

## Factors Affecting Compliance to HIV/AIDS Treatment amongst PLWHA attending Comprehensive Care Clinic at the Rift Valley Provincial General Hospital, Nakuru County, Kenya.

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**Abstract:** Due to increasing availability and uptake of antiretroviral therapy (ART) People Living with HIV and AIDS (PLWHA) have been shown to live longer. However, there has been limited research on whether PLWHA comply with safer sexual and reproductive practices as focus has been primarily on HIV negative persons. This study which adopted a cross-sectional survey research design sought to determine compliance to HIV/AIDS management among 72 purposely selected PLWHA attending CCC at Rift Valley Provincial General Hospital. Data generated from analysis of administered interview guides revealed that females, middle income earners, positive attitude towards reproductive behaviour, having more than one child after testing sero-positive and those not facing challenges of condom fatigue and financial constraints had a high compliance to HIV treatment. On the contrary, having multiple partners and indulging in alcohol and drug abuse predicted low compliance to HIV treatment.

### ABBREVIATIONS and ACRONYMS

UNFPA - United Nations Population Fund Positives

AIDS - Acquired Immune Deficiency Syndrome

ART - Anti-retroviral Therapy

ARVs - Anti-retrovirals

CCC - Comprehensive Care Centre

HIV - Human Immunodeficiency Virus

KAIS - Kenya AIDS Indicator Survey

MTCT - Mother-to-Child Transmission

STIs - Sexual Transmitted Infections

PLWHA - People Living with HIV and AIDS

PMTCT - Prevention of Mother-to-Child Transmission

PwPs - Prevention with Positives

UNAIDS - United Nations Joint Programme on HIV and AIDS

UNGASS - United Nations General Assembly Special Session on HIV and AIDS

VCT - Voluntary Counseling Testing

### DEFINITION OF TERMS

**Compliance to HIV/AIDS Management:** Refers to the ability of PLWHA to successfully take a healthy/safe HIV preventive action confidently. PLWHA will be asked to judge themselves about their capability to perform particular activities related to their sexual and reproductive behaviour which are basically HIV preventive actions.

**Condom fatigue:** Refers to condom being tiresome due to using it consistently.

**HIV/AIDS management:** Refers to strategies or efforts used to avert and lessen the transmission of HIV which PLWHA are expected to undertake.

**Occasional sexual partner:** Refers to a sexual partner who is not a spouse and the period of relationship is less than one year.

**People Living with HIV and AIDS:** This refers to persons who either have been infected by HIV which causes AIDS and/or have progressed to AIDS.

**Prevention with positives (PwPs):** This is a concept coined to describe HIV prevention that focuses on people living with HIV to reduce the risk of HIV transmission.

**Regular sexual partner:** This refers to a spouse or a stable sexual partner whom a respondent has had an intimate relationship lasting one year or more prior to the study.

**Reproductive behaviour:** It refers to the practice of having children and use of birth control methods.

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**Risky sexual and reproductive behaviour:** Refers to those intimate actions with the opposite sex that endangers an individual to getting infected with HIV, having unplanned pregnancy or even being re-infected with a HIV strain resistant to ARV drugs which hastens AIDS progression.

**Socio-demographic factors:** Refers to age, gender, residence, marital status, education level, income, employment status, religion and duration after testing HIV positive.

**Safe reproductive behaviour:** This refers to actions or practices of using birth control methods to avoid unplanned pregnancies or/and effective PMTCT practices in order to have a HIV negative child.

**Sexual behaviour:** This refers to practice of having an intimate relationship with the opposite sex, number and types of sexual partners, condom use and HIV disclosure prior to a sexual act.

**Safe sexual behaviour:** This reflects the practice of having an intimate relationship with the opposite sex without putting him/her at risk of getting infected or re-infected with HIV. These practices are measured by being faithful to a sexual partner, using condom consistently and/ or abstaining.

