FACTORS INFLUENCING ADHERENCE TO ANTIRETROVIRAL THERAPY AMONG HIV POSITIVE ADULT CLIENTS LIVING IN SLUMS: A CASE OF MATAKARI SLUMS IN MANYATTA, EMBU COUNTY

BY

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DECLARATION

This Research Project is my original work and has not been presented for a degree in any other University

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This project has been submitted for examination with my approval as the University supervisor.

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DEDICATION

I dedicate this research project to my mother Mr. M.N.Machira and my late father Dr. G C.Machira for encouraging and supporting me in the course of my study.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARVs - Antiretroviral drugs

CD 4 - Also referred to as T-cells: are a type of white blood cells that play a major role in protecting the human body from infection.

CCC - Comprehensive Care Clinic

HAART - Highly active Antiretroviral Therapy

HIV/AIDS - Human Immune-deficiency Virus/ Acquired Immune Deficiency Syndrome

PLWHIV - People Living with Human Immune-deficiency Virus

OI - Opportunistic Infections

PLWHA - People living with HIV/AIDS

PMTCT- Prevention of Mother to Child Transmission of HIV/AIDS

NGO - Non -Governmental Organization

MTCT - Mother to Child Transmission of HIV/AIDS

USAID - United States Agency for International Development

UKAID - United Kingdom Agency for International Development

UNAIDS - United Nations AID

WHO - World Health Organization

ABSTRACT

The purpose of this study was to investigate the factors that influence adherence to antiretroviral therapy in low income communities in Embu County. The study sought to find out how social economic status, drug abuse, religious beliefs and the knowledge on Human Immuno-deficiency Virus (HIV /AIDS) therapy influences adherence to antiretroviral therapy among HIV positive adults accessing HIV treatment in low income communities in Embu County. The study employed descriptive survey research design. The Target population for the study was107 People living with HIV under antiretroviral therapy in *Matakari* Slum. Random Sampling Technique was employed to obtain a sample size of 84respondentsfor the study. Questionnaires were the instruments of data collection. Data analysis were done using Statistical Package for Social Sciences (SPSS) and presentation done using descriptive statistics. The study also utilized the spearman's rho coefficient correlation because the data generated was ordinal in scale. In the study, it was found out that 79% of the respondents admitted to having missed taking their ARV medication at least once in their lifetime. This indicated non-adherence to ARVs with 44% being non adherent due to socio-economic related factors; 51% due to drug related factors, 35% due to lack of knowledge on antiretroviral therapy and 35% due to religious and cultural related reasons. Two spearman's rho coefficient correlations conducted regaled that there is a strong positive correlation of 0.76 at a significant coefficient level of 0.01 between alcohol consumption and ARV non-adherence. This implicates that alcoholic are likely to abandon ARV consumption. There was also a strong positive correlation of 0.91 at 0.01 significant level of 0.01 between the ARV adherence and education level. The more educated the clients is the more likely he or she will be ARV adherent. There should be an establishment of economic ventures in *Matakari* slum to ensure that people on antiretroviral therapy are able to uplift their financial status to be able to sustain the social economic demands and shun away from quire religious beliefs and practices. ARV consumption education should be enhanced among HIV positive clients at the community health center to ensure that clients are well aware of the dangers associated with the non-adherence of ARVs. A rehabilitation center should also be established to ensure that HIV positive clients who are alcoholic are able to shun the vice to enhance proper ARV consumption.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Adherence to ARV Therapy is fundamental in the achievement of the millennium development goal 6 which is; to combat HIV/AIDS. Malaria and other diseases (Nwonwu, 2008). A Healthy community is vital for social-economic development. In recent years, considerable resources and money have been invested so as to achieve universal access to ARV Therapy. Countries striving to expand treatment access have set goals of providing antiretroviral treatment to 80% of those infected. This has not yet been achieved as the current global coverage is 65%.The target has yet to be released due to factors associated with lack of ARV Therapy adherence. (Volberding, 2008).

The majority of people living with HIV are in low- and middle-income countries. According to WHO sub-Saharan Africa is the most affected region in the World with 24.7 million people living with HIV by the end of 2013. This translates to 71% of all people who are living with HIV in the world live in this region.(AIDS.gov, 2013).Maintaining adherence to ARV Therapy over time is a challenge in many social settings. In sub-Saharan Africa the average retention rate in ART programs for the period 2007–2009 (24 month period) was 70%. In Africa; Studies carried out in Botswana, Uganda and Tanzania showed that in spite of ARVs been provided freely the direct and indirect opportunity costs incurred due to ARV Therapy by PLWHIV undermines their motivation to adhere to ARV Therapy. This makes them non adherent to ARV Therapy (Coll-Black, 2008).In sub-Saharan Africa most of the ARV Therapy adherence challenges are caused by socio-economic and environmental issues (Getnet Tizazu Fetene, 2013).In South Africa ARVs were rejected by Pentecostals as soon as they were made available with the churches' pastors preaching against the use of ARVs. They were aggrieved that the treatment was working against the belief of Holy Ghost healing power. This sheds light to the role played by religion in ARV Therapy adherence (Thera Rasing, 2014).

The Kenyan government has been in the forefront to combat HIV/AIDS seen mostly through NGOs involved in various health related projects for instance APHIAPLUS KAMILI a project in Eastern and Central regions of Kenya(USAID, 2014). In Kenya 40-50% people earn less than a dollar a day; with a majority living in rural areas. This has seen a surge of rural to urban

migration in search of greener pastures hence the mushrooming of slums in major urban centers in the country. The poverty levels in slums give birth to flourishing prostitution, low moral standards and drug abuse that promote sexual immorality contributing to HIV/AIDS spread. When these people get infected they have to ensure ARV Therapy adherence in these same conditions. Their low literacy levels contribute to their low understanding of ARV Therapy adherence due to the lack of generally acquired knowledge such as what constitutes a balanced diet (Kimani, 2007).The independent variables for this study are Social-economic factors, drug abuse, cultural and religious factors and Knowledge on ARV Therapy adherence by PLWHIV. Moderating factors for the study are the availability of ARVs, attitudes of the HCW and HIV/AIDS clients and the dependent variable is Adherence to ARV Therapy.

In Kenya HIV/AIDS positive clients access care and treatment from Comprehensive Care Clinics (CCC). ARVs are not sold in pharmacies in Kenya and are provided freely in CCCs. HIV/AIDS care and treatment is accessible to people of all walks of life in Kenya. In Embu County there are 28 CCCs and approximately 4,500 HIV/AIDS clients

1.2 Statement of problem

In Kenya the Ministry of Health works hand in hand with the county governments for Quality HIV Treatment Management. This ensures that communities are healthy: which is important for the growth of the economy. ARVs suppress HIV viral load of the person infected. PLWHIV who are on proper ARV therapy are less likely to spread the virus as they have low HIV viral load in their body systems. A large pool of researchers have identified social, cultural and economic barriers to antenatal and postnatal adherence to ART over time. Low adherence levels are problematic because poor adherence to ART leads to increased risk of mother to child transmission of HIV, virologic failure and a high risk of drug resistance that may eventually need a change to more expensive ARV drug combination (Ngarina, 2013).

Matakari slum in Embu Town has people living with HIV; a characteristic of many low income communities in Kenya. *Matakari* slum has one public health facility: *Dallas* Dispensary. Majority of the PLWHIV in the slums attend the Embu Level 5 hospital comprehensive care clinic (CCC) out of the 21CCCs in Embu County. The slum is characterized by poorly constructed mud and wooden houses without proper sanitation. The main economic activities for these people is causal labor with many young women engaging in prostitution. Majority of the residents have acquired secondary and primary school level education. There is a thriving alcohol market in the slum with some of the residents taking advantage of the situation by

brewing illicit brews. These factors affect their adherence to ARV Therapy. Many of the PLWHIV who default treatment restart treatment after they become weak due to the virus multiplication in the body or if an opportunistic infection (OI) gets the better of them. The pregnant women are not able to start prevention of mother to child transmission of HIV (PMTCT) in time which in turn leaves their infants exposed to HIV infection. Poor adherence to ARV Therapy increases HIV prevalence as viral load in the body of the infected person is not suppressed. It is crucial to look into the plight of these communities- which this research is aiming at-in order to understand what can be done so that adherence to ARV Therapy is successful.

1.3 Purpose of study

The purpose of this study was to investigate the factors influencing adherence to ARV therapy among adult clients in *Matakari* slums, Manyatta; Embu County

1.4 Objectives of the study

The study was guided by the following specific objectives

i. To determine how the social economic status of Comprehensive Care Clinic (CCC) adult clients in *Matakari* slum influence their adherence to ARV Therapy
ii. To assess the influence of drug abuse on adherence to ARV Therapy among CCC adult clients in *Matakari* slum.
iii. To find out the influence of religious beliefs on the adherence to ARV Therapy among CCC adult clients in *Matakari* Slum.
iv. To establish how the lack of knowledge on HIV/AIDS therapy influences the adherence of ARV Therapy among CCC adult clients in *Matakari* slum.

1.5 Research questions

The study was to attempt to answer the following questions:

i. How does the social economic status of Comprehensive Care Clinic(CCC) adult clients living in *Matakari* slum influence their adherence to ARV Therapy
ii. How does Drug Abuse influence ARV Therapy adherence among CCC adult clients in *Matakari* slum
iii. What Religious practices influence ARV Therapy adherence among CCC adult clients in *Matakari* slum

iv. How does the lack of knowledge on HIV/AIDS therapy influence of the adherence of ARV Therapy by CCC adult clients in *Matakari* slum

1.6 Research Hypothesis

If the factors affecting the adherence of ARV therapy among PLWHIV who are under HIV care are addressed; then non-adherence among them will be reduced.

