversely, where stigma dominates and misinformation circulates such as beliefs that ART causes infertility or signals moral weakness patients internalise shame and disengage from care (Abdulai *et al.,* 2022; Dzansi *et al.,* 2020). These patterns highlight that beliefs are socially produced and sustained through communal discourse. Ghanaian evidence reinforces this point: Anakwa *et al.* (2021) observed that doubts about HIV's chronic nature reduced treatment confidence, while Sefah *et al.* (2022) found that adults who perceived herbal medicines as safer than ART were more likely to discontinue treatment. Such findings underscore that beliefs are not merely cognitive misconceptions but social responses to stigma, discrimination, and systemic inequities in healthcare.

## 2.4 Community Level Factors Affecting ART Adherence

Community level factors capture the social and cultural contexts that shape how people living with HIV (PLHIV) manage their treatment. These influences include stigma, community norms, shared beliefs, and collective knowledge, all of which can either support or undermine adherence (Campbell *et al.,* 2020; Heestermans *et al.,* 2016).

### 2.4.1 Stigma

Globally, stigma remains one of the most pervasive community barriers to ART adherence, influencing behaviour through fear, secrecy, and social isolation. Studies consistently show that perceived or enacted stigma not only discourages disclosure but also interrupts treatment continuity. In India, Ekstrand *et al.* (2018) found that women who experienced higher stigma were over twice as likely to miss doses, while Katz *et al.* (2013) identified stigma as a barrier in over one third of global adherence studies. These findings reinforce stigma's dual role as both a psychological and social constraint. At the population level, evidence suggests a reciprocal relationship between stigma and ART coverage: as access to treatment expands, stigma tends to decline (Chan, Tsai, and Siedner, 2015). Heestermans *et al.* (2016) further confirmed that stigma, depression, and financial strain consistently predict poor adherence across diverse income settings.

In sub Saharan Africa, stigma functions as a persistent structural determinant of adherence. Data from the HPTN 071 (PopART) trial revealed that internalised stigma reduced the odds of optimal adherence by nearly one third (Jones *et al.,* 2020). Similar patterns emerged in KwaZulu Natal, where Kalichman, Mathews, and Banas (2019) found that patients exposed to enacted stigma were twice as likely to miss doses compared with their peers. Longitudinal analyses show that stigma operates cumulatively: each additional stigma event increases the risk of nonadherence, and chronic exposure nearly doubles the likelihood of treatment interruption (Esber *et al.,* 2022). Across African studies, disclosure remains a crucial mediating factor. In Malawi, George and McGrath (2019) found that those who disclosed and received community support were 37 percent more likely to adhere, highlighting that social inclusion buffers against stigma's harmful effects.

In Ghana, stigma continues to shape adherence through fear of exposure, gossip, and discrimination. Boadu *et al.* (2023) reported that many patients conceal medication use or avoid clinics to protect their privacy, while Ankomah *et al.* (2016) found that missed appointments often stemmed from fear of recognition at treatment centres. Among adolescents, Ankrah and Koster (2016) observed that fear of stigma drove non-disclosure and deliberate treatment avoidance, demonstrating how community attitudes penetrate personal decision-making. Addo *et al.* (2022) further linked perceived stigma from neighbours and coworkers to higher rates of missed doses and clinic defaulting. Recent evidence from the Volta Region shows that internalised stigma directly predicts poor adherence outcomes (Ouner *et al.,* 2025), underscoring the continued need for stigma reduction interventions that engage communities alongside health systems.

### 2.4.2 Cultural Norms and Community Knowledge

Cultural norms and community knowledge influence adherence by shaping how illness, medicine, and healing are understood within local contexts. Across regions, misconceptions and cultural silence often hinder open discussion of HIV and reduce adherence. In Vietnam, Li *et al.* (2017) found that fear of casual transmission led patients to skip doses to avoid disclosure, while in India and China, social expectations of silence around illness constrained discussion of treatment and encouraged secrecy (Li *et al.,* 2015; Ekstrand *et al.,* 2018). In Latin America, moral and religious narratives fostered self-blame, which reduced adherence among 36 percent of participants (Fuster-Ruizde Apodaca *et al.,* 2014). A global review by Campbell *et al.* (2020) confirmed that reliance on traditional remedies and limited biomedical understanding were recurring barriers to adherence across Asia and Latin America.

In sub Saharan Africa, cultural beliefs similarly shape adherence behaviour, both positively and negatively. Misconceptions about ART efficacy, such as viewing treatment as harmful or unnecessary, remain common (Nachega *et al.,* 2005; Kheswa, 2014). At the same time, perceived community norms about adherence influence individual motivation: Perkins *et al.* (2022) showed that Ugandans who believed most peers did not adhere were themselves more likely to default. Yet cultural traditions can also support adherence when adapted into health promotion efforts. Treffry-Goatley *et al.* (2018) demonstrated that community storytelling rooted in local cultural values improved ART engagement, while Treves-Kagan *et al.* (2015) highlighted that persistent negative attitudes toward disclosure continued to hinder adherence in rural areas despite expanded ART access.

In Ghana, cultural systems and knowledge practices exert strong influence on adherence outcomes. Boateng *et al.* (2013) found that misconceptions about ART and mother-to-child transmission limited consistent use among women in the Ashanti Region. Regional contrasts also reveal the interplay of culture and information: Owusu *et al.* (2018) showed that rural participants in Kwahu South relied more heavily on traditional illness narratives than their urban counterparts, who demonstrated stronger biomedical understanding and adherence. National reviews confirm that faith healing, herbal remedies, and misconceptions about ART side effects persist as major barriers (Boadu *et al.,* 2023; Addo *et al.,* 2022). Encouragingly, culturally adapted educational approaches have begun to improve outcomes. Ansie *et al.* (2025) integrated HIV education into storytelling, drama, and dance through cultural health hubs, enhancing community acceptance of ART, while Boakye and Mavhandu-Mudzusi (2019) found that health workers with better cultural competence and HIV knowledge fostered more supportive treatment environments. Together, these findings highlight that while culture can constrain adherence through misinformation, it can also serve as a foundation for community engagement and health promotion when respectfully leveraged.

## 2.5 Interpersonal Factors and ART Adherence

Interpersonal relationships are critical pathways through which social support, disclosure, and partnership dynamics influence ART adherence. Globally, supportive family environments enhance persistence with treatment and reduce missed doses (Campbell *et al.,* 2020; Poudel *et al.,* 2015). These relationships operate through emotional reinforcement, shared accountability, and logistical help with medication management.

Across sub Saharan Africa, family cohesion and disclosure emerge as consistent enablers of adherence. Among Ugandan adolescents, strong family support improved adherence self efficacy and lowered rates of treatment interruption (Nabunya *et al.,* 2020). Conversely, non-disclosure, often rooted in stigma, remains a major barrier across the region (Ammon *et al.,* 2018). Partner involvement is particularly influential during pregnancy and postpartum periods, with women who received spousal support showing higher adherence and retention (Hodgson *et al.,* 2014; Conroy *et al.,* 2017). However, family relationships can also be ambivalent: Knight and Schatz (2022) found that among older adults in South Africa, social pressure sometimes created stress that undermined adherence, revealing the dual nature of interpersonal influence.

In Ghana, interpersonal dynamics reflect these broader patterns. Disclosure and family support are repeatedly identified as predictors of adherence (Adjei Mensah *et al.,* 2025; Abdulai *et al.,* 2022). Quantitative evidence shows that 72.5 percent of Ghanaian PLHIV who disclosed their status had significantly higher adherence, while those with supportive partners were nearly twice as likely to remain in care (Ameyaw *et al.,* 2024; Atugba *et al.,* 2022). Qualitative research adds depth, indicating that disclosure not only mobilises emotional and financial support but also strengthens patients' sense of accountability and self efficacy (Abdulai *et al.,* 2022; Nutor *et al.,* 2023). Nonetheless, stigma and fear of discrimination continue to limit open communication, particularly among older adults and rural populations

## 2.6 Institutional and Healthcare Service Related Factors and ART Adherence

Institutional and healthcare system conditions play a decisive role in shaping adherence to ART. While interpersonal and community dynamics influence motivation and social support, institutional structures determine the extent to which these motivations can translate into sustained engagement with care. Global and regional evidence consistently demonstrates that adherence outcomes are not only dependent on the availability of medication but also on structural accessibility, quality of provider interactions, and the degree of stigma within healthcare institutions (Koole *et al.,* 2016; Gebreweld *et al.,* 2020; Salifu *et al.,* 2015).

### 2.6.1 Accessibility of ART Services

Geographical accessibility remains one of the most persistent structural determinants of adherence. Across sub Saharan Africa, long travel distances, transport costs, and uneven distribution of ART facilities continue to undermine consistent treatment uptake. Studies from Zambia, South Africa, Uganda, Sudan, Namibia, and Ethiopia reveal that patients frequently miss appointments or default on care because treatment centres are located far from their communities, often requiring travel that is financially and logistically burdensome (Koole *et al.,* 2016; Geng *et al.,* 2010; Gebreweld *et al.,* 2020). For many patients, especially in rural settings, distance interacts with poverty to create structural exclusion from care. In response, decentralised models such as community based drug distribution and nurse led outreach programs have been proposed to reduce travel time and normalise ART use at the community level (Cremeres *et al.,* 2017). These approaches show promising short term results in improving adherence and retention, yet questions remain about their long term sustainability, supply consistency, and capacity to maintain privacy and quality of care. Collectively, these findings underscore that physical access is not a simple logistical challenge but a structural determinant tied to health system design and spatial inequity.

### 2.6.2 Patient–Provider Relationships

The quality of patient provider interactions serves as a key relational determinant of adherence within healthcare institutions. Globally, respectful communication, empathy, and trust are associated with higher treatment satisfaction and adherence persistence, while dismissive or discriminatory behaviour discourages engagement (Oladimeji and Tsoka Gwegweni, 2017). In sub Saharan Africa, evidence demonstrates that supportive provider relationships act as motivational anchors that help patients navigate the psychological and logistical demands of lifelong ART use. Studies from Nigeria and Ethiopia show that patients who describe their providers as respectful and attentive are more likely to maintain regular appointments and adhere to medication schedules (Yusuf *et al.,* 2019). Conversely, poor communication, long waiting times, and judgmental attitudes from staff erode trust and contribute to treatment discontinuation.

In Ghana, these dynamics are clearly visible. Salifu *et al.* (2015) found that patients who experienced supportive and nonjudgmental provider interactions demonstrated better adherence, whereas those reporting negative encounters were more likely to disengage from care. This pattern highlights that institutional quality is not only defined by infrastructure or service availability but also by the interpersonal climate within care settings. However, most Ghanaian evidence remains qualitative, underscoring the need for quantitative studies to measure the magnitude of provider–patient relationships in predicting adherence outcomes.

