

# Non Compliance and Non Adherence to Antiretroviral Therapy (Art) at Kitwe Teaching Hospital

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## Abstract

It is widely recognized that adherence to antiretroviral therapy is critical to long-term treatment success, yet rates of adherence to antiretroviral medications are frequently sub-therapeutic. The objective of this study will be to determine the factors that contribute to the nonadherence and noncompliance to antiretroviral therapy. This study will be important in that it will help identify the different factors that lead to noncompliance and the various ways these factors can be combated so as to reduce the number of people dying from HIV/AIDS related causes and also help achieve the 90-90-90 treatment plan of the WHO. The number of deaths that are recorded due to AIDS affect the country as a whole in that they are an obstacle to social economic development hence all interventions possible must be put in place to reduce the mortality of AIDS which can also be from noncompliance to Highly active anti retro viral therapy. Some of the factors associated with noncompliance to HAART have been found to be behavioural, structural, and psychosocial barriers such as depression and other mental illnesses, neurocognitive impairment, low health literacy, low levels of social support, stressful life events, high levels of alcohol consumption and active substance use, homelessness, poverty, nondisclosure of HIV serostatus to those around them, denial, stigma, and inconsistent access to medications. This proposed study will be a case-control study. The methodology that will be used in the study will include using data from the ART clinic at Kitwe Teaching Hospital of the patients that are on HAART.

**Keywords:** HIV/AIDS • Antiretroviral therapy • Adherence • Medical compliance

**Abbreviations:** AIDS: Acquired Immunodeficiency Syndrome • HIV: Human Immunodeficiency Virus • WHO: World Health Organization • HAART: Highly Active Antiretroviral Therapy • CART: Combined Antiretro Viral Therapy • CDC: Centre For Disease Control and Prevention

## Introduction

HIV continues to be a major global public health issue, having claimed more than 35 million lives so far. In 2015, 1.1 (940 000-1.3 million) million people died from HIV-related causes globally. Sub-Saharan Africa is the most affected region with 25.6 (23.1-28.5) million people living with HIV in 2015 [1]. Medication adherence is a very crucial part in the management of chronic diseases. As older adults form a greater proportion of the population with chronic diseases and multiple morbidities, understanding medication adherence in older adults becomes really important [2].

Highly Active Anti-Retro Viral Therapy (HAART) does not cure HIV but only suppress viral replications and reduce on the symptoms. These medicines can prolong and improve quality of lives of HIV infected people, although there is yet no known cure for HIV/AIDS. The rationale of starting HAART is to prolong and improve quality of life maintaining CD4 T-cell count to an acceptable level and maximal suppression of virus replication as long as possible: because with currently available HAART, eradication of HIV is not likely [3].

Besides the recommendation to provide lifelong cART to all HIV infected

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**Received** 17 August 2021; **Accepted** 09 September 2021; **Published** 16 September 2021

populations, regardless of CD4 cell count others is universal routine HIV testing, counselling and treatment in all public and private health facilities in Zambia. The approach of offering Universal Routine HIV Testing gives a window to provide immediate treatment and care to all HIV infected individuals through the “test and treat” strategy. This will accelerate the strides towards HIV epidemic control in World Health Organization.

A 2011 trial has confirmed if an HIV-positive person adheres to an effective ART regimen, the risk of transmitting the virus to their uninfected sexual partner can be reduced by 96%. The WHO recommendation to initiate ART in all people living with HIV will contribute significantly to reducing HIV transmission (WHO, 2016).

Nonadherence to medication is often a consequence of one or more behavioural, structural, and psychosocial barriers such as depression and other mental illnesses, neurocognitive impairment, low health literacy, low levels of social support, stressful life events, high levels of alcohol consumption and active substance use, homelessness, poverty, nondisclosure of HIV serostatus, denial, stigma, and inconsistent access to medications. Furthermore, patient age may affect adherence to HAART. For example, some adolescent and young adult HIV patients, in particular, have substantial challenges in achieving levels of adherence necessary for successful therapeutic outcomes. In addition, failure to adopt practices that facilitate adherence, such as linking medication taking to daily activities or using a medication reminder system or a pill organizer, is also associated with treatment failure.