1.7 Significance of study

The adherence to ARV therapy has increasingly become a major concern in the fight against HIV/AIDS. There are various factors that will determine whether a HIV positive client will adhere to ARV therapy. The unique environmental settings of people living in slums affects the way HIV positive clients in the slums adhere to ARV Therapy.

Results from this study can be instrumental in the improvement of procedures in the HIV/AIDS patient management. The research can be beneficial to the health ministry and other health implementing partners like NGOs in developing HIV/AIDS patient management policies. They can also shed light on how to assist HIV/AIDS patients from poor communities and what resources may be put in place to impact positively to their condition. This study can assist other researchers interested in looking into factors affecting HIV/AIDS patients' adherence to treatment and HIV/AIDS patient management

1.8 Delimitation of the study

There are 3 Comprehensive Care Clinics(CCCs) in Embu West sub-county which are accessible to HIV Clients in *Matakari*, that is; Embu Level 5 hospital, Nembure HC and Dallas Dispensary. The study focued on clients from the slum who were enrolled in at the Embu Level 5 hospital.

1.9Limitations of the study

The study was limited to information generated from responses from the targeted group. Findings for the study were all derived from the respondents.

1.10 Basic Assumptions of the Study

The assumptions for the study were that the targeted respondents answered questions truthfully and that they would be available and willing to complete the questionnaires

1.11Definition of significant terms

Adherence to ARV Therapy-This is the correct and continuous consumption of ARVs by a HIV positive client and following instructions on the factors that will ensure that their medication is successful

ARV Therapy-this is the administration of ARVs: HIV Treatment

Social Economic characteristics-These are social and economic experiences and realities that help mold the personality, attitudes, and lifestyle of the population

Drug abuse- The over dependency of a given substance that impairs ones judgment

Religious Characteristics-These are the religious and spiritual aspects of the population

Knowledge on HIV/AIDS ART Therapy- This is the know-how of the required facts about being adherent to ARV Therapy

1.12 Organization of study

This report encompasses five chapters. Chapter one is the introduction to the study and comprises of the background of the study, statement of the problems, purpose of the study, the objectives of the study, the research question and the significance of the study, delimitation and limitations of the study, assumptions of the study and definition of significant terms.

Chapter two is the literature review section which has an introduction to the literature review, themes in accordance with objectives the theoretical and conceptual framework of the study, research gaps and a summary of the chapter.

Chapter three is the research methodology and comprises of the introduction, research design, target population, sample size and sampling procedure, the methods of collecting and analysis of data as well as verifying validity and reliability.

Chapter four contains data analysis methods and presentation of the outcomes and Chapter five gives the summary of research findings, discussions conclusions and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant literature on the factors influencing adherence to ARV Therapy in low income communities from the global, African and Kenyan perspectives. It also introduces social behavioral theories and their relationship to the factors influencing adherence to ARV Therapy in low income areas. Finally, the chapter will illustrate the conceptual framework for this study.

There are 4 basic goals for ARV therapy. They are Therapeutic-improve the health of the HIV infected person, epidemiological-reduce the spread of HIV, virological-reduce HIV viral load and immunological-preserve or restore immunological function of the body goals (Alta, 2008)Adherence to HIV therapy is the ability by a client on ARV Therapy to stick to the correct time interval of taking drugs, the correct amount and follow the prescription as directed by HIV Health care providers. Failure to do so results to what is referred to as non-adherence which is caused by the body not responding to treatment. Adherence to ARV Therapy also entails heeding to directions and practices provided by the treatment manager.

2.2 Social economic factors

Social economics entails looking into how economic statuses affect ones choices in society. The social economic status of different individuals in the society determines many social aspects which include their diets, dress code social behavior and the houses they live in. In India a study conducted in Chennai showed that the financial repercussions of ARV Therapy were identified as one of the major barriers to ARV Therapy adherence. The documented counter actions to combating this challenge was by selling Jewelry, borrowing money from friends and close relatives and ceasing treatment (Coll-Black, 2008).Poverty is the main social economic factor associated with non-adherence to ARV Therapy. It has greatly affected individuals on ARV Therapy. This is because they cannot afford a balanced diet needed for ARV Therapy management. It has seen individuals exchange their drugs for monetary needs. The distance to the Clinic from the household has seen many clients miss treatment since they cannot afford the required fare especially when they are sickly. According to(UNAIDS, 2008) non- adherence may be caused by social economic factors such as poverty, inadequate transport to access medication and unstable housing.

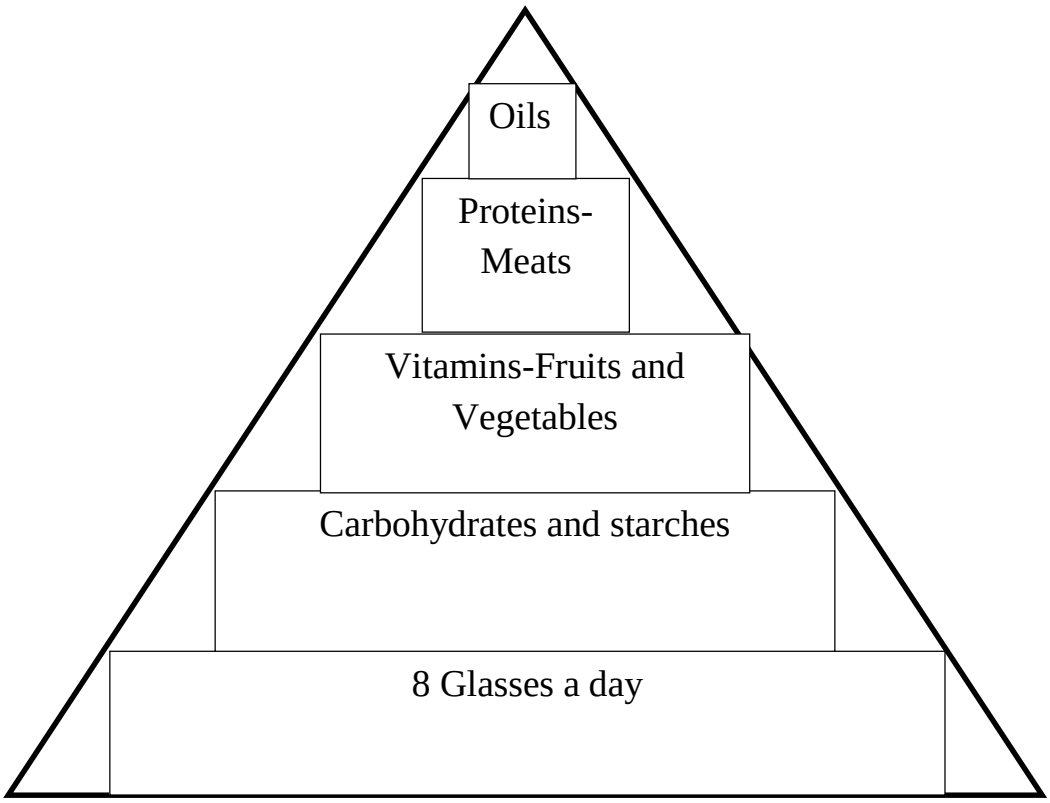

Figure 1:Diet pyramid for PLWHIV

Former South African president Thambo Mbeki has been criticized for connecting poverty to an increase of HIV transmission (Hasan, 2014). This sheds light to how much HIV/AIDS is characterized by poverty: though this view is stereotypic. This is because the poor cannot afford to manage HIV therapy as effectively as the rich. Antiretroviral therapy requires high levels of adherence which range from 90-95% adherence rate to avoid the mutation of the HIV virus which makes the virus in-suppressible (Dr. Carrie & Moore, 2010).

In the World the highest HIV prevalence rates are found in poor countries. These countries are mostly in Africa especially the Sub-Saharan region. AIDS funding has risen from $300 million in 1997 to over $10 billion by 2007 (Gijs, 2013) It is estimated that countries that are hardest hit by the HIV scourge make a loss of 1-2% annually on their economic growth.(Diaconu, 2008). This impacts negatively to their economies especially when PLWHIV do not adhere to their ARV Therapy

It is estimated that 22 million people in sub Saharan Africa are HIV positive. This has brought about economic, health and social implications that have affected economies negatively. This resulted in ARV Therapy being scaled up in 2010 to reach 80% of all HIV infected persons in the region. Countries such as Rwanda and Botswana have already achieved this target. The

number of people taking ARVs in sub-Saharan Africa rose from 2950000 in 2009 to 3911000 in 2010. A study conducted in Ethiopia in 2008 on reasons for adherence revealed that 9% of population did not adhere to treatment due to discrimination arising from their Illness and 4% due to food shortages (Getnet & Rahel, 2013)

In East Africa life expectancy has greatly reduced due to HIV/AIDS related causes. In Kenya for example life expectancy has reduced to 51 years from 62years in 1990. In Uganda and Tanzania the life expectancy reduced even further with 14% and 8% respectively.(Beyrer, 2008). Population in these countries would have been 11% more in Uganda 15% more in Tanzania and 37% more in Kenya with the absence of HIV/AIDS. Deaths from HIV/AIDS have had a great effect on economic production in these countries as the most of the affected people are in there productive youth years. The HIV/AIDS economic impact comes largely from reduced labour productivity resulting from absenteeism and loss of experienced workers. In Uganda and Tanzania, it is estimated that HIV/AIDS has resulted in welfare losses equivalent to 50% of the GDP with 3 key sectors being mostly affected: Health, Education and Agriculture (Beyrer, 2008)