### 2.6.3 Institutional Stigma and Discrimination

Institutional stigma represents a subtle but powerful barrier within healthcare systems, shaping both patient behaviour and treatment trajectories. Stigma within clinics, workplaces, and health institutions often compels patients to conceal their HIV status, delay care seeking, or avoid local facilities altogether (Kalichman *et al.,* 2019; Mukumbang *et al.,* 2017). Studies across sub Saharan Africa show that fear of recognition by staff or community members frequently drives patients to seek care in distant facilities, resulting in missed appointments and treatment interruptions (Kamaingi and Menganyi, 2019). This pattern reveals that health institutions, while intended as spaces of care, can inadvertently reinforce exclusion when confidentiality is weak or discriminatory attitudes persist.

In Ghana, systematic evidence on institutional stigma remains limited but emerging accounts suggest that discrimination within health services continues to undermine adherence. Reports of judgmental attitudes, breaches of confidentiality, and moralistic treatment by healthcare workers discourage consistent clinic attendance and medication collection. Boadu *et al.* (2023) and Salifu *et al.* (2015) note that some patients intentionally seek care in distant districts to avoid recognition, highlighting how institutional stigma extends the physical and emotional burden of treatment. Addressing these issues requires institutional reform that prioritises confidentiality, patient dignity, and anti stigma training for healthcare workers. Developing supportive care environments could strengthen adherence by transforming health facilities from spaces of potential judgment into spaces of trust and empowerment.

## 2.7 Summary of Literature Review

The literature demonstrates that adherence to ART is shaped by a wide range of interrelated factors operating at individual, interpersonal, community, and institutional levels. At the individual level, knowledge, forgetfulness, self-efficacy, and personal beliefs strongly influence treatment behaviours. Patients who are well informed about ART and confident in their ability to maintain treatment are more likely to adhere, while misconceptions, reliance on alternative remedies, and forgetfulness undermine persistence with therapy.

At the interpersonal level, family and partner support, as well as disclosure of HIV status, emerge as central influences. Supportive households and engaged partners provide emotional, financial, and psychological resources that promote adherence, though in some contexts family involvement also introduces stress. Disclosure generally facilitates adherence by mobilizing support, although fear of stigma discourages openness for some patients.

At the community level, stigma and cultural norms are consistently reported as major barriers. Both enacted and internalized stigma lead to concealment, clinic avoidance, and treatment interruption. In addition, cultural beliefs surrounding illness and healing can conflict with biomedical treatment, contributing to non-adherence. Although community-based education and awareness interventions have been effective in improving adherence in some settings, reliance on herbal and spiritual alternatives persists in Ghana and continues to impede treatment outcomes.

At the institutional level, structural and service-related conditions significantly affect adherence. Long travel distances, lack of treatment facilities, and limited availability of ART clinics force many patients to miss appointments or default on treatment. The quality of patient–provider relationships also play a decisive role, with respectful and supportive healthcare professionals fostering adherence, while discrimination, poor communication, and stigmatizing behaviours discourage engagement. Institutional stigma within healthcare systems further undermines treatment adherence, although this issue has not been extensively studied in Ghana.

# CHAPTER THREE

# 3.0 METHODOLOGY

## 3.1 Study Design

This study adopted a phenomenological qualitative design to explore the barriers and facilitators to ART adherence among people living with HIV at the Ho Teaching Hospital in Ghana. Phenomenology focuses on understanding the lived experiences of individuals and how they make meaning of a phenomenon within their social and cultural context. This design was appropriate because it allowed the researcher to gain deep insight into how patients perceive, interpret, and emotionally experience adherence in their everyday lives rather than merely identifying barriers at a surface level. Through this approach, the study explored how stigma, social relationships, cultural norms, and interactions with healthcare systems are experienced and navigated by patients. As Creswell and Poth (2018) note, phenomenology seeks to uncover the essence of experience, while Braun and Clarke (2021) emphasize that it enables researchers to capture the subjective meanings individuals attach to their realities. In this study, the phenomenological design made it possible to understand adherence not only as a behavioural act but as a lived human experience, shaped by individual emotions, social pressures, and contextual constraints within the Ghanaian setting.

## 3.2 Data Collection Techniques and Tools

Prior to the commencement of data collection, a semi-structured interview guide was developed as the principal tool for data collection (see Appendix C). The guide was designed to elicit in-depth accounts of participants' experiences with ART adherence, focusing on individual, interpersonal, community, and institutional factors. Its structure included three sections: (i) background and demographic information, (ii) core questions on barriers and facilitators of ART adherence, and (iii) probes to explore emerging issues in greater depth. The flexibility of the semi-structured approach ensured consistency across interviews while allowing participants to freely narrate their experiences and introduce new perspectives that might not have been anticipated by the researcher.

The development of the guide was informed by a review of existing literature and the specific objectives of this study. To ensure clarity, cultural sensitivity, and contextual relevance, the tool was pilot-tested with a small group of people living with HIV who were not part of the main study. Feedback from the pilot informed minor adjustments, particularly in refining the wording of questions and ensuring that probes were non-leading and understandable across different literacy levels.

Eligible participants were identified using purposive sampling and approached by the researcher. Each participant was provided with detailed information about the study's objectives, procedures, potential risks, and rights, after which written informed consent was obtained. With participants' permission, the semi-structured interview guide was used to facilitate face-to-face interviews. All interviews were audio-recorded to ensure accuracy, while field notes were taken to document non-verbal cues, contextual observations, and researcher reflections.

Interviews were conducted in English, Ewe, or Twi, depending on participant preference, to promote comfort and authentic expression of experiences. For interviews conducted in local languages, professional translation and back-translation were employed during transcription to ensure semantic and conceptual equivalence between the original and translated texts. Interviews were scheduled at times convenient for participants and held in a consulting room at the ART unit to ensure privacy and confidentiality. Each session lasted approximately 45–60 minutes, and the entire data collection process spanned one month. Follow-up interviews were conducted where clarification or further insights were needed.

To enhance reflexivity, the researcher maintained a reflective journal throughout the data collection process to document personal assumptions, biases, and evolving insights. This practice supported transparency and minimized undue researcher influence on the data. Following each interview, audio recordings were transcribed verbatim. Participants were invited to review and verify their transcripts to confirm the accuracy of their accounts (member checking), thereby strengthening the credibility of the data.

All digital files, including audio recordings and transcripts, were stored in password-protected folders, while hard copies of field notes and consent forms were locked in a secure cabinet accessible only to the research team. These measures ensured the confidentiality, integrity, and security of the data.

## 3.3 Study Population

The study population comprised adults aged 18 years and above who were living with HIV and had been receiving ART at Ho Teaching Hospital for at least six months. This duration ensured that participants had sufficient experience with treatment adherence to provide meaningful insights.

### Inclusion Criteria

Participants were eligible for the study if they:

1. Are aged 18 years and above at the time of recruitment.
2. Have a confirmed HIV-positive diagnosis and are currently enrolled in ART at Ho Teaching Hospital.
3. Have been on ART for a minimum of six consecutive months, to ensure sufficient experiential insight into adherence.
4. Provide voluntary, written informed consent to participate in the study.

### Exclusion Criteria

Participants were excluded from the study if they:

1. Are below 18 years of age.
2. Are currently experiencing acute physical or mental health crises that may impair their ability to participate in an in-depth interview, as determined by a clinician.
3. Are involved in another ongoing HIV-related study that may bias their responses or overburden their participation.
4. Do not consent to the study.

### 3.4 Sampling

The sample for this study was determined based on the principle of thematic saturation, which occurs when additional interviews yield no new information or themes (Guest, Bunce, & Johnson, 2006; Saunders *et al.,* 2018). While it was initially anticipated that approximately 25 adults living with HIV and currently receiving ART at Ho Teaching Hospital would be interviewed, saturation was achieved after 15 participants. This aligns with prior studies exploring behavioral and contextual factors influencing treatment adherence, which reached saturation within similar sample sizes (Namey *et al.,* 2016).

A Purposive Sampling technique was employed to recruit participants who were most likely to provide rich, relevant, and diverse insights into the barriers and facilitators of ART adherence. This approach ensured the deliberate inclusion of individuals with direct experience of ART, enhancing the contextual depth and information richness of the data (Palinkas *et al.,* 2015). Selection was guided by predefined criteria, including age, gender, duration on ART, and geographical location (urban versus rural residence), allowing for the exploration of variations in adherence experiences across different social and demographic contexts. The purposive approach directly contributed to achieving thematic saturation by ensuring that all key perspectives relevant to ART adherence were represented in the study sample.

### 3.5 Pretesting

Prior to the main data collection, the interview guide was pretested to ensure its clarity, relevance, and ability to elicit the type of information required to address the study objectives. The pretest was conducted with a small group of people living with HIV who were not part of the final study sample but shared similar characteristics with the target population. This process allowed the researcher to assess whether the questions were easily understood, culturally appropriate, and free from ambiguity. Feedback from participants in the pretest indicated areas where some questions needed rephrasing to improve clarity and flow. Moreover, the pretest enabled the researcher to estimate the average duration of interviews and to practice the interview procedures in a real-life setting. Adjustments were subsequently made to the wording and sequencing of certain questions, and probes were refined to enhance the depth of responses. The pretest, therefore, contributed to strengthening the credibility and reliability of the data collection instrument.

### 3.6 Data Handling

To maintain data integrity and security, all collected information underwent systematic organization and secure storage. After transcription, each interview transcript was coded and anonymized to ensure that participants' identities remained confidential. Personal identifiers were removed or replaced with unique identification codes, preventing any direct linkage of responses to specific individuals. To ensure accuracy, transcriptions were cross-checked against the original audio recordings, and any discrepancies or unclear statements were clarified with participants during the member-checking process. Triangulation techniques, such as comparing interview data with field notes, were employed to strengthen the reliability and credibility of the findings.

All digital files, including audio recordings, transcripts, and field notes, were stored in password-protected electronic folders accessible only to authorized members of the research team. Hard copies of notes and consent forms were kept in a locked cabinet to prevent unauthorized access. Data were also backed up on an encrypted external drive to safeguard against potential data loss. Upon completion of the study and final reporting, all personally identifiable information was permanently deleted in accordance with ethical data retention policies. Anonymized data were retained for potential future research use, provided that confidentiality of participants remained uncompromised.

### 3.7 Data Analysis

The data were analysed manually using thematic analysis, guided by Braun and Clarke's (2006) six-phase framework. The process began with familiarisation, where the researcher repeatedly read through verbatim transcripts and field notes while also listening to audio recordings in order to become immersed in the data and gain a deep understanding of participants' narratives. Following this, initial coding was carried out by examining the transcripts line by line and manually highlighting meaningful segments, which ensured close engagement with the data. Moreover, the researcher collated similar codes into broader categories to identify potential themes, and these themes were further reviewed and refined to ensure they accurately represented the dataset while maintaining internal coherence. In addition, clear definitions and concise names were assigned to each theme to capture their scope and significance, and the Social Ecological Model was employed as a guiding framework for organising them across individual, interpersonal, community, and institutional levels. Finally, the themes were integrated into a coherent narrative that addressed the research objectives, with illustrative participant quotes selected to enrich the presentation of findings in Chapter Four; thus, the analytic process ensured that participants' voices were authentically represented while maintaining methodological rigour.