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## I. INTRODUCTION

### 1.1 Background to the Study

For over two decades, Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) pandemic has remained one of the most serious challenges among communities. Indeed, it has been a global crisis with an estimated 33.2 million people infected by the end of the year 2012, out of which 22 million people were in Sub-Saharan Africa (UNAIDS, 2013; WHO, 2013).

It has been noted that the physiological improvement due to ART drugs follows with the improvement of sexual activities of PLWHA and majority of them continue their normal sexual activities. It has been shown that PLWHA are living longer due to increasing availability and uptake of antiretroviral therapy (ART). This increasing number of HIV discordant and concordant relationship calls for the importance of response to the sexual and reproductive health needs and fertility choices of PLWHA. This is because as life expectancy of PLWHA changes, their reproductive and sexual needs and preferences are constantly changing and becoming increasingly important with the development and use of anti-retroviral therapy (ART) (Global Network, 2009; Debeke & Seme, 2008).

Studies from different contexts worldwide indicate that PLWHA manifest high-risk sexual behavior. These behaviors are characterized by multiple sexual partners, non-use of contraceptives, fertility intentions and non-disclosure of HIV status to their sex partners (Kakaire, Kaye & Osinde, 2010; Oyore, 2009; Otieno, 2008). Further, studies done in USA and developing countries show that PLWHA continue to engage in high risk sexual behaviors (Schreibman & Friedland, 2003). Likewise, a study done in Nigeria shows that a large portion of the HIV-positive individuals were sexually active and desired to have children (Zubairu, 2009). Due to this indulgence in risky sexual and reproductive behaviors, PLWHA may be re-infected with new strains of HIV, with the worst behavior being exposing someone else to HIV infection where the latter remains the major problem in the fight of HIV epidemic (NASCOPI/ NACC, 2008). Therefore for PLWHA, the importance of safer sex with a HIV negative sexual partner (discordant relationship) or one with uncertain status (not tested) is for self-protection from STIs and to protect the partner from becoming HIV infected which is particularly challenging.

Understanding the concept of susceptibility of PLWHA in Kenya in spreading the virus through sexual and reproductive means is important in developing HIV preventive strategies. PLWHA will always have an essential role to play in preventing new infections (Boston Conference Report, 2010). This calls for a need to focus on PLWHA in order to prevent HIV. With this backdrop, the future course of Kenya's AIDS epidemic may depend on having prevention programmes focusing on PLWHA since a great proportion is in their reproductive age.

This would contribute to the wellbeing of their partners, families and communities at large. In Kenya, control of HIV and AIDS remains a major challenge with over 1.4 million people infected (7.1% of adults 15-64 years) while in Rift Valley Province 3.8% of the total population is infected (NASCOPI, 2013; NACC, 2013). Although HIV prevalence seems to have stabilized in Kenya, new HIV infections have been estimated at 166,000 annually (NACC, 2013). The larger Nakuru town currently in Nakuru County has been the worst hit town by the epidemic in Rift Valley Province with a HIV prevalence rate of 5% (Nakuru Health Plan, 2012/2013). In 2012, it had registered the highest number of HIV infected people and AIDS related deaths with a total of 17,541 HIV infected persons and 1,968 AIDS related deaths (NACC/NASCOPI, 2013). This has continued to be the most pressing community concern within this town with emerging and re-emerging infections (Nakuru Health Plan, 2012/2013).

According to KDHS 2012/13, majority of these HIV cases are in reproductive age group (15-49) which has a great implication on sexual and reproduction aspects of an individual like sexual desire, sexual behavior, fertility need, family planning practices and sexually transmitted infections (STIs) (Center for Strategic and International Studies, 2006). These implications may be influenced by aspects such as attitude, practice and

gender power relations which impacts on decision-making patterns all of which interact to regulate sexual and reproductive expressions (Shapiro & Sunanda, 2007) in ways that may promote or undermine prevention of HIV and AIDS.

### **1.2 Statement of the Problem**

There is an assumption that all clients that are on ARVs comply with their treatment. However, some clients may not be fully complying with their treatment but there is no data to prove it. This has prompted the researcher to carry out this research in order to get the reality.