HIV/AIDS has seen increased poverty in Kenya. It has increase from 49% in 1990 to over 56% in 2003. The decrease has been attributed to the effects of the HIV/AIDS pandemic .In Kenya among the major factors that has seen the rise of HIV/AIDS infections is the high population density in urban areas. HIV prevalence in Kenya is higher in urban areas than in rural areas and women have a higher prevalence rate than men. Kenya's Gross domestic product and income are projected to decline by 14.5% and the per capita by 10% in ten years as a consequence (Kelly, 2007)

In Kenya HIV prevalence is 8.8% among the poorest in urban areas. This was higher than the national average 6.5%. The poorest in urban areas comprises of people living mainly in slums. Of the 89.3% of HIV infected people in Kenya only 76.5% have taken ARVs and 94.8% of the 89.3% currently take ARVs.((NASCOP), 2014). The causes being inaccessibility of ARVs due the fact that most of them could not afford travel funds to CCCs. This factor also leads to poor feedings hence their bodies not being able to tolerate the drugs. They end up trading ARVs for other financial gains especially to illegal alcohol brewers.PLWHIV in rural arid areas of Kenya have to abandon their treatment when they make trips away from their residential area to look for food: as is the case in *Kiambere* area in *Mbeere* North Sub-county in Embu County

2.3 Drug abuse

Drug abuse is associated with low ARV resulting from failure of virus suppression and reduced CD4 count. Alcoholism is a compulsion to drink alcohol which leads to the breakdown of an individual ability to function normally (Penick, 2008). It is also the act of being addicted to alcohol. An alcoholic is obsessed with drinking alcohol. The only thing an alcoholic thinks about is when the next drink is due and how to get it. Drug abuse is the act of overindulging in the consumption or use of a certain drug.

Alcohol use of any nature by PLWHIV is associated with diminished HAART adherence. Alcoholics LWHIV and on treatment are likely to have a diminished CD4 count than their counterparts who are light drinkers of do not consume alcohol. Alcoholics are less likely to achieve any virologic response 4 times than light alcoholic users and non-alcoholics who are LWHIV and are on treatment. Ethanol has been shown to increase HIV virus replication in body systems (Schlossberg, 2008). It also suppresses human defensive cells against HIV. These characteristics of alcohol make the use of ARVs redundant

Biologically there are factors that are related to ART and alcohol consumption. Diaz et al. [30] demonstrated that moderate consumption of alcohol, particularly of alcoholic beverages containing antioxidants may protect immune cells from damage. Hence, the health impact of certain types and patterns of alcohol consumption generally and more specifically for HIV positive individuals may be beneficial. However, the effect of alcohol on human health and welfare is overwhelmingly negative, certainly at a population level, and similarly, the impact of alcohol on the acquisition, transmission and natural course of HIV is considered to be detrimental.

The negative effect of alcohol consumption and HIV prognosis may be a more general one; not targeting specific systems in the body. According to Watzl et al. [31] alcohol is toxic for the host defense system. In addition, excessive consumption can induce malnutrition which impacts negatively on immune-competence. Alcohol consumption has a detrimental effect on many organs and tissues in the human body, which impacts on HIV pathogenesis. In particular, infection with HIV results in the depletion of mucosal CD4+ lymphocytes. Balagopal et al. [32] hypothesized that both alcohol and HIV may accelerate liver disease through microbial translocation (disruption of gut epithelial integrity and increased mucosal translocation of bacteria and bacterial products). However, the authors point to a more plausible explanation,

namely, that microbial translocation is both a cause and an effect of liver disease progression and systemic immune activation.

A study by Samet 2012 concluded that alcohol consumption was associated with lower CD4 counts. In conclusion heavy alcohol consumption accelerates HIV disease progression for those not yet on ART. When alcohol consumption is Chronic there are increased levels of pro-inflammatory response; as a result, there are more cells for the HIV to attack throughout the body and at key transmission sites of the human body. (Schneide, 2012)

In Kenya; slums such as *Kibera*, people start drinking early in the morning. Alcohol has been preferred to food in some instances substituting tea for breakfast. There are over 400 *chang'aa*s sellers in *Kibera* people like drinking *chang'aa* because it is cheap. *Chang'aa* has a 36% alcohol content way above the recommended 4.2% -7% legalized for beers in Kenya. (Bodewes, 2005). The poor quality of alcohol in slums means that the effects of alcoholism on HIV therapy are more severe than those in well-up communities.

Tobacco use among individuals on ARV therapy develops a form of emphysema in comparison with non HIV infected individuals who share the same tobacco use history. They are also more prone to respiratory ailments with the development of AIDS-related pulmonary problems. Tobacco use during ARV Therapy leads to high likelihood of contracting pneumonia, increase risk of developing bronchitis and hairy leukoplakia. Smoking by pregnant women who are on ARV therapy increases the likelihood of the fetus contracting the virus. Tobacco use daily reduces Immune response to ARVs by 40%. Mortality of smokers during ARV therapy was 95% in 2005 as compared to just 3% of non-smokers in the same cohort during the same treatment period (Christine, RN, FAAN, Linda, & Stella, 2009)

The use of illegal drugs has negative implications to the users. For instance the use of Marijuana is has detrimental effects on the mental health of PLWHIV if taken for a long time depending on the individual biological make-up(Culyer, 2014).This implies that users of hard drugs such as Marijuana have problems in remembering things. For a HIV person on treatment and abusing such drugs it will be difficult for him/her to follow a schedule and correctly take his/her ARVs.

Drug abuse is common in low income areas across the world are mostly affected by drug abuse. These areas include urban slums in US, Latin America, the Caribbean and African slums.(UNODC, 2010). In a survey conducted in Ethiopia on non-adherence in 2008 31.5% of those who did not adhere to ARV therapy aired their reason as having forgotten to take the

medication (Getnet & Rahel, 2013). In Kenya drug abuse is rampant among slum populations. Alcohol, tobacco and Marijuana are the most commonly abused in the country. This has affected many HIV affected people on ARV therapy in terms of drug adherence due to effects culminating from the drug's effects in their body system.

2.4 Knowledge on HIV/AIDS therapy adherence

Adherence to HIV therapy is dependent on the way a client understands HIV therapy management in terms of when to take drugs, when to come back for the clinic, how to take the drugs, what to avoid when on therapy and what kind of diets to observe. This kind of advice is given to the client on the onset of ARV therapy which is commonly known as Adherence counseling. Adherence counseling includes giving HIV related information and the side effects of various ARV drugs (Getnet & Rahel, 2013)

Poor adherence counseling can lead to disease progression. It is crucial that the Health care provider provides all necessary information about ARV Therapy management in a way the client can comprehend (Ansie & Candice, 2007). This is perhaps the biggest barrier in counseling as individuals who do not understand what the counselor instructions end up not adhering to ARV Therapy. This calls for the correct attitudes in ARV Therapy adherence counseling. When nurses handle these clients in a manner that suggests that they have negative attitude towards the client or is uncooperative or conducts shoddy counseling chances are that the client will be stigmatized (Q. Ashton Acton, 2012). A research carried out in the US on the effectiveness of adherence counseling on 30 clients for period of 12 months revealed adherence counseling is crucial in ARV Therapy management. After the research period adherence improved with 60 %(3% discharged adherent) at 6 months showing adherence improvement. This however improved at the end of the research with 73% (33% discharged adherent) of the clients' adherent. Non adherence dropped from 17% at 6 months to 10% after 12 months (Scheid, 2014)

Lack of disclosure to by PLWHA is one of the reasons why adherence is poor among many individuals in low income societies. When people close to PLWHA are not knowledgeable about their status; they will not be involved in the persons treatment support. Self-Perceived family support or the family's and the household's knowledge of the patient's HIV infection status are considered important predictors of adherence.(Mesfin, 2013)In Kenya people who are HIV positive and are knowledgeable about ARV Therapy requirements are likely to be more adherent to ART (Kimani, 2007).