The purpose of this research is to determine the various factors that cause HIV patients not to be compliant and adherent to the antiretroviral therapy at Kitwe Teaching Hospital so as to come up with possible solutions that can help combat the problems of non-compliance and non-adherence to the therapy.

## Statement of the problem

According to the 2000 Zambian census, the prevalence of HIV was in the 15%-20% band. The increase in the number of deaths due to HIV infection is also contributed by the increase in the non-adherence and noncompliance levels among HIV patients. According to the World Health Organisation (WHO), HIV continues to be a major global public health issue, having claimed more than 35 million lives so far. In 2015, 1.1 (940 000-1.3 million) million people died from HIV-related causes globally. Sub-Saharan Africa is according to statistics the most affected region that recorded 25.6 (23.1-28.5) million people living with HIV in 2015. This study hence will help in the identification of various factors that contribute to lack of compliance among AIDS patients in Zambia with particular interest to Masala clinic and various interventions that can help combat this problem. Due to the lack of sufficient published knowledge in the field concerning this subject hence my study will add to the few existing publishes to increase awareness levels among Zambians.

## Literature Review

National Institute of Health guidelines recommend treatment of any HIV-positive individuals, regardless of their CD4 count. Normal blood values are usually expressed as the number of cells per microliter ( $\mu\text{L}$ , or equivalently, cubic millimetre,  $\text{mm}^3$ ) of blood, with normal values for CD4 cells being 500–1200 cells/ $\text{mm}^3$ . Patients often undergo treatments when the CD4 counts reach a level of 350 cells per microliter in Europe but usually around 500/ $\mu\text{L}$  in the United States; people with less than 200 cells per microliter are at high risk of contracting AIDS defined illnesses. Medical professionals also refer to CD4 tests to determine efficacy of treatment (en.wikipedia.com).

The lack of compliance to antiretro-viral therapy by AIDS patients is a serious global problem which several literatures have documented to have contributed to the increase in the mortality of the disease. Haynes, et al. states that increasing the effectiveness of adherence interventions may have a far greater impact on the health of the population than any improvement in specific medical treatments [4].

A descriptive-analytical transverse study conducted in Brazil reviewed that Compliance can be influenced by the characteristics of the therapeutic program, by the health guidance professionals, by the patient, and by society in general. The reasons given for non-compliance were: absent-mindedness or forgetfulness (67.7%), lack of medicine (41.9%), side effects (21.5%), and complexity of prescribed regimens (12.9%), fatigue (9.7%), and voluntary interruption (7.5%) [5].

According to a cross-sectional study in India (2010), it was clearly stated that adherence to therapies is a primary determinant of treatment success in HIV/AIDS. Once initiated, highly active antiretroviral therapy (HAART) is a life-long treatment that consists of multiple medications to be taken two to three times a day with varying dietary instructions. The study showed that there is significance in trying to study the factors that cause non-adherence in order to be able to help those patients that may need support in maintaining adherence to the therapy.

Kabir, et al. [6] states that non-compliance with antiretroviral treatment has serious consequences for prognosis and may lead to the development of resistant strains of the virus. The study that was conducted assessed the level of compliance to antiretroviral treatment, identified factors associated with compliance and reasons for non-compliance among AIDS patients in a Teaching Hospital in Northern Nigeria. It was observed that the average compliance observed in this study could be improved by ensuring a steady supply of affordable antiretroviral drugs, better patient-provider communication and enhanced social support for these patients.