With the increased access to ART, there is likelihood of many PLWHA living longer which may play a big role in increasing the HIV incidence. PLWHA still indulge in risky sexual and reproductive behaviors which indicate non-compliance to HIV/AIDS management. These sexual and reproductive behaviors are characterized by having multiple sexual partners, low condom use, fertility intentions, non-disclosure of HIV status and non-use of birth control methods. This makes PLWHA to be highly susceptible to transmitting the virus leading to new infections as their immune system and health status improve. Little is known about their sexual behavior and fertility desires to inform evidence-based intervention. There is also almost no documented discussion on the ability of PLWHA to successfully take a HIV preventive action especially in Kenya. This is because past researches on HIV prevention programs have been primarily on HIV negative persons who have embraced behavioral change. It is therefore more prudent for HIV prevention programs to focus attention on the minority who are HIV positive than the majority who are HIV negative.

### **1.3 Justification**

With the advent of new treatment, there is need to focus on prevention with positives which started in United States of America but little known in Kenya especially in aspects of compliance to HIV/AIDS management among PLWHA where crucial gaps still seem to exist. These gaps are in terms of attitudes and practices of sexual and reproductive behaviors; barriers to safe sexual and reproductive behaviors and decision-making on sexual and reproductive behaviors and their implications on PLWHA ability to adopt a safe HIV preventive action. If they have high compliance to HIV/AIDS management interventions, this might mean reduced cases of new HIV infections and re-infections and vice versa. A lot of financial and human resources are being used by the government to prolong the lives of PLWHA in order to maintain the work force of the country but if there is no good compliance to treatment, then these people will die early, hence a great loss to the country. With this backdrop, there is need for a comprehensive research to assess compliance to HIV/AIDS management among PLWHA by analyzing how PLWHA manage the disease and their sexual and reproductive behaviour.

## **Research Objectives**

### **1.4.1 Broad Objective**

To determine the factors affecting compliance to HIV/AIDS treatment among PLWHA attending comprehensive Care Clinic at the Rift Valley Provincial General Hospital, Nakuru.

### **1.4.2 Specific Objectives**

- i. To assess the influence of socio-demographic characteristics of PLWHA on compliance to HIV/AIDS treatment.
- ii. To determine the relationship between attitude towards sexual and reproductive behaviours by PLWHA and compliance to HIV/AIDS treatment.
- iii. To establish the influence of sexual and reproductive practices of PLWHA on compliance to HIV/AIDS treatment.

## **LITATURE REVIEW**

### **1.5.1 Introduction**

This chapter highlights the HIV and AIDS situation in Kenya, prevalence of HIV epidemic by socio-demographic characteristics of PLWHA, sexual and reproductive behavior of PLWHA. It also relates this reviewed information to the ability to comply to a healthy HIV preventive action in order to identify gaps that justified this study.

### **1.5.2 HIV Prevalence**

HIV has been indeed a global crisis with an estimated 33.2 million people infected by the end of the year 2012 and 33.4million by year 2008, out of whom 22 million people (67%) were in Sub-Saharan Africa (UNAIDS, 2013; WHO, 2013 & UNAIDS, 2014). However, the annual number of new HIV infections has been

declining steadily and there are fewer HIV and AIDS related deaths due to the high intake of ARVs over the past few years. Nevertheless, the overall levels of new infections are high partly because of the increased number of PLWHA worldwide (UNGASS, 2010). Sub-Saharan Africa still seems to be the worst hit region globally with more women than men living with the virus. Although the rate of new infections has decreased due to the impact of HIV prevention efforts which have largely focused on behavior change among HIV negative people, the total number of PLWHA continues to rise.