2.5 Religious and cultural beliefs

According to Karl Marx Religion is the opium of the masses; where the hopeless go to seek hope? The poor are more likely to be notoriously religious as compared to the rich. This means that people living in low income areas are likely to be religious (Aldridge, 2007). Magicoreligious health beliefs held by some cultural groups uphold the fact that supernatural forces control their well-being health wise. They are of the notion that ill health is due to bad behavior or opposing God's will. To them when you are ill you must have wronged God and the only way to get well is by repentance (Diane S. Aschenbrenner, 2009)

According to (Kloos, 2013)Belief in witchcraft and the widespread use of traditional medicines also influence the health-seeking behavior of PLWHIV in parts of sub-Saharan Africa. In rural Kenya rapid and consistent weight loss was labeled the witch craft disease. In Ethiopia a common faith-based practice of visiting holy waters of an orthodox catholic church near Addis Ababa. The number of People living with PLWH increased from 192 to 3,680 from 1999-2004. This is because the HIV patients visiting the site believed that they were healed and even stopped taking ARVs. According to (Berhanu, 2010)Out of the 120 PLWHA studied at the holy water site in 2006, only 36% were against taking ARV dugs

HIV/AIDS is interpreted as a moral transgression, which may function to further distance HIV-positive individuals from organized religion. Religious groups and organizations at times contribute to HIV/AIDS stigmatization by being silent on the mistreatment of PLWHIV. In a study conducted in Malawi to understand stigmatization of PLWHIV; it was discovered that doctrines that could be useful to support PLWHIV were not being followed. One of the doctrines is visiting the sick. Only 7% of Muslims interviewed and 5% of Christians visit the sick leave alone PLWHIV. 75% study religious leaders admitted that those who contract HIV through sexual contact deserve it.51% of their congregation agreed with their religious leaders: this is rather sad because many contract the virus through non-consensual sexual contact. (Trinitapoli, 2007)

Medical research has seen the development of various ARV drug therapies that have tremendously extended the lives of PLWHIV. This has not yet changed perceptions by many that HIV is a terminal disease and being diagnosed with HIV is life threatening; many still regard HIV as a death sentence. This socially constricted perception has seen health care providers showing subtle signals of dislike and fear of PLWHIV this affects the quality of care

PLWHIV receive this has also left some of the PLWHIV distrusting their health care givers which affects their adherence to ART.(Edgar, Noar, & Freimuth, 2009)

Culture is a system of integrated customs, value, beliefs and practices passed from generation to generation with some level of degree of modification.(Amelsvoort, 1964). In Africa, cultural healing practices are still used in many societies today. Traditional medicine is seen as superstitious and reliant on irrational beliefs.(Yalae, 2008) The belief in local traditions mostly the supernatural and mystical causes of sickness is highly linked to the utilization of traditional medicine. The Traditional healers utilize incarnations to seek the unknown from the gods whereas the faith-based healers use spiritual means and prayers to resolve diabolic cases relating to illness. PLWHIV on ART therapy with strong spiritual affiliations usually consult traditional healers for treatment as they associate their condition with being possessed by evil spirits and the witchdoctors would cast them away.(Kielburger & Craig, 2007)

Great advancements in ART use have been hampered by the fact that by widespread belief in spiritual causation of AIDS has prevented many individuals from seeking diagnosis and treatment. Traditional medical systems that impede the health seeking behavior of PLWHA, some positive aspects of traditional healing such as the active participation of healers in prevention programs, have been recognized. In Embu County a religious sect known as *Kavonikia* believes in Spiritual healing. In parts of Mbeere North some PLWHA who were on ARVs joined the sect and stopped taking drugs. Their health deteriorated and 4 of them lost their lives. They were started on a stronger ARV regimen to counter their situation but they were already in the last WHO stage of AIDS. Cultural medicine antics are captivating to many as many believe in the works of traditional spiritual healers going with the *Lolliondo*-Tanzania case in 2013 where people believed they were healed after taking some herbal concussion

2.6 Theoretical Frame work

Robert K. Merton Social strain theory developed from two aspects of human nature (1) a person's motivations or adherence to cultural goals; (2) a person's belief in how to attain her goals. According to Merton five types of deviance exist based upon these facts: Retreatism conformity, rebellion, ritualism, and innovation.(Taylor, 2009)Retreatists are individuals in society who reject cultural goals and the accepted means of attaining those goals. They avoid both the goals and means set by society without replacing those norms with their own counter-cultural forces. Severe alcoholics are examples of Retreatists. PLWHIV who not adherent to treatment and turn to other sort of medication for instance: traditional herbs fall under this

category. Conformists accept these social cultural goals as well as the normative means for achieving those goals. They follow the socially set rules. An example would be a successful entrepreneur who is economically successful because of his/her hard work. PLWHA who adhere to their treatment fall in this category

Ritualists are people in society who do not believe in the set cultural goals of society, but they do believe in and abide by the means for attaining those goals. For example, a middle-management worker who cares little for wealth but still continues to climb the socioeconomic ladder through traditional means and hard work. PLWHA who adhere to treatment but are not knowledgeable on why they should take medication fall under this category. Rebels are individuals who not only reject both the set cultural goals and the accepted means of attaining those goals, but they substitute new goals and new means of attaining those goals. Examples of rebels include PLWHA but turn to traditional medicine, witch-craft and herbalists to treat the disease.

Innovators are those individuals that reject the conventional methods of attaining societal goals but accept those cultural goals. These individuals usually disregard these conventional methods that are socially set for attaining wealth. These people are considered as criminals. An example is a stockbroker who engages in illegal insider trading. The cultural goal of wealth is accepted, but nontraditional means of insider trading are used. Drug dealers, thieves, and prostitutes are also examples of innovators(Calhoun, 2013)PLWHA who sell their ARVs for financial gains fall under this category A client who is not adherent to ARV Therapy because he or she sells her ARVs fall under this category.

Structural functionalism theory (Heyman, 2008)argues that deviant behavior has an active, constructive effect in society by ultimately aiding to cohere multiple populations within a given society. For example Non adherent PLWHA who sell their ARVs to illicit alcohol brewers support an economic activity that generates income to the brewers by providing the raw material although they are not supposed to sell off the drugs. **Conflict theory** suggests: that deviant behaviors originate from the social, political, or material inequalities among individuals in a given social group. **Labeling theory** purports that individuals become due to people forcing an identity upon them and then living by that identity (David P. Farrington, 2012).PLWHA who get into certain religious sects that believe in spiritual healing and get fully involved in their practices so that they can be healed are examples in this category.

Lack of adherence to ARV Therapy is a type of deviance as the patient is expressing a type of refusal to follow set norms that guide ARV Therapy management. The understanding of this theories is critical in analyzing their behavior and why they adherent to treatment or not.

2.7 Conceptual Frame work

The conceptual framework explaining graphically the main variables that were studied is given in Figure 2.

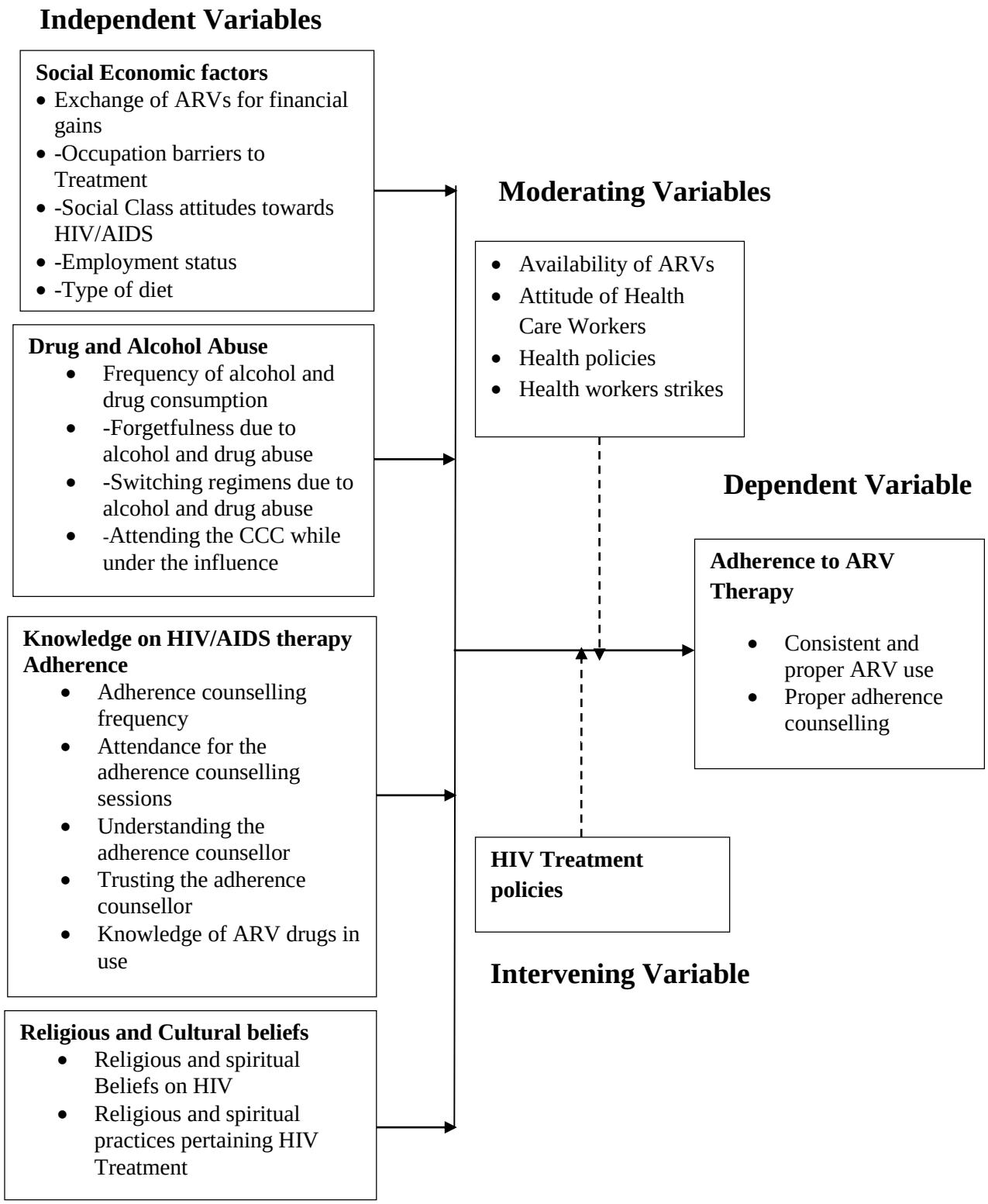

Figure 2: Conceptual Framework

2.8 Explanation of the relationships of variables in the conceptual framework

The conceptual frame work summarizes the relationship between the dependent and independent, moderating and intervening variables. The schematic diagram presents the factors that influence Adherence to ARV Therapy among adult PLWHIV in slums

Factors which have been conceptualized as independent variables include social factors, factors related to drug abuse, knowledge on ARV therapy and cultural and religious factors. The moderating and intervening variables influence the extent to which the independent variables affects the dependent variable. In this study the moderating variables were: availability of ARV, attitude of health care workers, health policies and health workers strikes they regulate the independent variables on the adherence to ARV therapy. The intervening variable in this study was HIV treatment policies which ensure adherence to ARV therapy.