### 3.8 Ethical Considerations

Prior to the commencement of data collection, ethical approval was obtained from the Ensign Global University Ethics Review Board. Additional administrative clearance was granted by the Ho Teaching Hospital Research Review Committee, which served as the study site. All participants received detailed information sheets explaining the study's purpose, procedures, potential risks and benefits, their rights, and the contact details of both the research team and the ethics board. Written informed consent was obtained from each participant before data collection began. Confidentiality and anonymity were maintained throughout the research process; audio recordings and transcripts were de-identified using unique participant codes, electronic data were stored on password-protected devices, and hard copies were secured in locked storage accessible only to the research team. Participants were informed of their right to withdraw from the study at any point without penalty. While no financial incentives were provided, transportation reimbursements were offered to offset costs incurred during participation. All ethical procedures adhered to the updated Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects (World Medical Association, 2022).

### 3.9 Limitations of the study

This study was subject to certain limitations that were acknowledged in interpreting the findings. Reliance on self-reported data may have introduced recall bias and social desirability bias, particularly given the sensitive nature of HIV disclosure and adherence practices. In addition, the use of local languages such as Ewe and Twi, followed by translation into English, carried the risk of minor semantic loss despite careful translation and back-translation procedures. Furthermore, as the study was conducted at a single facility, the Ho Teaching Hospital, the findings may reflect institution specific dynamics that differed from those in other contexts. These limitations were recognised and considered when analysing and presenting the results. Despite these limitations, the study successfully achieved its aim of exploring the barriers and facilitators influencing adherence to ART among people living with HIV at Ho Teaching Hospital.

### 3.10 Assumption

The study was based on several underlying assumptions that guided the research process and interpretation of findings. It was assumed that participants provided honest and accurate accounts of the barriers and facilitators that influenced their adherence to antiretroviral therapy. It was further assumed that the sample included sufficient diversity in terms of gender, age, and socio-economic background to capture a wide range of perspectives. In addition, it was assumed that participants had adequate recall of the factors that either supported or hindered their adherence to treatment. The study also assumed that the Social Ecological Model was an appropriate theoretical framework for analysing the multilevel influences on adherence within this context. Finally, it was assumed that the conditions of ART service delivery at the Ho Teaching Hospital remained relatively stable throughout the study period, thereby allowing meaningful insights to be drawn regarding barriers and facilitators.

# CHAPTER FOUR

# 4.0 RESULTS

## 4.1 Introduction

This chapter presents the study's findings according to the set objectives of the study. The data were obtained through in-depth interviews, transcribed verbatim, and subsequently analyzed thematically.

## 4.2 Socio-demographic data

Table 4.1 below summarizes the socio-demographic data of respondents. The study involved a total of 14 participants living with HIV who were receiving ART at the Ho Teaching Hospital, who willingly consented to participation. The ages ranged from 22 to 71 years, with a recorded mean age $(43.21 \pm 12.86)$ years. Most participants were female (11), representing 78.57% of the total respondents,

In terms of the educational status of the study participants at the time of engagement, six (6) representing 42.86% had a tertiary level education, while only one participant had no formal education. Some (3) participants were unemployed, and seven (7) representing 50% of the total respondents were employed. Concerning the marital status, seven (7) participants were married, five (5) were single, and few (2) were divorced.

With religion, all participants were Christians. About HIV history, the duration since diagnosis ranged widely from 1 year to 13 years, with an average period of HIV diagnosis and receiving treatment being $6.50 \pm 3.92$ years and $6.14 \pm 3.96$ years, respectively. Finally, some (5) participants resided both within Ho, and the remaining (9) participants representing the majority (64.29%) reside outside Ho.

**Table 4. 1: Socio-demographic Characteristics of Respondents**

| Variable | Category | Frequency | Percentage (%) |
|---|---|---|---|
| **Sex** | Female | 11 | 78.57 |
| | Male | 3 | 21.43 |
| **Education** | No Formal | 1 | 7.14 |
| | Basic | 4 | 28.57 |
| | Secondary | 3 | 21.43 |
| | Tertiary | 6 | 42.86 |
| **Employment Status** | Employed | 8 | 57.12 |
| | Unemployed | 4 | 28.57 |
| | Retired | 2 | 14.29 |
| **Marital Status** | Single | 5 | 35.71 |
| | Married | 7 | 50.00 |
| | Divorced | 2 | 14.29 |
| **Religion** | Christianity | 14 | 100 |
| **Residential Status** | Within Ho Township | 5 | 35.71 |
| | Outside Ho Township | 9 | 64.29 |
| **Mean (yrs)** | Age | (43.21 ± 12.86) | |
| | Duration of Diagnosis (HIV) | (6.50 ± 3.92) | |
| | Duration of ART | (6.14 ± 3.96 | |

**Source:** *Field Data, 2025*

### 4.3 Presentation of data

Using thematic analysis, a total of four (4) and thirteen (13) subthemes were derived from the data analysis. The themes and subthemes of the study are presented in Table 4.2.

**Table 4. 2: Themes and sub-themes derived from the analysis**

| Theme | Sub-themes |
|---|---|
| **Theme One:**<br>Individual-Level Factors Affecting ART Adherence | Subtheme 1.1: Psychological Responses and Beliefs |
| | Subtheme 1.2: Behavioural and Lifestyle Practices |
| | Subtheme 1.3: Medication-Related Challenges |
| | Subtheme 1.4: Physical and Biological Experiences |
| **Theme Two:**<br>Interpersonal Factors Influencing ART Adherence | Subtheme 2.1: Family Support |
| | Subtheme 2.2: Peer and Partner Relationships |
| | Subtheme 2.3: Social Isolation and Stigma within Relationships |
| **Theme Three:**<br>Community-Level Factors | Subtheme 3.1: Community Stigma and Discrimination |
| | Subtheme 3.2: Lack of Community-Based Support Systems |
| | Subtheme 3.3: Religious and Spiritual Interpretations |
| **Theme Four:**<br>Institutional and Healthcare Service-Related Factors | Subtheme 4.1: Accessibility and Availability of Services |
| | Subtheme 4.2: Provider-Patient Relationship and Communication |
| | Subtheme 4.3: Confidentiality and Institutional Environment |

### 4.3.1 Theme One: Individual-Level Factors Affecting ART Adherence

This theme explores the personal experiences, challenges, and coping strategies of people living with HIV at Ho Teaching Hospital. It highlights the complex realities of living with a chronic condition, where personal beliefs, emotions, physical side effects, and daily circumstances all converge to shape adherence behaviours.

#### 4.3.1.1 Subtheme 1.1: Psychological Responses and Beliefs

Participants described experiencing strong emotional reactions and psychological struggles following their HIV diagnosis, which often influenced their willingness to adhere to treatment. Some reported initial denial, refusing to believe the diagnosis or seeking alternative solutions outside the hospital before considering ART. This delayed treatment initiation and created a barrier to adherence.

> *"At first, when I was diagnosed, I didn't believe it. It took me a long time before I accepted and started treatment." (P2: Male, 35yrs)*

> *"About 2018 or 2019. I was not told about the time but it was around 2018 or 2019… I started not with the hospital. When they told me I'm positive, I contacted some people first." (P1: Female, 63yrs)*

One participant recalled refusing to eat and breaking down emotionally for a week until a nurse's encouragement helped them regain strength and accept treatment, highlighting the role of psychological support in enabling adherence.

> *"Yes, I cried for one week. I'm not eating. One of my nurses talked to me before I started eating." (P4: Female, 48 yrs)*

Spiritual and alternative beliefs also shaped adherence behaviors. Some participants expressed faith in God for healing or sought prayer camps and traditional remedies, which initially distracted them from ART.

> *"Well, I believe that one day God will help me and he will come through for me." (P3: Female, 22yrs)*

> *"But I just went to a prayer camp. And the woman gave me handkerchief to cough in… So, it became to me like the thing is a spiritual thing." (P5: Male, 38 yrs)*

At the same time, others reconciled their faith with biomedical care, recognizing that ART was necessary for survival despite spiritual interpretations of the illness.

> *"To me, it's good that if you have HIV, you don't kill yourself. It's a sickness that came over your way. So you have to be on treatment. You'll be well to do. You'll be healthy for the time that God gave you." (P1: Female, 63yrs)*

Fear of death and worsening health strongly motivated participants to take their medication consistently. They saw ART as the only way to remain strong and alive, making adherence a priority.

> *"Because I don't want to die. Already, I told you that it makes me strong." (P1: Female, 63yrs)*
>
> *"If I didn't take it, I would die." (P4: Female, 48 yrs)*

#### 4.3.1.2 Subtheme 1.2: Behavioural and Lifestyle Practices

Behavioural and lifestyle practices significantly influenced adherence. Forgetfulness was a common barrier, often linked to busy schedules, travel, or market days, which led to missed clinic visits and doses.

> *"A refill is forgetfulness. At times, the day that I report, it's market day. So then I'll forget. Not financially, but forgetfulness." (P1: Female, 63yrs)*
>
> *"Some works, we just go that, oh, we will finish today then come. I may go today… the work have to take you three days… my mind is not there to carry the medicine along." (P5: Male, 38 yrs)*

Other participants mentioned keeping the drugs under the pillow to remember while in bed, and also noted self-reminding, along with occasional calls from health workers that prompted them to take their medicine. All of which served as external reinforcements to adherence.

> *"But that is why to me, I place it at the top of my bed, under my pillow. Anytime, maybe if I'm on bed, I can remember and take it." (P5: Male, 38 yrs)*

> *"Sometimes they call me in the morning, Edwin, do you take your medicine? Sometimes they remind me, so I also do remind myself." (P5: Male, 38 yrs)*

On the other hand, stigma was a strong barrier to adherence. Some participants described stopping treatment after observing others being identified at the hospital.

> *"No, I did not believe. When you go to the hospital, you learn that betraying some people… I saw him going to this room. I saw him going to this place… That's why I stopped. The stigma. That's why I stopped." (P1: Female, 63yrs)*

Others recounted situations where their medication was discovered, exposed, and even discarded, which forced them to interrupt their adherence.

> *"And one day, the wife realized that I'm on the drug. So, just take a picture of it and spread it. And now that they told her that this is the kind of medicine. So, it turned into a quarrel between the husband and the wife… So, I stopped the medicine because they threw the medicine away." (P2: Male, 35yrs)*

#### 4.3.1.3 Subtheme 3: Medication-Related Challenges

Side effects emerged as a significant medication-related challenge for those on treatment. Most participants described how the drugs caused headaches, body pains, sleeplessness, and weakness, though some noted these effects reduced after some weeks. This discouraged consistent intake, especially at the beginning of treatment.

> *"First day, I can't sleep. My head is paining me. All my body too is paining me. By two weeks' time, it has stopped." (P4: Female, 48 yrs)*

> *"It was good. I still have some of the drugs with me but I've stopped. The reason is that it will make you weak." (P1: Female, 63yrs)*

In addition, the lifelong nature of ART was described as a burden. Several participants found it overwhelming to take medication every day indefinitely, which affected their motivation to remain adherent.

> *"Well, it's not easy to take medication. So taking the medication for life is a headache." (P3: Female, 22 yrs))*

> *"The fact that I'll be taking the medication for life makes it difficult for me." (P3: Female, 22 yrs)*

#### 4.3.1.4 Subtheme 1.4: Physical and Biological Experiences

Despite these challenges, improved physical health served as a key facilitator of adherence. Participants repeatedly emphasized that ART made them feel strong, well, and able to function in their daily lives. Seeing positive health outcomes reinforced their commitment to treatment.