A study done by Murphy, et al. reviewed that only 28.3% of adolescents reported taking all of their prescribed antiretroviral medications in the previous month [4]. Factor analysis of the barriers to adherence indicated that there are two factors accounting for the largest proportion of the variance and these are medication - related adverse effects which are both physical and psychological

and the complications in day-to-day routines of the patients on therapy. Some other common reasons found to be associated with non-adherence were sleeping through dose time, problems in following special instructions, and changes in daily routines. Other frequent reasons for non-adherence reflected general concerns about treatment as a reminder of one's HIV status, not wanting other people to know one's HIV status and difficulty remembering to ask health care providers questions about treatment [4].

## Objectives

### Aim

To determine the barriers to adherence and compliance to Antiretro viral therapy at Kitwe Teaching Hospital ART.

### Specific objectives

- To investigate the reasons associated with adherence to Antiretro viral therapy at KTH ART clinic.
- To investigate the barriers of compliance to Antiretro viral therapy at KTH ART clinic.
- To determine possible solutions to improve compliance and adherence to Antiretro viral therapy at KTH ART clinic.

## Research Methodology

### Study population

The proposed study will be conducted on the patients that are on highly active antiretroviral therapy at the ART clinic and that collect medication at Kitwe Teaching Hospital.

### Study design

It is a cross sectional qualitative study which will aim at obtaining information concerning the factors that are associated with noncompliance among HIV/AIDS patients therefore a cross sectional design will be employed.

### Sample size and sampling

The sample size will be determined by the number of patients available at the ART clinic during the time of data collection hence no particular formula will be used to calculate the sample size.

### Inclusion and exclusion technique

The group will consist of those who are on HAART and collect medication at the ART clinic at Kitwe Teaching Hospital. It will consist both of the old and young so that factors in different age groups can be captured and analysed.

### Plan for data collection

Data for the proposed study will be collected from patients through structured questionnaires and interviews with the health personnel at the health facility i.e., Kitwe Teaching hospital ART clinic. Self-report adherence data will be collected by direct face-to-face interview with the patients. In addition to that, the prescribed antiretroviral medications will be transcribed from the medical records at the health institution.

### Plan for data processing and analysis

Data entry will be done by two trained data entry clerks under supervision using Epi info version 7. The data will then be double entered and validated then it will be exported to SPSS for analysis.

### Ethical considerations

The information collected will be regarded as confidential and will be strictly used for the study only. An ethical certificate will be obtained from the Tropical disease research committee (TDRC). The informed consent will also be obtained from all the respondents included in the study.

**Table 1.** The budget of various items in Kitwe Teaching Hospital.

Items	Unit measure	Unit price (K)	Quantity	Total price (K)
Rim of paper	Each	40	2	80
Pens	Each	2	10	20
Ethical consent	Each	250	1	250
Printing proposal	Each	2	20	40
Typing report	Each	80	1	80
Binding of report	Each	40	1	40
Assistants allowance	Each	200	2	400
Meal allowance	Each	200	1	200
Photocopying questionnaires	Each	5	30	150
Transport	Each	200	3	600
Grand total				1,860

### Period of execution

It will be carried out from December, 2018 to October, 2019 at Masala clinic in Kitwe as included in Appendix in the Gantt chart.

### Budget

The budget of various items in Kitwe Teaching Hospital is mentioned in Table 1.

## Discussion and Conclusion

Some of the factors associated with noncompliance to HAART have been found to be behavioural, structural, and psychosocial barriers such as depression and other mental illnesses, neurocognitive impairment, low health literacy, low levels of social support, stressful life events, high levels of alcohol consumption and active substance use, homelessness, poverty, nondisclosure of HIV serostatus to those around them, denial, stigma, and inconsistent access to medications. This proposed study will be a case-control study. The methodology that will be used in the study will include using data from the ART clinic at Kitwe Teaching Hospital of the patients that are on HAART.

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**How to cite this article:** Moondoma, Ronald and Seter Siziya. "Non-compliance and non-adherence to antiretroviral therapy (Art) at Kitwe Teaching Hospital." *J AIDS Clin Res* 12 (2021): 861.