2.9 Research Gap

This study sought to shed new information on the lack or sustained ARV Therapy adherence among PLWHIV in slums HIV is dynamic. This will also be one of the rare works on this topic in Kenya: it will seek to concrete information on the plight of HIV clients in low income communities in Kenya specifically. Little has been done on how the knowledge on ARV therapy can affect ARV therapy adherence. This study can contribute on this factor as it has generated key findings on it.

2.10 Summary of literature review

This chapter has reviewed existing literature ARV Therapy adherence in slums from the global, African and Kenyan perspectives. It has also presented a number of relevant theories to support the study and also a conceptual frame work.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives insight into the study design, independent and dependent variables, sampling criteria, data collection instruments, data analysis and interpretation.

3.2 Research Design

A descriptive cross-sectional research design was adopted to enable the researcher to identify the factors affecting the adherence to ARV therapy among ART clients from *Matakari* slum. Descriptive studies give insights on relationships between phenomena or occurrences.They involve a one-time interaction with groups of people. Descriptive studies, in which the researcher observes and describes the behaviour of the subject. This may involve surveys or interviews to collect the necessary information. A cross-sectional research design is where one type of observational study that involves data collection from a population, or a representative subset, at one specific point in time.However, because each phenomenon was studied only once, it is impossible to determine whether individual differences are consistent over time, or whether early influences have long-term consequences.

3.3 Target Population

The target population comprised of adults living with HIV residing in Matakari slum, Embu County, May-June, 2014. The target population for the study was 107 PLWHIV in the slum and accessing ARV therapy at Embu Level 5 hospital CCC.

3.4 sample size and sampling procedure

Sampling is defined as the procedure by which elements of population are selected as representation of the total population. The sampling technique used by the researcher was simple random sample**.**

3.4.1 Sample size

The sample size for the study was 84 drawn from a targeted population of 107 adults among PLWHIV from Matakari slums accessing HIV care at Embu level 5 hospital. The 2014 HIV prevalence rate for Embu County was 3.7% of the total population.

3.4.2 Sampling procedure

The sampling technique used by the researcher was the simple random sampling technique. This was because all the characters in the targeted population had the desired characteristics: these include being HIV positive, living in Matakari and on ARV therapy at Embu level 5 hospital. The Fisher's sampling technique was used to determine the sample size.

According to Fisher's et al (C, Smith, & D.P, volume 14)

$$n = \frac{Z^2PQ}{d^2}$$

where; n =desired sample size

Z=Standard deviations of the required confidence level (1.96) at confidence level of 95%

P=Proportion of the target population estimated as (0.5)

Q= 1-P, therefore Q=1-0.5 =0.5

d=Maximum tolerance error (100%-95%)

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384.16$$

The statistical formula of population less than 10,000 was used:

$$n_f = \frac{n}{1+(\frac{n}{N})}$$

Where; n_f=desired sample size

N=sample size of the population

N= estimated total population

Thus

$$n_f = \frac{384.16}{1 + (\frac{384.16}{107})} = 83.6898771$$

Thus n_f= 84 when rounded off to the nearest whole number

3.5 Data collection tools

The study used questionnaires as the tool for data collection. A pilot study was conducted to ensure the feasibility of the study

3.5.1 Pilot Study

A Pilot study was conducted at Dallas dispensary CCC which sought to evaluate feasibility of the study. This was necessary to ensure that no time and money would be wasted by having an inconsistent data collecting tool. The questionnaire was administered to 6 respondents who had similar characteristics with the target population accessing ARV therapy from Dallas dispensary. The questionnaire was clear and all questions were answered without any distortion in meaning.

3.5.2 Validity of instruments

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. It is rare, if nearly impossible, that an instrument be 100%(Kee, 1989) valid. The researcher shared the questionnaire with the supervisor for his opinion on the Content-related, Criterion-related and Construct validity. The recommendations were included in the final questionnaire. This ensured the accuracy of the tool.

3.5.3 Reliability of instruments

To ensure the reliability of the tool; the questionnaire was administered to 6 respondents at Dallas dispensary: A re-test was conducted to the same individuals after 3 weeks to find out whether the tools would give the same result. Scores for the both tests were taken and Pearson correlation coefficient calculated using the formulae .

$$r = \frac{\sum_i (x_i - \overline{x})(y_i - \overline{y})}{\sqrt{\sum_i (x_i - \overline{x})^2} \sqrt{\sum_i (y_i - \overline{y})^2}}$$

The coefficient was 0.64 reflecting a goods strong positive relationship

3.6 Data collection procedures

The researcher embarked on the data collection after the approval of the proposal by the department of the Extra –mural studies. Authorization to undertake the study was obtained from the county health records and information manager. The researcher administered the questionnaires personally for a period of 6 months.

3.7 Data analysis

Before processing the responses, the completed questionnaires will be checked for completeness and comprehensibility to ensure consistency. The data will then be summarized, coded and entered into the Statistical Package for Social Sciences (SPSS) version 21 for analysis to enable the responses to be grouped into various categories.

Descriptive statistics such as means, standard deviations and frequency distribution will be used to analyse the data. Content analysis will be used to analyse descriptive data. Data presentation will be done by the use of percentages and frequency tables. This will ensure that the gathered information is clearly understood.

3.8 Ethical considerations

All the interviewees consented to undertake the questionnaires. No interviewee was compelled to give information. The questionnaires were designed to avoid collecting information that would reveal the informants identity

Table 3.1 Operationalization of variables

Objective	Variable	Indicator(s)	Measurement	Scale	Data collecting method	Data Analysis
To find out how Social economic factors influence the adhereance to ARV Therapy in *Matakari* slum	**Independent variable** socio-economic factors	-Exchange of ARVs for financial gains -Occupation barriers to Treatment -Social Class attitudes towards HIV/AIDS -Employment status -Type of diet	- Poverty levels of the PLWHA	Ordinal	questionnaire	Descriptive statistics
To find out how Drug and alcohol abuse influences the adherence to ARV Therapy in *Matakari*slum	**Independent variable** Drug abuse	- Frequency of alcohol and drug consumption -Forgetfulness due to alcohol and drug abuse -Switching regimens due to alcohol and drug abuse -Attending the CCC while under the influence	- The extent of drug and alcohol abuse	Ordinal	Questionnaire	Descriptive statistics
To find out how Knowledge on HIV/AIDS adherence influences the adherence to ARV Therapy in *Matakari* slum	**Independent variable** Knowledge on HIV/AIDS adherence	-Adherence counselling frequency -Attendance for the adherence counselling sessions -Understanding the adherence counsellor -Trusting the adherence counsellor -Knowledge of ARV drugs in use	-understanding the adherence to ART knowledge needs for PLWHA	ordinal	Questionnaire	Descriptive statistics
To find out how Religious and cultural beliefs influence the adherence to ARV Therapy in Matakari slum	**Independent variable** Religious beliefs	-Religious and spiritual Beliefs on HIV -Religious and spiritual practices pertaining HIV Treatment	-Influence of Religious and spiritual beliefs and practices	ordinal	Questionnaire	Descriptive statistics

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter deals with data analysis, interpretation and findings based on the study objectives. This includes: to determine how social economic status, drug abuse, knowledge on ARV therapy and religious and cultural factors of adults on ARV therapy affect their adherence to ART. Data was analysed and interpreted using tables

4.2 Demographic information of the respondents

The researcher reached 84 respondents from the Matakari slum. The respondents were of different ages, gender, and educational level and income levels

4.2.1 Gender of the respondent

The researcher asked their respondents to state their gender and the responses are shown in Table 4.1

Table 4.1: Gender of the respondent

Gender	***Frequency (n)***	***Percentage (%)***
Male	23	27
Female	61	73
Total	**84**	**100**

Majority of the clients interviewed were female 73% as compared to the male 27%. This because more women than men were HIV positive a reflection of the HIV prevalence in Kenya where more women have been identified HIV positive as compared to men.

4.2.2: Age distribution of the respondents

The researcher asked d the respondents to indicate their ages and they fell in the categories shown in Table 4.2

Table 4.2 Age distribution of the respondents

Age group	***Frequency (n)***	***Percentage (%)***
18-24	19	23
25-24	32	38
35-44	27	32
Above 45	6	7
Total	**84**	**100**

70% of the respondents were between the ages of 25-44 years. Only 7% of the respondent were 45 years and above. HIV is more prevalent among the population aged 25 to 44 years.