> *"Okay, me taking the medicine, I can see that I'm getting well. And it has boosted my morale small." (P2: Male, 35yrs)*

> *"Oh, it's good. I'm always strong. I'm always on the move." (P1: Female, 63yrs)*

Some participants shared that they did not experience loss of appetite while undergoing treatment, explaining that they consistently ate well and supplemented their meals with frequent water intake as part of their self-care regimen. This act complemented their adherence and overall well-being.

> *"As for food, I can eat. I don't lose appetite. I always eat. I like drinking water. It is the least thing that doesn't stop me from taking my drugs." (P2: Male, 35yrs)*

### 4.3.2 Theme Two: Interpersonal Factors Influencing ART Adherence

This theme focuses on the role of close social relationships in shaping adherence to ART. Family members, friends, partners, and peers influenced participants in ways that either supported consistent medication use or created barriers through stigma, conflict, or abandonment. Interpersonal factors therefore emerged as both powerful facilitators and significant obstacles to adherence.

#### 4.3.2.1 Subtheme 2.1: Family Support

Family support played an important role in encouraging adherence to treatment. Parents were described as a source of motivation, offering reminders, emotional encouragement, and ensuring proper food and care to help maintain regular medication intake.

> *"My mom, she has been very supportive of me so she's my motivation to taking my medication." (P13: Male, 71 yrs)*

> *"It's my mommy and my dad. Okay, they are aware that you are HIV positive? Yes, they are aware… How they help me is that they always want me to be eating. As for food, I can eat. I don't lose appetite. I always eat. I like drinking water. And I take advice from the doctors and go by it,* yes." *(P7: Female 35 yrs)*

Spousal support was also highlighted as an enabler of adherence. Husbands provided financial assistance, particularly by covering transportation costs for clinic visits and medication refills, thereby reducing barriers linked to distance and cost.

> *"The journey? If I call him, he will send me money to come for it." (P10: Female, 45 yrs)*

> *"Now I'm not feeling shy. If it is my turn before coming for the blaster, if I call my husband, my husband send me money, I'm coming to take my blaster." (11)*

Participants shared that they disclosed their status to only a few trusted family members, such as siblings, who offered emotional support and occasionally reminded them about medication, while keeping it hidden from others in the family.

> *"One of my sister know. At times, my sister will ask me to go for the drugs. And I said I will have it. If it has finished, I will go." (P6: Female, 46 yrs)*
>
> *"But my sisters and my brothers, they are not aware. So, can you describe how these people help you to make it harder? How these people help me is that they always want me to be eating." (P1: Female, 63yrs)*

#### 4.3.2.2 Subtheme 2.2: Peer and Partner Relationships

Spousal and partner relationships presented mixed influences on adherence. Some participants recounted divorce and separation resulting from the strain of living with HIV, which deprived them of partner support and created emotional distress that undermined their adherence.

> *"I have been married but we are normal. During my sickness time, we divorced. What happened during your sickness time? It became worse and the lady fed up. She left before I came back from the hospital." (P8: Female, 42 yrs)*
>
> *"I was married before but now I'm divorced. The divorce distracted me and affected my consistency with the drugs." (P7: Female 35 yrs)*

Participants highlighted how friends often provided reassurance, reduced participants' worries, and encouraged them to continue treatment.

> *"My friend's husband liked me so much. So, he was telling me that it's nothing normal. 'You can get it through shed or blade or anything'. So, I shouldn't be worried about it." (P9: Female,46 yrs)*

However, peers sometimes introduced alternative narratives that conflicted with adherence, such as recommending supplements, herbal remedies, or traditional treatments as potential "cures."

> *"So, he advised me, talked to me that it's nothing. So, I should continue. At first, they were selling some supplements, like, I don't know how to call it. But later, I will come and show the supplements to you. And he told me that that supplement, so you can also cure the HIV. It can take away everything." (P12: Female, 40 yrs)*

Some participants admitted being persuaded to try such alternatives, only to later realize they were ineffective and return to hospital medication. They expressed how their peers could either encourage adherence or misdirect it through promotion of non-biomedical remedies.

> *"My friend connected me to a certain man I've heard of in Kumasi. He was treating people and they were getting better. I looked for his number and he put me on treatment for some time." (P11: Female, 26 yrs)*

> *"At first, he gave me one box that I should take. It's like fruits. They produce fruits, all kind of fruits to produce it. So, I'll be taking it sometimes, but I feel like it doesn't help me. It doesn't do me any harm, but I feel like this is expensive. It can't help me out. So, let me focus on the hospital medicine." (P10: Female, 45 yrs)*

#### 4.3.2.3 Subtheme 2.3: Social Isolation and Stigma within Relationships

Stigma and rejection from close relationships emerged as major barriers to adherence. Participants recounted instances where being identified as HIV-positive led to conflict within households and even public exposure, which disrupted their treatment.

> *"And one day, the wife realized that I'm on the drug. So, just take a picture of it and spread it… So, it turned into a quarrel between the husband and the wife." (P12: Female, 40 yrs)*

Others described being rejected in social and religious spaces after their status was suspected, leaving them isolated and emotionally distressed.

> *"Sunday, I went to church. And there is a lady who said she studied at a university, a Christian university or whatever. So, she used her phone to test me. People have been using phone and they said they will get from the phone that you are on HIV. So, as soon as the girl tested me with the phone, she started moving from the chair, making herself." (P8: Female, 42 yrs)*

Participants described losing friendships and close connections after disclosure, explaining that instead of receiving support, they felt isolated, neglected, and avoided even by their own family members. This experience further deepened their sense of isolation and weakened their motivation to adhere.

> *"When I told my family and friends, I just wanted their support but I didn't get that. It was very bad for me. I felt isolated and all that stuff." (P10: Female, 45 yrs)*
>
> *"No family even ask me whether you are sick before of this type of disease before. If they get recovered, they don't come nearer to me. My direct brothers and sisters, they don't ask me about anything." (P9: Female,46 yrs)*

As a result, participants chose to conceal their status from siblings and wider family members, but this secrecy limited opportunities for external support and left them to manage treatment on their own.

> *"But my sisters and my brothers, they are not aware… So, I keep it to myself, that's it." (P2: Male, 35yrs)*

### 4.3.3 Theme Three: Community-Level Factors

This theme highlights how community attitudes, stigma, absence of peer-support systems, and religious interpretations influence ART adherence. While some participants described direct discrimination and fear of gossip, others linked their challenges to lack of local support structures or heavy reliance on spiritual solutions rather than biomedical care.

#### 4.3.3.1 Subtheme 3.1: Community Stigma and Discrimination

Fear of being seen at ART centres was a major concern for some participants. They explained that to avoid recognition and possible stigma, they chose to travel farther distances for medication rather than collect it within their own communities which makes them reluctant when their appoint date is due.

> *"First, I'm taking it at Kete Krachi. By Kete Krachi, the ANC people, they are here. And the HIV people too. So if they have cold blood, then they are watching. So I stop taking it there and come here to take it." (P14: Female, 48 yrs)*

> *"So you move from Kete Krachi to go every day for medication? Yes, six months. Every six months, I have to come here for my medication. And sometimes, I feel lazy because it's far." (P10: Female, 45 yrs)*

Participants described how even close family members avoided them, and in social settings like church, others distanced themselves after suspecting their HIV status. They explained that the stigma and rejection created feelings of isolation and emotional distress, which discouraged some from consistently taking their medication. One participant explained,

> *"No family even asks me about my health. My brothers and sisters don't come near me. Because of that, I sometimes feel like stopping the medicine since no one cares to support me." (P1: Female, 63yrs)*

Another recalled, *“*

> *One Sunday, I went to church and a lady suspected my condition. She quickly moved away from me, making me feel ashamed. That day, I could not even take my drugs because I didn’t want anyone to see me with them.” (P11: Female, 26 yrs)*

Some participants noted that once people became aware of their status, they were judged, avoided, and gossiped about. To protect themselves from this kind of stigma, they hide their medication or avoid treatment in places where they might be recognized, which disrupts adherence by making it harder to take their medicine regularly.

> *“When people got to know I was positive, they started spreading it around and avoiding me. Because of that, I hide my drugs, and sometimes I even skip them so no one will see.” (P7: Female 35 yrs)*

#### 4.3.3.2 Subtheme 3.2: Lack of Community-Based Support Systems

The absence of peer-support structures within communities was a major challenge for participants, as it left them without opportunities to share experiences, gain encouragement, or learn coping strategies from others living with HIV. Without such systems, many described feeling alone in their treatment journey, which weakened their motivation to consistently adhere to ART.

> *“My community, yeah. People living with HIV? No, no, no. Even if they have it, you will not know. Because they don’t know your status. And me too, I don’t know their status.” (P6: Female, 46 yrs)*

> *“There are no community resources or peer groups here. So you are on your own.” (P13: Male, 71 yrs)*

Fear of stigma further discouraged disclosure, preventing participants from seeking support within their social environment. Some kept their status completely secret, while others who disclosed to a few relatives felt rejected, which increased their sense of isolation and reduced adherence.

> *"Initially, it was very hard for me because when I was diagnosed I wanted some sort of support so I told my family and some few people in my home and I didn't get the support that I was hoping to get. In fact, I was isolated. It made it very hard to keep going for the medicine" (P13: Male, 71 yrs)*
>
> *"But my sisters and my brothers, they are not aware. So, I keep it to myself, that's it. It makes it difficult for me because I have to hide it while trying to keep taking the drugs." (P2: Male, 35yrs)*

Because of the lack of community-based support, adherence often depended solely on hospital staff or individual effort. For some, reminder calls from nurses played a key role in helping them take medication regularly.

> *"Some of the madams here, they used to remind me. Sometimes they called me in the morning, Did you take your medicine? Sometimes they remind me, so I can also remind myself." (P9: Female,46 yrs)*

Others, however, relied only on clinic cards to remember their appointment dates, which sometimes led to missed refills or interruptions in treatment.

> *"No one in my community supports me. No, actually, no one call me, and no one call me like that. I always look into their card, their dates. So, when the date is due, I have to come. If I forget, then I miss it." (P2: Male, 35yrs)*

#### 4.3.3.3 Subtheme 3.3: Religious and Spiritual Interpretations

Religious and spiritual beliefs shaped adherence both positively and negatively. For some participants, faith in God provided encouragement to continue taking ART, as they believed that treatment kept them alive while awaiting divine healing.

> *"Well, I believe that one day God will help me and he will come through for me. So I have to stick with the ART." (P3: Female, 22 yrs)*

> *"To me, it's good that if you have HIV, you don't kill. It's a sickness that came over your way. So you have to be on treatment. You'll be well to do. You'll be healthy for the time that God gave you." (P5: Male, 38 yrs)*

For others, spiritual practices interfered with adherence and made it difficult to return to regular adherence. They recounted being encouraged at prayer camps or by pastors to stop taking their medication and instead rely on rituals believed to cure HIV.