4.2.3 Educational level of the respondents

The researcher asked the respondents to state what educational level they had attained and their responses are shown in table 4.3

4.3: Education levels of the respondent

Educational level	***Frequency (n)***	***Percentage (%)***
College level	13	15
Secondary level	46	55
Primary level	23	27
Never attended school	2	2
Total	**84**	**100**

Majority of the respondents had attained secondary level of education (60%). Only 2% of the respondents had accessed any level of education. Majority of the respondents (98%) have attained at least primary level education implying that the community is literate: they can read and write.

4.2.4 Income levels of the respondents

The respondents were asked by the researcher to disclose their income ranges and their responses are shown in Table 4.4

Table 4.4: Income levels of the respondents

Monthly Income	**Frequency**	**Percentage**
No income	16	19
Ksh 0-1000	27	32
Ksh 1,001-5,000	35	42
ksh 5,001- 10,000	5	6
above Ksh 10,000	1	1
Total	**84**	**100**

75% of the respondents earn between Ksh1001 to 5000 per month. 19% of the respondents do not have any income. Only 6% of the respondents make over Ksh5000 a month. The affected community is quite poor as the majority of the respondents (75%) earn below ksh5001 monthly

4.3 Adherence to ARV therapy (ART)

The researcher asked the respondents about their ARV consumption attributes such as; period over which they have been on treatment and consumption behaviour

4.3.1 Period the respondent has been on ART

The researcher asked the respondents to state how long they have been under ART. Their responses are shown in table 4.5

Table 4.5: Period the respondent has been on ART

N. o. of years on ART	*Frequency (n)*	*Percentage (%)*
0-5	27	32
6-10	45	54
10-15	11	13
16-20	1	1
Total	**84**	**100**

Majority of the respondents had been on ART between 0-10 years (86%). Only one of the respondents had been on ART between 16 to 20 years. This implies that one is likely to live over 10 years or more with HIV provided he or she adheres to treatment.

4.3.2 ARV consumption behaviour

The researcher asked the respondents whether they have ever missed to take their ARV drugs and their responses are shown in table 4.6

Table 4.6: ARV consumption behavior

ARV consumption behaviour	*Frequency (n)*	*Percentage (%)*
Has ever missed medication	66	79
Has never missed medication	18	21
Total	**84**	**100**

79% of the respondent admitted to have missed taking their ARV medication once in their lifetime. It is very likely that a client will forget to take his or her medication.

4.3.3. Correlation between educational level and ARV consumption behaviour

Clients who have post-primary education are more likely to be ARV adherent according to the spearman's rho coefficient correlation. The correlation coefficient between the ARV adherence and post primary education levels was at o.76 indicating a strong positive relationship between the 2 variables.at 0.01 significant level as shown in table 4.7

Table 4.7 Correlation between educational level and ARV consumption

Correlations

			ARV Adherence	Post Primary education
Spearman's rho	**ARV Adherence**	**Correlation coefficient**	**1.000**	**0.76*** **
		Sig (2-tailed)		**0.003**
		N	**59**	**59**
	Post primary education	**Correlation coefficient**	**0.76*** **	**1.000**
		Sig (2-tailed)	**0.003**	
		N	**59**	**59**

***** Correlation is significant at the 0.01 level (2-tailed)**

4.3.4. Reasons for missing medication

The researcher received the responses shown in table 4.8 after asking the respondents why they had ever missed taking their ARV drugs

Table 4.8: Reasons given for missing medication

Reason for missing medication	***N***	*Frequency (n)*	*Percentage (%)*
Socio-Economic related	66	37	44
Drug abuse related	66	43	51
Lack of ART knowledge related	66	29	35
Religious and cultural related	66	51	61
other reasons	66	23	27

The factors given by the respondents were categorised into socio-economic related (44%), drug abuse related (51%), lack of Knowledge on ART therapy and Religious (35%) and Cultural related (61%) Other reasons such as drugs expiry, and loss of drugs accounted for 27%. Most clients are non-adherent due to cultural and religious related causes.

4.3.5. Reception of ART messages during adherence counselling

The researcher asked the respondents whether they received vital ART adherence messages during initiation of ARV therapy. The responses are shown in Table 4.9

Table 4.9: ART counseling on vital ART messages for adherence

ART counselling on vital ART messages for adherence	***N***	***Frequency (n)***	***Percentage (%)***
ARV dosage and correct use	84	84	100
Nutritional counselling	84	78	93
Action to take when you forget to take ARVs	84	74	88
Disclosure of your HIV status to your partner	84	84	100

All respondents admitted to have received messages on ARV dosage and correct use and HIV status disclosure to their partners ART adherence counselling. 88% of the respondents could remember being counselled on the action to take when you forget to take ARVs and 93% remembered been taken through nutritional counselling. Many of the clients had received effective adherence counselling during the inception of ARVs.

4.3.6 Reception of ART messages during adherence counselling: those who could not remember the contents of the messages

The researcher asked the respondents whether they remembered the contents of the initial counselling session. The responses are shown in table 4.10

Table 4.10: ART counseling on vital ART messages for adherence: those who could not remember the contents of the messages

ART counselling on vital ART messages for adherence recall the contents	***N***	***Frequency (n)***	***Percentage (%)***
ARV drugs correct storage	84	9	11
Nutritional counselling	84	19	23
Action to take when you forget to take ARVs	84	24	29
Disclosure of your HIV status to your partner	84	84	100

11% of the respondents could not remember any of the contents of the messages on ART adherence on ARV dosage and correct use. 23% did not recall messages on nutritional counseling, 29% on action to take when one forgot to take ARV drugs. All clients recalled messages on disclosing their HIV status to their partners. Clients usually forgot about adherence counselling after some time.

4.4 Socio-economic factors affecting ART adherence

The researcher asked the respondents about socio economic issues that may affect their adherence to HIV therapy. These factors included the number of balanced meals they have in a day, whether they exchange favours for ARVs, monetary and occupational challenges that hinder them from accessing ARVs

Table 4.11: Socio-economic factors affecting ARV adherence

Socio-economic factor	**N**	**Yes**		**No**		**Sometimes**		**Total**	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*	*frequency*	*%*
Do you have a 3 balanced meals daily	**84**	16	**19**	56	**67**	12	**14**	**84**	**100**
Do you exchange favours for their ARVs	**84**	11	**13**	44	**52**	29	**35**	**84**	**100**
Do you have monetary issues that hinder them from accessing ARVs	**84**	28	**33**	14	**17**	42	**50**	**84**	**100**
Does your occupations hinder them from accessing ARVs	**84**	14	**17**	48	**57**	22	**26**	**84**	**100**
Do you think HIV/AIDS affects the rich	**84**	29	**35**	55	**65**	_	_	**84**	**100**

19% of the respondents enjoy 3 balanced meals a day. A majority 67% of the respondents cannot afford 3 meals a day. 13% of the respondents exchange their ARVs for favours while 29% of the respondents do the same time to time.50 % of the clients occasionally face monetary challenges that hinder them from accessing ARVs: usually visiting the CCC for a refill. 33% of respondents that constantly have faced monetary constraints and really find it difficult to access ARV drugs. 17% of the respondents admitted that their occupations constantly hinder them from accessing ARVs. 26% face the same challenge time to time.35% of the respondent still think that HIV is for the poor as they admitted that they did not think the rich contract HIV

4.5 Drug abuse related factors

The researcher looked in alcoholic addiction among the respondents and how the vice affected their ARV therapy

4.5.1 Addiction to Alcohol

The researcher asked the respondents whether they consumed alcohol on a daily basis: the assumption being that those that consume alcohol daily were addicts. The responses are shown in Table 4.12

Table 4.12: Consumption of alcohol on a daily basis

Drug abuse factor	N	Yes		No		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*
Regularly consume alcohol on a daily basis	**84**	24	**29**	60	**71**	**84**	**100**

29% of the respondents were alcoholics

4.5.2 Effects of drug abuse on ARV therapy

The researcher asked the 29% addicted to alcohol how their addiction has affected their ARV consumption in terms of remembering to take drugs and missing meals. The researcher also asked the respondents whether they have ever switched their ARV drugs due to alcoholism and if they have ever visited the CCC while drunk. Their responses are shown in Table 4.13

Table 4.13: effects of drug abuse on ARV therapy

Effect of Alcohol abuse	N	Yes		No		Sometimes		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*	*frequency*	*%*
Do you miss meals due to excessive alcohol consumption	**24**	18	**75**	1	**4**	5	**21**	**24**	**100**
Do you forget to take ARVs due to excessive alcoholic consumption	**24**	5	**21**	6	**25**	13	**54**	**24**	**100**
Have you ever switched your ARV regimen due to excessive alcohol consumption	**24**	11	**46**	13	**54**	_	_	**24**	**100**
Have you ever visited the CCC under the influence of alcohol	**24**	18	**75**	6	**25**	_	_	**24**	**100**

75% of the respondents who consume alcohol (24) on a daily basis admitted to missing meals regularly due to drunkenness. A smaller percentage (21%) miss meals from time to time due to the same problem. 54 % of these respondents forget to take their ARVs occasionally and 21% forget to take their ARVs constantly when drunk. 46% of the respondents have been forced by their circumstances to switch their ARV drug combination due to lack of adherence which in turn made the drug resistant. 75% of the respondents have at least visited the CCC while drunk. Alcohol consumption has a negative effect on ARV adherence

4.5.3 Correlation between alcohol consumption and ARV adherence

The more a client consumes alcohol the more he or she was likely to be non-adherent to ARVs. The spearman's rho coefficient correlation revealed that there was a strong positive relationship between alcohol consumption and being non –adherent (correlation coefficient of 0.91 at a correlation coefficient of 0.01 as shown in table 4.14.

Table 4.14 Correlation between alcohol consumption and ARV adherence

Correlations

			ARV non-Adherence	Alcohol consumption
Spearman's rho	**ARV non- Adherence**	**Correlation coefficient**	**1.000**	**0.91*** **
		Sig (2-tailed)		**0.002**
		N	**24**	**29**
	Alcohol consumption	**Correlation coefficient**	**0.91*** **	**1.000**
		Sig (2-tailed)	**0.002**	
		N	**24**	**29**

***** Correlation is significant at the 0.01 level (2-tailed)**

4.6 Knowledge on ART adherence

The researched wanted to investigate whether the respondents knew about ART adherence and whether their adherence counsellors are effective enough to pass across clear messages on ART adherence

4.6.1 ART adherence knowledge among the respondents

The researcher asked the respondents whether they attended ART adherence sessions in their current CCC and whether they knew the name of their ARVs. Their responses are shown in table 4.14

Table 4.15: ART adherence knowledge overview

Knowledge on ART	N	Yes		No		Sometimes		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*	*frequency*	*%*
Do you attend ART adherence sessions at your CCC	**84**	42	**50**	12	**14**	30	**36**	**84**	**100**
Do you know the name of your ARV drugs	**84**	77	**92**	7	**8**	_	_	**84**	**100**

14% of the respondent do not at all attend ART adherence counselling sessions. 36% attend the sessions occasionally. 8% of the respondent did not know the name of their ARV drugs

4.6.2 Attributes of the ART counsellors

The researcher asked the respondents whether they understood and trusted their adherence counsellors and responded as shown in table 4.15

Table 4.16: ART counselor attributes

Knowledge on ART	N	Yes		No		Sometimes		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*	*frequency*	*%*
Do you understand the adherence counsellor at your CCC	**72**	54	**75**	15	**18**	3	**4**	**72**	**100**
Do you trust your adherence counsellor at your CCC	**72**	55	**76**	9	**11**	8	**10**	**72**	**100**

18% of the respondent (72) who attend counselling do not understand their counsellors 'messages during counselling; while 4% of them catch up occasionally. 11% of the respondent trust their counsellors while 10% find it hard to fully trust them. ARV counsellors in the health facility are effective

4.7 Religious and cultural beliefs influence on ART adherence

The researcher sought to know what religious and cultural factors affect the adherence to ARV of the respondents

4.7.1 Religious and cultural beliefs

The researcher asked the respondents whether they thought their religion supported PLWHIV and whether they thought HIV is curable through spiritual interventions. They responded as shown as Table 4.16

Table 4.17: religious and cultural beliefs overview

Religious and cultural beliefs	N	Yes		No		Sometimes		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*	*frequency*	*%*
Do you think your religion and culture openly supports PLWHIV	**84**	24	**29**	53	**63**	7	**8**	**84**	**100**
Do you think HIV is curable through spiritual interventions	**84**	19	**23**	59	**70**	6	**7**	**84**	**100**

63% of the respondent do not have confidence that religious and cultural institutions support PLWHIV. 8% of them occasionally have belief in these institutions depending on certain

issues. 23% of the respondents think that HIV is curable though spiritual means. People are still embedded on cultural and religious believes as pertains HIV treatment.

4.7.2 Religious and cultural attributes on ART adherence

The researcher asked the respondent whether they sought after spiritual and traditional treatment to cure HIV, whether their culture discourages ARV use and whether they have ever failed to take their ARVs because their religions or culture discouraged it. The responses are shown in table 4.16

Table 4. 18: Religious and cultural attributes on ART adherence

Religious and cultural beliefs	N	Yes		No		Total	
		frequency	*%*	*frequency*	*%*	*frequency*	*%*
Have you ever sought after spiritual or traditional treatment to cure HIV	**84**	23	**27**	61	**73**	**84**	**100**
Does your religion or culture discourage ARV use	**84**	18	**21**	66	**79**	**84**	**100**
Have you ever failed to take your ARVs because your religion or culture discourages it	**84**	32	**38**	52	**62**	**84**	**100**

27% of the respondents have sought traditional treatment for HIV. 21% believe that their culture and religions are against ARV use. 38% of the respondents have ever failed to take their medication due to some cultural or religious influence.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter deals with discussion, conclusions and recommendations of the study based on the study finding as per the study's purpose and objectives with reference to the literature review.

5.2 Summary of findings

The researcher found out that 79% of the respondent admitted to have missed taking their ARV medication at least once in their lifetime.44% of them missed medication due to socio-economic related factors; 51% due to drug related factors, 35% due to lack of knowledge on ART therapy and 35% due to religious and cultural related reasons. 27%due to other factors such as drugs expiry, and loss of drugs accounted.

Adherence counselling had been done to all the respondent during the onset of ARV therapy but not all could remember having gone through vital messages. All respondents admitted to have received messages on ARV dosage and correct use and HIV status disclosure to their partners ART adherence counselling. 88% of the respondents could remember being counselled on the action to take when you forget to take ARVs and 93% remembered been taken through nutritional counselling.

The researcher found out that the respondents could not recall the contents of the messages with 11% of the respondents not remembering any of the contents of the messages on ART adherence on ARV dosage and correct use. 23% did not recall messages on nutritional counselling, 29% on action to take when one forgot to take ARV drugs. All clients recalled messages on disclosing their HIV status to their partners.

A majority 67% of the respondents cannot afford 3 meals a day. 13% of the respondents exchange their ARVs for favours while 29% of the respondents admitted doing the same occasionally.50 % of the clients occasionally face monetary challenges that hinder them from accessing ARVs: usually visiting the CCC for a refill. 33% of respondents that constantly have faced monetary constraints and really find it difficult to access ARV drugs

17% of the respondents admitted that their occupations constantly hinder them from accessing ARVs. 26% face the same challenge time to time.35% of the respondent still think that HIV is for the poor as they admitted that they did not think the rich contract HIV.

The researcher found out that 29% of the respondents were alcoholics with 75% of the respondents of the alcoholics consuming alcohol daily. 21% miss meals from time to time due to the same problem. 54 % of these respondents forget to take their ARVs occasionally and 21% forget to take their ARVs constantly when drunk. 46% of the respondents have been forced by their circumstances to switch their ARV drug combination due to lack of adherence which in turn made the drug resistant. 75% of the respondents have at least visited the CCC while drunk.

The researcher found out that 14% of the respondent do not at all attend ART adherence counselling sessions. 36% attend the sessions occasionally. 8% of the respondent did not know the name of their ARV drugs18% of the 72 respondents who attend counselling do not understand their counsellors' messages during counselling; while 4% of them catch up occasionally. 11% of the respondent trust their counsellors while 10% find it hard to fully trust them

Finally the researcher found out that 63% of the respondent did not have confidence that religious and cultural institutions support PLWHIV. 8% of them occasionally have belief in these institutions depending on certain issues. 23% of the respondents think that HIV is curable though spiritual means.27% of the respondents have sought traditional treatment for HIV. 21% believe that their culture and religions are against ARV use. 38% of the respondents have ever failed to take their medication due to some cultural or religious influence.

5.3 Discussion and interpretation

According to the findings of this study 79% of the respondents have ever missed their medication. 44% of these respondents (66) have been non- adherent to ARVs in low income areas is due to the socio-economic factors such as monetary challenges that hinder their accessibility to ARVs and emergency health care, not having 3 balanced meals daily. A balanced diet is vital for ART mechanism. The other factors are occupational hindrances that make accessing ARVs difficult and having to exchange their drugs for favours and cash. This confirms the UNAIDS 2008 report on ART adherence that stated that non-adherence to ART may be caused by social economic factors such as poverty, inadequate transport to access medication and unstable housing.35% of the respondents believe that HIV is not a rich man's disease. This is in agreement with Thambo Mbeki's criticised sentiments that connected poverty to an increase to the spread of HIV (Hasan, 2014).This may seem so because most of

the rich people are not affected by the social economic barriers that may impede their ARV adherence.

51% of the respondents who had ever been ART non-adherent (66) admitted it happening due to a drug related reason.29% of the overall respondents are drug addicts confessing to alcohol addiction. This has seen them miss meals which are essential for ARV therapy mechanism. 21% forget to take their ARVs when drunk further complicating their health especially if they also missed meals. 75% of respondents admitted to going to the CCC while drunk meaning that the client will likely miss out on vital information from the Health care provider. 46% of them have had to use stronger ARV combinations due to alcohol intoxication. This reinforces (Schlossberg, 2008) findings that alcohol makes the use of ARVs redundant. The fact that they consume low quality alcohol worsens their ARV adherence. (Bodewes, 2005)Stated that the poor quality of alcohol in slums means that the effects of alcoholism on ARV therapy are more severe than those in well-up communities.

Lack of knowledge on ART was a reason for ART non-adherence. 35% of the respondents admitted to having missed ARV medication due this fact. This reinforces the fact by (Kimani, 2007) that people who are knowledgeable about ARV therapy requirements are likely to be more adherent to ART. 36% of the respondents miss some of the ARV adherence sessions with 12% not attending any at all. This implies that they regularly miss out on ART updates given that ART is dynamic.18% of the respondents usually do not understand their adherence counsellor and a further 11% does not fully trust their counsellors with 10% partly trusting the counsellors. This creates a barrier between the 2 parties meaning that messages passed by the counsellor are not effective this group. This is in agreement with (Ansie & Candice, 2007) that the biggest barrier in counselling as individuals who do not understand what the counsellor's instructions end up not adhering to ARV therapy.