> *"So make me stop the medicine. But I just went to a prayer camp. And the woman gave me handkerchief to cough in, like the way I've been coughing then. So after that, they bend the handkerchief and they cough to stop. Because of that I stopped the medicine for a while because at the prayer camp they gave me a handkerchief to use for prayers, and I believed that would heal me." (P5: Male, 38 yrs)*

Others explained that they tried remedies presented as cures but later abandoned them, realizing they were costly and ineffective compared to hospital medicine.

> *"At first, he gave me one box that I should take. It's like fruits… I feel like this is expensive. It can't help me out. So, let me focus on the hospital medicine." (P11: Female, 26 yrs)*

Religious institutions themselves sometimes became spaces of silence or judgment rather than support. Participants explained that the silence prevented them from seeking encouragement or practical reminders from fellow congregants, leaving them without an additional layer of support to maintain adherence.

> *"I go to church every week, but no one there knows my status. If they knew, they would treat me differently. And because I keep quiet about it, no one is aware to even encourage me to keep taking the medicine." (P2: Male, 35yrs)*

### 4.3.4 Theme Four: Institutional and Healthcare Service-Related Conditions

This theme focuses on how the organization of ART services, availability of drugs, provider-patient interactions, and structural aspects of healthcare delivery influence adherence to treatment. Participants highlighted both supportive aspects of healthcare delivery and institutional barriers that either hindered or strengthened their ability to consistently take ART.

#### 4.3.4.1 Subtheme 4.1: Accessibility and Availability of Services

Accessibility and availability of services played a key role in supporting adherence. Participants emphasized that they had not experienced shortages, explaining that anytime they visited the hospital, they received their medication without delay.

> *"I have never faced it before. I have never been told that there is no medicine in the hospital." (P2: Male, 35yrs)*

> *"Since anytime that I do come here, they give me, I get my medicine straight forward. So, I am alive too." (P1: Female, 63yrs)*

Despite this, structural barriers such as long waiting times discouraged adherence. Some participants described frustrations with clinic delays and long waiting times, explaining that they often had to sit in lines for hours, sometimes until late in the afternoon, before receiving their medication.

> *"Sometimes we are delayed for a bit but that's all." (P6: Female, 46 yrs)*

> *"Because the previous days, we have to come and sit down, be in a line… sometimes two o'clock before you leave here." (P8: Female, 42 yrs)*

The need to travel long distances to collect medication was described as a barrier, with participants explaining that they had to journey from places like Krachi every six months for refills, relying on financial support from spouses to cover transportation costs.

> *"So you move from Krachi to go every day for medication? Yes, six months. Every six months, I have to come here for my medication." (P4: Female, 48 yrs)*

> *"I come from afar. So if I call him, he just send me the money on phone. So that I can come for my medicine." (P10: Female, 45 yrs)*

#### 4.3.4.2 Subtheme 4.2: Provider-Patient Relationship and Communication

Interactions with healthcare providers played a central role in influencing adherence. Many participants expressed satisfaction with the respectful and supportive care received at Ho Teaching Hospital, noting that this positive environment motivated them to remain adherent.

> *"Oh. They are doing well. Ho Teaching Hospital, they are doing well." (P2: Male, 35yrs)*

> *"Everybody is happy with me." (P1: Female, 63yrs)*

However, others reported negative experiences such as being refused treatment or encountering rude behaviour from staff creating discouragement and mading them feel less comfortable about seeking care, which risked interrupting adherence.

> *"First when I came here and I told the nurse or the lady in charge, she doesn't want to give me treatment." (P13: Male, 71 yrs)*

> *"Yeah, sometimes when you go to the ART, some of the staffs are sometimes rude. It sometimes discourages me to come for treatment." (P6: Female, 46 yrs)*

Others highlighted the proactive support they received from healthcare staff through reminders and follow-up calls.

> *"Sometimes they call me in the morning, Edwin, do you take your medicine? Sometimes they remind me." (P3: Female, 22 yrs)*

> *"Sometimes they have to call you on the phone that, oh, you have one week to come for your medication." (P4: Female, 48 yrs)*

**Subtheme 4.3: Confidentiality and Institutional Environment**

Concerns about confidentiality strongly shaped where and how participants accessed services. Some avoided seeking treatment in their local facilities for fear of being recognized, explaining that a lack of privacy could expose their status to the community and threaten adherence.

> *"First, I'm taking it at Krachi. So I stopped taking it there and came here to take it. Because I didn't want people to know about this condition" (P4: Female, 48 yrs)*

> *"When you go to the hospital, you learn that betraying some people… your name stretches. I saw him going to this room. He is also positive." (P1: Female, 63yrs)*

In contrast, larger hospitals such as Ho Teaching Hospital provided a sense of anonymity, which encouraged adherence. Some participants expressed that being treated in an environment where no one knew them reduced fear of stigma and allowed participants to seek services more freely.

> *"Yes, because I don't know them. They don't know me. So nobody here knows you." (P4: Female, 48 yrs)*

> *"So, I am free over here. Okay. I don't face any problem." (P1: Female, 63yrs)*

Also, some expressed a need for better information and education about their medications, noting that staff often did not provide explanations or allow them to ask questions, leaving them unsure about the treatment they were receiving.

> *"I don't know. I wanted to ask, but your staff, they don't allow me." (P1: Female, 63yrs)*
>
> *"Would you be able to tell us that this is the medication I'm using? You have to be explaining the medications to your guys." (P4: Female, 48 yrs)*

# CHAPTER FIVE

# 5.0 DISCUSSION

## 5.1 Introduction

This chapter discusses the findings of the study in relation to the existing body of literature and the Social Ecological Model (SEM), which served as the guiding theoretical framework. The purpose is to interpret how they lived experiences of people living with HIV at Ho Teaching Hospital illuminate the multilevel factors that shape adherence to ART. The analysis proceeds by revisiting the major themes and subthemes that emerged from the qualitative data, linking them to the individual, interpersonal, community, and organisational levels of the SEM. In doing so, the chapter demonstrates how personal motivations and fears, social relationships, community norms, and institutional structures collectively influence adherence behaviour. Findings are compared and contrasted with evidence from previous studies within Ghana and across sub-Saharan Africa, highlighting both points of convergence and areas of divergence. Where differences arise, possible explanations are explored in terms of context, health system capacity, and cultural environments.

## 5.2 Individual-Level Barriers and Facilitators to Adherence to Antiretroviral Therapy among People Living With HIV

The study found that participants' psychological responses to HIV diagnosis, including denial, distress, and recourse to spiritual or alternative remedies, initially delayed ART initiation, while over time fear of death and the recognition of ART as life sustaining became strong motivators for adherence. This reflects the individual level of the Social Ecological Model, where personal beliefs and emotions shape health behaviour, and highlights the need for early psychosocial support to foster sustained adherence (Golden and Earp, 2012). These findings are consistent with studies in Ghana and other sub-Saharan African settings which identify denial and fear as barriers to treatment initiation. For instance, a study in Zambia reported that denial of HIV status undermined adherence among adolescents until their health visibly declined (Okawa *et al.,* 2018), while a review of pregnant women in Nigeria and South Africa found that many lived in denial during the asymptomatic phase, reducing adherence (Omonaiye *et al.,* 2018). Similarly, a systematic review of patient-reported barriers across sub-Saharan Africa highlighted denial as a recurrent obstacle to adherence (Croome *et al.,* 2017). At the same time, the finding that fear of death encouraged adherence aligns with evidence from Ghana, where improved health outcomes were shown to reinforce motivation to adhere (Abdulai *et al.,* 2022). The role of spirituality also mirrors research across the region: while some patients abandoned ART for prayer camps, others reconciled faith with biomedical care (Azia *et al.,* 2023; Addo *et al.,* 2022). However, studies in Uganda and the United States have shown that fear may instead deepen hopelessness and discourage treatment (Perkins *et al.,* 2022; Gaston and Alleyne-Green, 2013), suggesting that contextual factors such as supportive provider interactions at Ho Teaching Hospital may explain the difference by transforming fear into a facilitator rather than a barrier. Psychological responses therefore emerge as double edged, and within the Social Ecological Model they must be understood as mediated by interpersonal and institutional influences that either undermine or reinforce adherence.

Moreover, the study found that behavioural and lifestyle practices, such as alcohol intake, inconsistent dietary habits, and irregular daily routines, often disrupted adherence to ART, as participants reported forgetting doses when intoxicated or skipping medication when they had not eaten. This reflects the individual level of the Social Ecological Model, where lifestyle choices and personal health behaviours intersect with treatment demands (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The findings imply that adherence interventions must extend beyond clinical instructions to encompass lifestyle counselling, including guidance on alcohol use, nutrition, and daily routines. Similar evidence has been documented across sub-Saharan Africa; in Uganda, alcohol consumption was identified as a significant barrier to consistent adherence (Papas *et al.,* 2018), while in South Africa, irregular daily schedules and food insecurity were common reasons for missed doses (Nachega *et al.,* 2016). Evidence from Ghana confirms these patterns: a systematic review and meta-analysis reported that food insecurity and lifestyle habits were recurrent barriers to adherence (Boadu *et al.,* 2023), while a recent study found that perceived wellbeing and health improvements were strong motivators for sustaining ART adherence despite these challenges (Asalu *et al.,* 2022). In contrast, some research in South Africa suggests that alcohol use does not always reduce adherence, as some individuals adapt by integrating medication into drinking routines (Kalichman *et al.,* 2019). Such variation may reflect differences in health education and provider follow-up; at Ho Teaching Hospital, participants described inconsistent counselling on managing ART alongside lifestyle habits, suggesting that stronger behavioural support structures could reduce the negative impact of alcohol and dietary practices on adherence. Thus, lifestyle and behavioural factors emerge as critical but modifiable influences at the individual level of the SEM, shaped both by personal routines and the strength of institutional guidance.

Furthermore, the study reported that participants' medication-related experiences, particularly side effects such as dizziness, nausea, and body weakness, sometimes discouraged consistent adherence, while others reported becoming accustomed to these effects over time or motivated by the visible health improvements that outweighed the discomfort. This reflects the individual level of the Social Ecological Model, where personal perceptions of treatment efficacy and tolerability strongly influence health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The findings imply that while side effects remain a challenge, tailored counselling on managing them and reinforcing the long-term benefits of ART could help sustain adherence. Similar observations have been reported in Ghana, where nausea, dizziness, and weight changes were among the most cited barriers to adherence (Obirikorang *et al.,* 2013), and more recent systematic evidence confirms that treatment-related side effects continue to undermine adherence across Ghanaian ART cohorts (Boadu *et al.,* 2023). In South Africa, studies also highlight that patients often weigh perceived benefits against side effects, with improved health becoming a decisive factor for continued adherence (Nachega *et al.,* 2016). In contrast, studies from Uganda have found that for some patients, persistent side effects were a primary reason for discontinuing ART entirely, regardless of health gains (Musiime *et al.,* 2018). This variation may be explained by differences in patient support structures and regimen availability; at Ho Teaching Hospital, counselling and follow-up enabled participants to interpret side effects as temporary and manageable, thereby maintaining adherence, whereas in other contexts weaker clinical support exacerbates the negative impact of medication experiences. Thus, medication-related factors emerge as a double-edged influence within the SEM, where individual perceptions are mediated by institutional and interpersonal support that determines whether side effects hinder or reinforce adherence.