The study reveals that the 61% of the 66 respondents that admitted to have ever missed their medication did so due to religious or cultural reasons. 29% of the respondents believe that religious and cultural institutions do not support PLWHIV with another 8% of them trusting these institutions during various occasions. This can be attributed to the fact that people associate being ill as punishment from God or the gods for wrong doing especially with the notion that HIV is spread through immorality according to (Diane S. Aschenbrenner, 2009)23% of the respondents believe that spiritual interventions can cure AIDS. This belief is a major cause of ARV non adherence as was the case in 2006 where by 36% (120) of people refused to take ARVs and instead visited holy waters in an orthodox catholic church in

Ethiopia(Berhanu, 2010) 38% of the respondents failed to take ARVs because their religion or culture discouraged it. This rides on the fact that people have to repent to get healed as stated by (Diane S. Aschenbrenner, 2009). This is a key factor considering the mushrooming of sects and churches in low income areas.

5.4 Conclusion

Social economic dynamics are a key factor that affect the adherence of ARV therapy in low-income areas. According the study findings 44% of the respondents that have ever missed their medication stated social economic factors as the major cause. It is therefore important that people in low-income areas are financially empowered so that they can be able to afford basic necessities that are crucial for ART adherence.

Drug abuse is a major barrier to ARV therapy. Alcohol is the most abused drug which has devastating effects on the addicts.46% of the addicts had to use stronger ARV combinations due to alcoholic intoxication. The alcohol available in low income areas is of low quality which worsens the situation. It is necessary that addicts on ART are rehabilitated

Lack of knowledge on ARV therapy is crucial for ART adherence. Educational levels of the respondents are low as is characteristic in low income areas with only 15% having attained college level qualification. 55% of the respondent have gone through secondary level education. This implies that majority of the respondents can understand basic instructions. 36% are missing sessions which amounts to ignorance with. There should be a change of attitude from the ART clients so that adherence counselling is successful.

According to the findings Religious and cultural beliefs play an important role in the choices people choose. 61% of the respondents confessed being non adherent to ARVs due to religious and cultural aspects. It is important that these patients are empowered to make rational and logical decisions

5.5 Recommendations

Financial empowerment for the patients will be key to ensure that they can afford basic necessities vital for ART adherence. The NGOs in the area should consider having a vibrant House hold economic strengthen project that will uplift their lives economically.

The patients who are addicted to alcohol should be rehabilitated to ensure that the client will not be intoxicated once ARV therapy begins. Poor quality alcohol should be contained in the area by the authorities. Drug abuse psychosocial groups should be established to create a

forum to shun the vice. Sports clubs should be established to help the recovering addicts have alternatives for drug abuse.

For adherence counselling to be successful small groups peers should be established where by the clients are able to discuss matters after sessions are over. This way messages that were not clear would be discussed in depth. Adherence counsellors should observe professional confidentiality to earn the trust of the patients.

Clients should be empowered through social groups to be able to make logic and rational decisions to avoid them being lured to religious and cultural sects that preach against the use of modern medicine. Messages on such topics should also be included in the adherence counselling messages. The CCC should also consider having peer educators who are HIV positive and adherent to ARV therapy who will serve as examples of ART.

5.5.1 Suggestions for further studies

The study has not exhaustively covered all the factors that affect adherence to antiretroviral therapy in slums. Studies can be done in the future to look into how the attitudes of health care providers affect the adherence of antiretroviral therapy. The same study can be done to unearth the factors that influence antiretroviral therapy of children in slums

5.6Contribution to the body of knowledge

This study has shed light on factors that influence antiretroviral therapy among adults in slums. Alcohol consumption is a main contributor to non-adherence of ARVs. The social economic status of HIV positive clients accessing ARV therapy in low income areas affects their ARV consumption behaviour due to poor social economic decisions they take. From this study it is evident that cultural and religious factors contribute to ARV adherence. The information from this study will be key in future studies on this topic

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APPENDICES

APPENDIX I: Letter of transmittal

University of Nairobi

Department of Exra Mural Studies

Administration and Planning,

P.O Box 30197,

Nairobi.

Dear respondent,

RE: DATA COLLECTION

I am a post graduate student at the School of Continuing and Distance Education, University of Nairobi. I am currently working on a research project on adherence to ARV Therapy among Adults in Shauri and Matakari slums, Embu County.

You have been selected for contribution in responding to items in the questionnaire. Your response and views will be valuable in identifying the factors that affect adherence to ARV Therapy among Adults in Shauri and Matakari slums. All information given will be treated with confidentiality

Thank you in advance for your contribution

Mark Machira

Post graduate student

APPENDIX II: Questionnaire for Client

Date _____

Please take a few minutes to complete this questionnaire. Your honest answers will be completely anonymous, but your views, in combination with those of others are extremely important in building knowledge on the factors influencing utilization of reproductive health services at the Embu district youth friendly centre. Kindly answer all questions.

PART A: DEMOGRAPHICS

1) Gender Male [ ] Female [ ]
2) What is your age?

   18 - 24 [ ]
   25 – 34 [ ]
   35 - 44 [ ]
   Above 45 [ ]

3) What is your current level of education?

   a. Primary school [ ]
   b. Secondary school [ ]
   c. College/Tertiary institution [ ]
   d. Have never attended school[ ]

4) What is your monthly income?

   a) No income [ ]
   b)Ksh 0-1000 [ ]
   c)Ksh 1,001-5,000 [ ]
   d) Ksh 5,001- 10,000 [ ]
   e) Above Ksh 10,000 [ ]

PART B: ADHERENCE TO ARV THERAPY

6 For how long have you been in treatment?

i. 0-5[ ]
ii. 6-10[ ]
iii. 10-15[ ]
iv. 16-20[ ]

7 Have you ever changed/substituted your drug combination?

i. Yes [ ]
ii. No [ ]

8 If yes in Que 7? Was is it due lack of treatment adherence?

i. Socio-Economic related [ ]
ii. Drug abuse related [ ]
iii. Lack of ART knowledge related [ ]
iv. Religious and cultural related [ ]
v. Other reasons [ ]

9 Have you ever received the following services/advise at the CCC? Please tick

i. ARV dosage and correct use[ ]
ii. Nutritional counselling[ ]
iii. Action to take when you forgot to take your ARVs[ ]
iv. Disclosure of your HIV status to your partner[ ]

PART C: FACTORS AFFECTING ADHERENCE TO ARV THERAPY

On a scale of 1 – 5, please indicate the extent with which you agree with the following statements:

Key:

1. Yes 2.No 3.Sometimes/Partly 4.No response/ Non Applicable

Social Economic Status

		1	2	3	4
a	I have 3 balanced meals in a day				
b	Have you ever exchanged favours for your ARVs				
c	Do you have monetary related issues that hinder you from accessing the CCC e.g. raising fare to the CCC				
d	Does your work/occupation hinder you from taking your medication regularly				
e	Do you think HIV/AIDS affects the rich				

Drug abuse influence HIV/AIDS

		1	2	3	4
a	You usually take alcohol/drugs regularly (Weekly basis and above)				
b	Do you regularly miss meals due to alcohol/Drugs related issues				
c	Do you regularly forget to take your ARVs due to alcoholic/drugs related issues				
d	Have ever switched your ARV regimen due to Alcohol/drug related problems				
e	Have you ever visited the CCC while under the influence of drugs/alcohol				

Knowledge on HIV/AIDS therapy

		1	2	3	4
a	Do you attend the Adherence to treatment sessions at your CCC				
b	Do you understand the adherence counsellor at your CCC				
c	Do you know the name of your ARVs drugs				
d	Do you know what it means to be Adherent to ARV Therapy				
e	Do you trust your Adherence counsellor at your CCC				

Religious beliefs

		1	2	3	4
a	Do you think religion openly supports PLWHIV				
b	Do you believe HIV can be healed through spiritual interventions				
c	(If response is 1 or 3 in que b above)Have you ever sought after spiritual or traditional healing				
d	Does your religion discourage ARV use				
e	(If response 1 and 3 in que d above) have you failed to take your ARVs because your religion discourages ARV use				

Thank you for your cooperation and time.

APPENDIX III: Research authorization letter

REPUBLIC OF KENYA

MINISTRY OF HEALTH

Telephone: 254 068 30423
Fax: 068 30424
Email: medicalofficerembu@yahoo.com

When replying please quote our reference
Ref. No: R/19/VOLI/17

OFFICE OF THE
MEDICAL OFFICER OF HEALTH
MANYATTA SUBCOUNTY
P.O. BOX 1905
EMBU

Date: 27th April 2015

UNIVERSITY OF NAIROBI
DEPARTMENT OF EXTRA MURAL STUDIES

RE: AUTHORITY TO CONDUCT RESEARCH

This is to inform you that MARK MACHIRA GIKUNJU, registration no: L50/72124/2011, a Project planning and Management student in the University of Nairobi has been given permission to carry out his research in Manyatta sub-county, Embu County for five months, May-Sept, 2015.

Thank you for the support you will accord him during the time of study

SCMOH
MANYATTA SUB-COUNTY
P. O. BOX 1905 - EMBU

Elizabeth K. Muthinji
Sub County Medical Officer of Health
Manyatta Sub County

C.C
Facility Incharge – Dallas Dispensary
CCC Incharge- Embu Level 5 Hospital