Also, the study's findings revealed that participants' physical health experiences strongly shaped their motivation to adhere to ART. Many described dramatic improvements in energy, weight, and overall well-being after initiating treatment, which reinforced adherence, while periods of illness or physical weakness often undermined their ability to take medication consistently. This reflects the individual level of the Social Ecological Model, where health outcomes directly influence behaviour (Golden and Earp, 2012). The findings imply that visible health gains are a powerful adherence motivator, underscoring the importance of early initiation and continuous monitoring to ensure patients experience tangible benefits from ART. Similar evidence has been reported in Ghana, where health improvements such as weight gain and reduced opportunistic infections were found to strengthen adherence (Obirikorang *et al.,* 2013; Asalu *et al.,* 2022). Across sub-Saharan Africa, systematic reviews confirm that physical recovery is one of the strongest facilitators of adherence, as patients come to associate ART with restored health and survival (Boadu *et al.,* 2023; Nachega *et al.,* 2016). However, contradictory findings from Uganda and Kenya suggest that when patients experience prolonged illness or treatment fatigue, physical health challenges can lead to treatment interruptions despite awareness of ART benefits (Musiime *et al.,* 2018; Papas *et al.,* 2018). The variation may reflect differences in the quality of clinical follow-up; in contexts like Ho Teaching Hospital, routine monitoring and patient support appear to transform positive physical changes into sustained adherence, whereas in weaker health systems persistent illness undermines patient confidence. Thus, physical health experiences operate as both a driver and a barrier at the individual level of the SEM, mediated by institutional capacity to reinforce recovery and support patients through periods of poor health.

## 5.3 Interpersonal Factors Affect ART Adherence Among Adherence Among People Living With HIV

The study found that family support played a critical role in ART adherence, as participants who received encouragement, reminders, or material support from relatives were more consistent in taking their medication, while those lacking such support or experiencing family rejection struggled with adherence. This reflects the interpersonal level of the Social Ecological Model, which emphasises the influence of social networks and close relationships on health behaviours (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that adherence interventions should not only target individuals but also involve families, promoting disclosure and shared responsibility in treatment. Similar findings have been reported in Ghana, where family encouragement and practical help with clinic attendance were associated with better adherence (Obirikorang *et al.,* 2013; Boadu *et al.,* 2023). In Uganda and South Africa, studies also demonstrate that emotional and material support from relatives strengthens adherence, while family neglect or fear of disclosure leads to poor outcomes (Ware *et al.,* 2013; Nachega *et al.,* 2016). In contrast, research in Nigeria found that some family interactions undermined adherence through stigma or discouragement from treatment, with patients hiding medication to avoid suspicion (Omonaiye *et al.,* 2018). Such variations may be explained by cultural differences in disclosure practices and the role of extended families; at Ho Teaching Hospital, participants who disclosed to trusted relatives received instrumental and emotional support, while those who concealed their status often faced adherence challenges. Thus, family support emerges as a decisive factor at the interpersonal level of the SEM, reinforcing the need for family-centred counselling and stigma reduction to create enabling home environments for sustained ART use.

Also, the study revealed that peer and partner support significantly shaped ART adherence, with participants reporting that encouragement from peers living with HIV and support from intimate partners enhanced their motivation to take medication consistently, while the absence of such support contributed to lapses. This reflects the interpersonal level of the Social Ecological Model, where relational networks and social influence affect health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that peer groups and partner involvement can be strategically leveraged to normalise ART use and provide accountability structures for patients. Recent evidence from sub-Saharan Africa supports this: a systematic review of peer support interventions among adolescents demonstrated improvements in ART adherence and retention (Ahmed *et al.,* 2023), while a meta-analysis confirmed that treatment supporters, including partners, peers, and friends, significantly enhanced adherence outcomes (Nyoni *et al.,* 2020). Similarly, a four-country cohort study reported that HIV support groups were associated with better adherence and viral suppression, although the impact varied across contexts (Mbah *et al.,* 2021). Among adolescents, peer support has been consistently highlighted as a facilitator of adherence and engagement in care (Mark *et al.,* 2019). In contrast, however, studies in South Africa and Uganda show that nondisclosure or unsupportive partners can undermine adherence, particularly among women who fear rejection or violence (Twimukye *et al.,* 2024; George and McGrath, 2019). Such variations may be linked to gender dynamics and cultural expectations around disclosure: at Ho Teaching Hospital, participants who disclosed to supportive partners or joined peer groups benefitted from encouragement and accountability, while those who concealed their status or lacked peer connections struggled. Peer and partner support therefore emerge as decisive interpersonal-level factors within the SEM, capable of transforming ART adherence trajectories depending on the quality and availability of supportive relationships.

Moreover, participants' narratives revealed that stigma within close relationships negatively affected ART adherence, as participants feared disclosure to partners or relatives might result in rejection, gossip, or discrimination, leading some to conceal medication or skip doses. This aligns with the interpersonal level of the Social Ecological Model, which highlights the influence of social networks on health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that stigma at the relational level creates a hostile environment for adherence, reducing the likelihood of consistent treatment use unless disclosure is carefully managed. This finding is supported by evidence from South Africa, where relational stigma was associated with hiding medication and poor adherence outcomes (George and McGrath, 2019), and by studies in Uganda and Zimbabwe that found fear of partner rejection discouraged disclosure and adherence (Twimukye *et al.,* 2024; Jimu *et al.,* 2021). Similarly, a systematic review reported that stigma from partners and family members was a recurrent barrier to adherence among women in sub-Saharan Africa (Yonga *et al.,* 2022). In contrast, however, some studies suggest that disclosure can improve adherence when met with acceptance and support, as shown in South Africa where women who disclosed to partners were more likely to adhere (Adeniyi *et al.,* 2021). The variation can be explained by differences in relationship dynamics and cultural attitudes toward HIV; at Ho Teaching Hospital, stigma within relationships was a significant deterrent, but those who disclosed to supportive relatives or partners experienced positive reinforcement. Stigma within relationships therefore emerges as a complex interpersonal factor within the SEM, one that can either undermine or reinforce adherence depending on disclosure outcomes and the quality of relational support.

## 5.4 Community-Level Factors That Affect ART Adherence Among People Living With HIV.

The study found that community stigma was a powerful barrier to ART adherence, as participants described fears of being identified at clinics, travelling long distances to seek anonymity, or avoiding medication in public to prevent suspicion. This reflects the community level of the Social Ecological Model, which emphasises how broader social norms and community attitudes shape health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that stigma at the community level extends beyond the household to influence structural decisions such as clinic attendance and disclosure, thereby undermining adherence. Recent evidence confirms these findings: a systematic review of stigma-related interventions in sub-Saharan Africa showed that stigma remains a central barrier to adherence, though community-based education and treatment supporter models can help reduce it (Kimera *et al.,* 2025); a scoping review similarly identified stigma and discrimination as persistent obstacles to achieving adherence targets across the region (Magura *et al.,* 2025); and a systematic review and meta-analysis reported that stigma and negative community perceptions directly undermined adherence, while community support facilitated it (Buh *et al.,* 2023). Earlier research also demonstrated that stigma changes form along the HIV care continuum, but remains a major deterrent to consistent ART use in community settings (Bonnington *et al.,* 2017). The variation across contexts may reflect the presence or absence of stigma-reduction interventions; at Ho Teaching Hospital, patients reported entrenched stigma in their communities that compelled secrecy, while in settings with community education and HIV support initiatives, stigma has been shown to weaken. Community stigma therefore operates as a structural constraint within the SEM, reinforcing the need for interventions that target community attitudes alongside individual and family-level support.

Again, the study found that the lack of community support systems contributed to poor ART adherence, as participants noted the absence of structured community networks to provide encouragement, treatment reminders, or material support. This reflects the community level of the Social Ecological Model, which recognises that local structures and collective resources strongly influence health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that when supportive systems are weak or absent, individuals are left to manage adherence in isolation, heightening the risk of lapses. These findings are consistent with evidence across sub-Saharan Africa, where systematic reviews report that inadequate community-based support remains a barrier to sustained adherence (Buh *et al.,* 2023; Kimera *et al.,* 2025). For example, a review of adherence interventions in low- and middle-income countries found that programmes integrating community health workers and treatment supporters were more effective than individual-focused approaches (Pugh *et al.,* 2022).

In South Africa, stigma-reduction campaigns and peer-led community groups were associated with improved ART outcomes, suggesting that support systems at the community level can transform adherence environments (Bonnington *et al.,* 2017). In contrast, however, some studies indicate that community groups can be underutilised or fail to reach marginalised populations, limiting their impact (Magura *et al.,* 2025). The variation may be explained by differences in the design and reach of interventions; at Ho Teaching Hospital, participants described a near absence of structured community support, whereas in other contexts strong community-based programmes enhanced engagement and adherence. Thus, the lack of community support systems emerges as a key constraint within the SEM, reinforcing the need to strengthen community-level structures that can sustain individual and family adherence efforts.

Also, accounts from participants highlighted that religious interpretations and practices influenced ART adherence in divergent ways: while some participants initially abandoned treatment in favour of prayer camps or faith healing, others viewed ART as compatible with divine will, interpreting the drugs as a gift from God to sustain life. This reflects the community level of the Social Ecological Model, where collective belief systems and cultural practices shape individual behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that religion can either undermine or reinforce adherence depending on the teachings patients receive from spiritual leaders and communities. Evidence from sub-Saharan Africa confirms this duality: a systematic review highlighted that religious and cultural beliefs, particularly reliance on faith healing, often undermined adherence among women on ART (Omonaiye *et al.,* 2018), while another systematic review and meta-analysis identified religious interpretations and community stigma as recurrent barriers to treatment (Buh *et al.,* 2023).

A more focused review on Pentecostal Christians in SSA found that some believers discontinued ART in favour of divine healing, though others accepted medication as part of God's plan (Azia *et al.,* 2023), and a recent study of Pentecostal pastors in South Africa showed that while some discouraged ART use, others actively endorsed it as compatible with faith (Azia *et al.,* 2025). These contradictions may be explained by differences in how religious authority is exercised; in contexts where faith leaders promote biomedical care, adherence is reinforced, whereas in settings dominated by healing ministries, treatment interruptions occur. At Ho Teaching Hospital, participants' accounts reflected both orientations, underscoring the importance of involving faith leaders in adherence programmes. Thus, religious interpretations and practices emerge as a powerful community-level influence within the SEM, capable of either derailing or reinforcing ART adherence depending on their orientation.

Moreover, within this study, it became evident that that low community awareness about HIV and ART created an environment of misinformation, contributing to stigma, delayed initiation, and poor adherence, while participants who lived in communities with active education programmes felt more supported and less fearful of disclosure. This reflects the community level of the Social Ecological Model, where shared knowledge and collective understanding influence health behaviour (O'Laughlin *et al.,* 2021; Golden and Earp, 2012). The implication is that community-level education can transform adherence outcomes by reshaping norms, dispelling myths, and normalising ART use. These findings are supported by systematic reviews across sub-Saharan Africa, which identify inadequate community knowledge as a persistent barrier to ART adherence (Buh *et al.,* 2023; Magura *et al.,* 2025), and by studies showing that educational campaigns improve community acceptance and reduce stigma (Kimera *et al.,* 2025).

In Malawi and Uganda, community sensitisation efforts were associated with improved disclosure and stronger adherence, as knowledge replaced misconceptions about ART (Dovel *et al.,* 2023). In contrast, however, where such interventions are absent or poorly implemented, misinformation flourishes, sustaining stigma and undermining adherence, as seen in several rural SSA settings (Bonnington *et al.,* 2017). The variation may be linked to differences in investment in health promotion: at Ho Teaching Hospital, participants highlighted a lack of broad-based community education, which left misconceptions intact, while contexts with sustained education programmes demonstrated stronger adherence cultures. Thus, community awareness and education function as critical determinants within the SEM, shaping the collective attitudes that either hinder or support individual ART adherence.

### 5.5 Institutional and Healthcare Service-Related Conditions That Support or Hinder Adherence to ART.

The study reported that barriers within the health system, such as long waiting times, inconvenient clinic schedules, and transport costs, negatively affected ART adherence, with some participants reporting missed doses due to delays in accessing care. This reflects the organisational level of the Social Ecological Model, which underscores the role of institutional structures in shaping health behaviour (Golden and Earp, 2012). The implication is that systemic inefficiencies discourage consistent engagement, undermining adherence even among motivated patients. These findings are supported by recent evidence across sub-Saharan Africa: a scoping review identified fragmented health systems, poor clinic access, and drug stockouts as critical barriers (Magura *et al.,* 2025), while a systematic review and meta-analysis found that long waiting times, inadequate infrastructure, and negative staff attitudes consistently undermined adherence outcomes (Buh *et al.,* 2023).

In Uganda, older adults described long queues and inflexible clinic hours as major obstacles to maintaining ART schedules (Schatz *et al.,* 2019), and a systematic review across SSA similarly confirmed that erratic drug supplies and extended waiting times remained among the most cited health system barriers (Croome *et al.,* 2017). The variation across contexts may reflect differences in service delivery models, with innovative strategies such as community ART groups reducing health system burdens in some settings, while in facilities like Ho Teaching Hospital structural inefficiencies continued to disrupt adherence. Thus, health system barriers represent a critical organisational-level influence within the SEM, reinforcing the need for patient-centred service delivery to strengthen adherence.

Moreover, interactions with healthcare providers played a central role in adherence, as participants frequently associated respectful and supportive treatment with their willingness to remain consistent with ART. Expressions of satisfaction with the care at Ho Teaching Hospital reflected how a positive provider environment can foster trust and motivation, while experiences of rudeness, neglect, or refusal of treatment discouraged clinic attendance and threatened continuity. Proactive practices such as reminders and follow-up calls were valued, with participants recognising these as instrumental in sustaining adherence. This highlights the organisational level of the Social Ecological Model, where institutional culture and provider–

patient communication shape adherence behaviours (Golden and Earp, 2012). The findings imply that adherence is strongly relational, depending not only on drug availability but on the quality of communication and respect between patients and providers. Similar results have been reported in Ghana and across sub-Saharan Africa, where supportive provider relationships improved trust and adherence (Boadu *et al.,* 2023; Sangeda *et al.,* 2018), while systematic reviews confirm that provider neglect and harsh attitudes consistently undermine retention in care (Croome *et al.,* 2017). Contrastingly, studies from Uganda and South Africa found that even in the presence of supportive providers, overburdened clinics and structural inefficiencies could limit communication, thereby weakening adherence (Duff *et al.,* 2010; Adeniyi *et al.,* 2021). The variation suggests that while provider support is critical, its impact is conditioned by workload and institutional culture; at Ho Teaching Hospital, proactive reminders and respectful care strengthened adherence, but negative encounters discouraged clinic use. Thus, provider–patient relationships emerge as a decisive organisational-level determinant within the SEM, with respectful communication and active follow-up representing key levers to reinforce sustained ART adherence.

Also, Concerns about confidentiality and the broader institutional environment strongly shaped participants' adherence decisions. Several avoided local facilities for fear of recognition and unwanted disclosure, relocating to Ho Teaching Hospital to seek anonymity and thereby protect themselves from community stigma. For these participants, larger facilities provided a sense of privacy and freedom, reducing fears of exposure and supporting adherence. Conversely, others described breaches of confidentiality in smaller facilities, where staff behaviour or the visibility of service areas risked outing them to the community, undermining their comfort with care. Beyond privacy, some participants expressed dissatisfaction with inadequate communication, noting that staff failed to explain medications or allow questions, leaving them uncertain about their treatment. This reflects the organisational level of the Social Ecological Model, where institutional norms and environmental features, including privacy safeguards and communication culture, influence adherence behaviours (Golden and Earp, 2012). The findings imply that confidentiality is not simply an ethical obligation but also a determinant of adherence, as perceptions of safety within the clinical environment enable continued engagement with ART. Evidence from Ghana and elsewhere in SSA supports this: studies show that lack of confidentiality and visible service delivery points discourage utilisation and adherence (Boadu *et al.,* 2023; Adeniyi *et al.,* 2021), while larger or better-structured facilities offering privacy and anonymity foster adherence (Croome *et al.,* 2017). In contrast, research from settings with strong confidentiality policies demonstrates higher levels of patient trust and willingness to disclose, which enhance adherence (Twimukye *et al.,* 2024). The variation may be explained by differences in institutional practices: at Ho Teaching Hospital, anonymity encouraged adherence, yet gaps in staff–patient communication reflected weaknesses in patient-centred care. Thus, confidentiality and institutional environment function as critical organisational-level determinants within the SEM, shaping both patients' confidence in the health system and their commitment to long-term adherence.

# CHAPTER SIX

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

## 6.0 Introduction

This chapter presents the conclusions of the study and proposes recommendations for practice, policy, and future research. It draws together the findings in relation to the study objectives and the SEM, which provided the theoretical framework. The chapter also highlights how the evidence generated can inform strategies to strengthen adherence to ART in Ghana and comparable settings.

## 6.1 Summary

The study explored the barriers and facilitators to adherence to ART among people living with HIV at Ho Teaching Hospital, Ghana. The findings were organised into four major themes and twelve subthemes, each reflecting a level of influence within the SEM.

The study revealed that adherence to ART is influenced by a complex interplay of personal, social, community, and health system factors. At the individual level, personal beliefs, emotional responses, and perceived side effects shaped adherence behaviours, with fear and denial acting as barriers while motivation to live and family responsibility functioned as enablers. Interpersonal relationships, particularly partner and family support, were found to be pivotal, although unsupportive relationships and fear of disclosure sometimes undermined adherence. At the community level, stigma, lack of structured support systems, and religious interpretations posed significant challenges, while supportive faith leaders and community awareness programmes emerged as facilitators. At the organisational level, provider–patient relationships, confidentiality, institutional environment, and drug supply were central in influencing adherence, with supportive staff and institutional anonymity encouraging adherence, while negative provider attitudes, breaches of confidentiality, and drug stockouts threatened treatment continuity.

## 6.2 Conclusions

The findings of this study demonstrate that adherence to antiretroviral therapy is a negotiated process shaped by influences at multiple levels of the Social Ecological Model. Adherence is strengthened when personal motivation, supportive relationships, enabling community norms, and responsive health systems align, and it falters when these domains break down.

This research affirms the usefulness of the Social Ecological Model in explaining ART adherence in Ghana, showing how individual, interpersonal, community, and organisational factors intersect to influence behaviour. Also, it provides context-specific insights, such as the protective role of anonymity in larger institutions and the ambivalent influence of religion, which can either support or obstruct adherence. Moreover, it highlights that the quality of institutional practices, particularly provider communication, confidentiality, and drug supply, is as decisive for adherence as individual willingness.

The overarching conclusion is that adherence cannot be secured through patient-focused strategies alone. Sustained treatment requires holistic, multilevel approaches that address the wider social and institutional environments in which patients manage their condition. By situating patients' lived experiences within the SEM, this study underscores the need for integrated interventions that combine psychosocial support, community engagement, and systemic improvements to ensure durable adherence and progress toward HIV epidemic control in Ghana.

## 6.3 Recommendations

1. The Ho Teaching Hospital's ART clinic staff, including counsellors, nurses, and psychologists, should strengthen personalised adherence counselling to address emotional barriers such as fear, denial, and misconceptions about ART. Training in motivational interviewing and psychosocial support, supported by the Ghana Health

Service (GHS) HIV and Mental Health Units, should be provided to enhance patients' confidence and self-efficacy in sustaining adherence.

2. The hospital management and regional HIV programme officers should establish structured family- and peer-support systems that encourage safe disclosure and shared responsibility for treatment. Peer-mentor groups and partner engagement sessions should be introduced within the clinic setting, with the Ghana AIDS Commission (GAC) offering technical and communication support to enhance participation and consistency.
3. The Ghana AIDS Commission, local health directorates, and faith-based organisations should lead coordinated stigma-reduction and community education campaigns in the Volta Region. Chiefs, pastors, and imams should be engaged to promote positive messages about HIV treatment while discouraging harmful practices such as prayer camps that disrupt adherence.
4. The Ho Teaching Hospital management should enhance confidentiality and patient trust by redesigning ART clinic spaces to improve privacy and by implementing continuous staff training in respectful, patient-centred communication. The Ghana Health Service should also strengthen ART supply chain management to prevent stockouts and ensure uninterrupted access to medication.
5. The Volta Regional Health Directorate, in collaboration with Ho Teaching Hospital management, should establish an Adherence Coordination Committee comprising clinicians, counsellors, pharmacists, peer educators, and community representatives. This committee should monitor adherence interventions, facilitate feedback between the community and the hospital, and ensure that programmatic responses remain patient-centred and evidence-driven.

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## APPENDIX A: INTRODUCTORY LETTER

In case of reply the number
And the date of this
Letter should be quoted
*My Ref. No. HTH/RPPME/*
*Your Ref. No....*
Our Core Values:
- Commitment
- Accountability
- Dedication
- Integrity
- Professionalism
- Innovation
- Teamwork
- Safe Care

HO TEACHING HOSPITAL
P O BOX MA-374
HO
GPS ADDRESS: VH-0080-7239
Tel:+233-(036) 2027318/20/2028297
Fax:+233-(036) 2027323
Website: www.hth.gov.gh
Email: info@hth.gov.gh/
[illegible]@yahoo.com

30th July, 2025

**Michael Boateng Darko**
**Assistant Registrar**
**Ensign Global University**

**RE: LETTER OF INTRODUCTION**

In response to your letter seeking permission for **Comfort Adetor** to conduct research titled: "**Barriers and Facilitators of Antiretroviral Therapy (ART) Adherence Among People Living with HIV: A Study at Ho Teaching Hospital, Ghana.**" I hereby wish to inform you that the management of the hospital has granted the permission with the hope that she will abide by the following ethical guidelines and administrative requirements of the Hospital:

- Acquire an Ethical Clearance and submitted the same to the Research Department for an introduction letter to your research participants.
- Complete the HTH Research Coordination form.
- Provide proof of payment for Data collection and facility user fee when the study is about to begin.
- Submit a report to the Research Department when you complete your study.

The hospital hopes the study will help improve the quality of care and contribute to the knowledge and practice of healthcare in general.

Thank You.

[Simon Dzokoto]
**Director, RPPME**

# APPENDIX B: INFORMED CONSENT FORM

**Title of Study:** Barriers and Facilitators of Antiretroviral Therapy (ART) Adherence Among People Living With HIV: A Study at Ho Teaching Hospital In The Volta Region, Ghana.

**Principal Investigator:** Adetor Comfort

**Institution:** Ensign Global University

## General Information

You are being invited to participate in a research study being conducted to explore the factors that influence adherence to antiretroviral therapy (ART) among people living with HIV (PLHIV) at Ho Teaching Hospital. This study aims to understand the barriers and facilitators to ART adherence through the lens of the Social Ecological Model, which considers individual, interpersonal, community, and institutional influences.

If you agree to participate, you will be asked to take part in an individual interview with the researcher. The interview will take approximately 30 to 60 minutes and will be conducted in either English or Ewe, based on your preference. With your permission, the interview will be audio-recorded. You are free to decline to answer any question or stop the interview at any time without facing any negative consequences. Participation is entirely voluntary.

## Benefits and Risks

Although you may not directly benefit from this research, your participation will contribute to a better understanding of the challenges and supports related to ART adherence. This may help improve health services and support systems for PLHIV in the future. There are no significant risks involved in participating, though you may feel some discomfort discussing personal experiences. You are encouraged to take breaks or discontinue the interview if needed.

### Confidentiality

You are eligible to participate in this study if you are 18 years of age or older, have been on ART for at least six months, and are currently receiving care at Ho Teaching Hospital. Your responses and personal information will be treated with strict confidentiality. All information collected will be anonymized and securely stored. No identifying details will appear in any reports or publications that result from this study.

### Compensation

You will not receive financial compensation for your participation, but your time and insights are highly appreciated. If you have any questions about the study or your rights as a participant, you may contact the researcher or the ethics committee at the information provided above.

### Voluntary Participation and Right to Withdraw

By signing this form, you confirm that you have read or had the information read to you, that you understand the nature and purpose of the study, and that you voluntarily agree to participate. You understand that you may withdraw from the study at any time without any consequences to your healthcare.

### Contact for Additional Information

If you have any questions regarding this study, you may contact:

Principal Investigator: Adetor Comfort

Phone: 0242242050

### Participant's Details

Participant's Signature/Thumbprint: _____________________

Date: ________________

### Researcher's Details

Researcher’s Name: ___________________________

Researcher’s Signature: _______________________

Date: ________________

# APPENDIX C: DATA EXTRACTION FORM

**Title of Study:** Barriers and Facilitators of Antiretroviral Therapy (ART) Adherence Among People Living With HIV: A Study at Ho Teaching Hospital In The Volta Region, Ghana.

## Introduction

Thank you for agreeing to take part in this study. I would like to hear about your personal experiences with taking antiretroviral therapy (ART). This conversation is confidential, and you are free to skip any questions or stop at any time. There are no right or wrong answers. I'm interested in your honest thoughts and experiences.

## Section A: Background Information

1. Can you please tell me your age?
2. What gender do you identify with?
3. What is your highest level of education?
4. Are you currently employed? If yes, what do you do?
5. What is your marital or relationship status?
6. Which religious group are affiliated with?
7. When were you diagnosed with HIV?
8. How long have you been taking ART?
9. Do you live in Ho or in a nearby community?
10. Do you know whether you're on first-line or second-line ART?

## Section B: Individual-Level Factors

1. Can you tell me about your journey with taking ART so far?
2. What helps or motivates you to take your medication regularly?
3. What makes it difficult for you to stick to your ART schedule sometimes?
4. How do your thoughts, emotions, or beliefs about HIV and ART affect how you take your medicine?

5. Are there any physical, mental, or emotional challenges you face that make it harder to follow your treatment?
6. Can you please share few of these challenges with me.

**Section C: Interpersonal Factors**

1. Who supports you in managing your treatment (e.g., family, friends, partner)?
2. Can you describe how these people help you or make it harder to stick to your medication?

**Section D: Community-Level Factors**

1. How do people in your household or community react to HIV and ART treatment?
2. Have you experienced stigma, discrimination, or misunderstanding from people around you?
3. Can you share any of that experience with me? How and when did that happen?
4. Tell me a bit about these community resources or peer groups.
5. Do you feel safe and accepted in your social environment as someone living with HIV?

**Section D: Institutional and Healthcare-Related Factors**

1. How would you describe your experience receiving care at Ho Teaching Hospital?
2. What do you think about how ART services are organized (e.g., clinic hours, privacy, waiting time)?
3. Have there been any challenges in getting your medication like shortages or delays?
4. What are some of these challenges?
5. How do the healthcare workers treat you? Do you feel respected and supported?
6. Any experience to share on how you were treated?
7. What kind of information or guidance have you received from the clinic about your treatment?

## Section E: Closing Questions

1. What makes it easier for someone like you to continue with ART?
2. What are the biggest challenges people face in staying on their medication?
3. If you could change anything to help people living with HIV stick to their treatment, what would it be?
4. Is there anything else you’d like to share about your experience with ART?

# APPENDIX D: ETHICAL CLEARANCE

ENSIGN GLOBAL
UNIVERSITY

OUR REF: ENSIGN/IRB/EL/SN-294/03
YOUR REF:

August 4, 2025

**INSTITUTIONAL REVIEW BOARD SECRETARIAT**

**Comfort Adetor**
**Ensign Global University**
**Kpong.**

Dear Comfort,

**ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH**

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global University held on Friday, August 1, 2025, your research proposal entitled **"Barriers and Facilitators of Antiretroviral Therapy (ART) Adherence Among People Living with HIV: A Study at Ho Teaching Hospital, Volta Region, Ghana"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

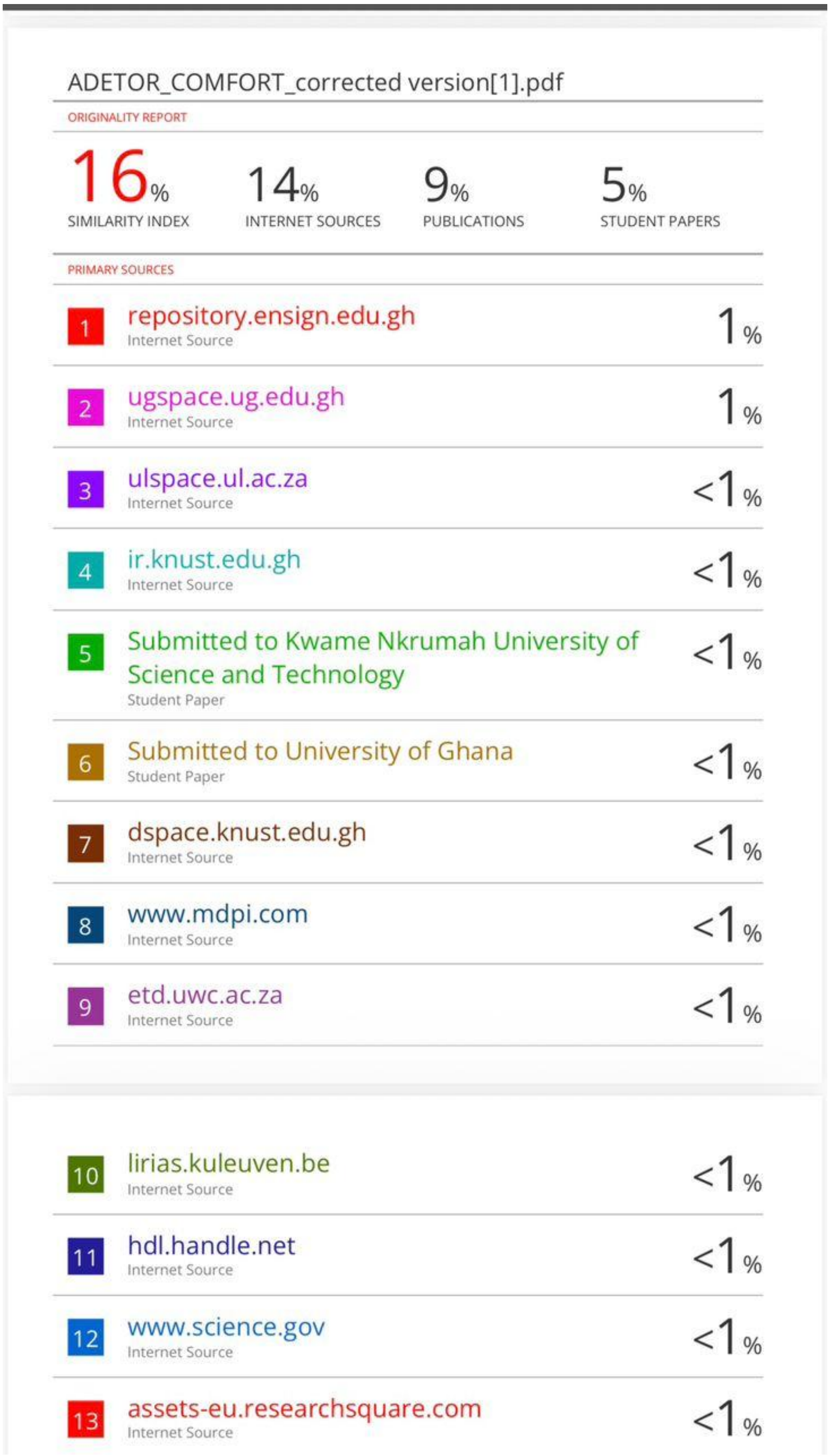
We wish you all the best.

Sincerely,

Dr. (Mrs.) Rebecca Acquaah-Arhin
**IRB Chairperson**

P.O. Box AK 136 | Tema-Akosombo Highway, Kpong, Eastern Region, Ghana|
https://www.ensign.edu.gh |+233 245 762 229

# APPENDIX E: PLAGIARISM SCORE



ADETOR_COMFORT_corrected version[1].pdf

ORIGINALITY REPORT

| | | | |
|---|---|---|---|
| 16% | 14% | 9% | 5% |
| SIMILARITY INDEX | INTERNET SOURCES | PUBLICATIONS | STUDENT PAPERS |

PRIMARY SOURCES

| | | |
|---|---|---|
| 1 | repository.ensign.edu.gh<br>Internet Source | 1% |
| 2 | ugspace.ug.edu.gh<br>Internet Source | 1% |
| 3 | ulspace.ul.ac.za<br>Internet Source | <1% |
| 4 | ir.knust.edu.gh<br>Internet Source | <1% |
| 5 | Submitted to Kwame Nkrumah University of Science and Technology<br>Student Paper | <1% |
| 6 | Submitted to University of Ghana<br>Student Paper | <1% |
| 7 | dspace.knust.edu.gh<br>Internet Source | <1% |
| 8 | www.mdpi.com<br>Internet Source | <1% |
| 9 | etd.uwc.ac.za<br>Internet Source | <1% |
| 10 | lirias.kuleuven.be<br>Internet Source | <1% |
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