Over two decades since the first AIDS case was detected in Kenya in 1984, HIV and AIDS still remains a huge challenge for the country to the extent of being declared a national disaster; however it has been declining. National estimates show that in 1997- 1998 the prevalence among adults (15-49 years) was 10% declining to 6.7% (KDHS 2003), 7.1% (KAIS 2007) and 6.3% (KDHS 2008/09, UNGASS, 2010). The estimated number of PLWHA is 1.4 million with new infections estimated at 100,000 in 2009 for adults (15 years and older) (NACC/NASCOP, 2010) with heterosexual sex cited as the primary form of transmission in the country. Nevertheless surveys by KAIS (2007) and KDHS (2008/09) show that the HIV prevalence has stabilized in the past few years. The decrease in prevalence coincided with the rapid expansion of preventive interventions since 2000 focusing on HIV negative persons, which resulted in a change in sexual behavior and the increased use of condoms. The decline has also been attributed to the large number of people dying from AIDS in Kenya, which totaled 150,000 in 2003 alone (UNGASS, 2010).

In Kenya, more than 500,000 people are now receiving ARV therapy. This implies that PLWHA will live longer with the disease hence putting other people at risk of getting infected since most of them are in their reproductive years and are sexually active. This may lead to an increase in new HIV infections hence thwarting gains so far made in pursuits of HIV prevention which have primarily focused on HIV-negative people. Hence the need for this research focusing on PLWHA to investigate their likelihood to comply to HIV/AIDS management interventions as they engage in sexual and reproductive practices.

In Rift Valley Province 3.8% of the total population is infected (NASCOP, 2013; NACC, 2012) with Nakuru having a HIV prevalence rate of 5% according to surveillance data from Rift Valley Provincial General Hospital. This HIV prevalence has reduced over the years as at 1999, the district was one with the highest HIV prevalence rates of 33% (UNAIDS/WHO, 2008). However, the scourge continues to be the most pressing community concern with emerging and re-emerging infections. Although HIV prevalence in Nakuru has declined, HIV and AIDS continue to be a great reproductive health concern (Nakuru Health Plan, 2008/2009). The infection rate in the district has been fuelled by unsafe sexual behavior, unsafe motherhood leading to MTCT, ignorance of facts, presence of slow behavioral change, family breakdowns and drug abuse especially illicit brews (Nakuru District Strategic Plan, 2005-2010). Other factors as reported by Kinyanjui on Daily Nation Newspaper dated 25th May, 2007, are marriages whereby, spouses stay far from each other due to employment or school which have led to cohabitation of people as well as low economic status of most people residing in Nakuru which has led to transactional sex among young girls and old men. All these factors can increase the spread of HIV as there are high likelihoods of engaging in risky sexual practices. These factors such as sexual behavior, alcohol intake and income levels are some of the variables that were investigated among the study population to shed light on their ability to use a safe sexual and reproductive practice.

### **1.5.3 Prevalence of HIV by Socio-demographic Characteristics**

HIV epidemic varies greatly across the socio-demographic groups and from one province to another. With regard to gender, differences in prevalence persist in all provinces, with women bearing a higher burden of HIV prevalence than men (KDHS 2008/09). This is shown by gender analysis by KAIS (2007) which indicated that women were twice as much (8.4%) infected with HIV compared to men (5.4%) where a similar pattern was also depicted by KDHS (2008-09) with women at 8% compared to men (4.3%). Further, KDHS 2008/09 revealed that the HIV prevalence among adults aged 15 to 64 years in rural areas was estimated 6.7 % compared to 8.4% among adults living in urban areas. However, given that the vast majority of people in Kenya (75%) reside in rural areas, the absolute number of HIV infections is higher in rural settings (1 million adults) than urban areas (0.4 million adults) (NASCOP, 2010).

According to education levels and HIV, KAIS (2007) shows that the HIV prevalence is lower among women with secondary or higher education (6.2%) than those with less education among women, the highest level is among those with incomplete primary education (9%), while among men, this group has the lowest level. Further, KAIS (2007) and KDHS (2008/09) report that HIV is more prevalent in PLWHA who are currently employed than those who are unemployed; 11% of employed women and 5% of employed men are HIV positive compared with 4% of women and 1% of men who are not employed. Similar patterns were also depicted by KDHS (2008/09) where results showed that Muslims have the lowest level of HIV infection (3%), and those who have no religion have the highest level [7%] (KDHS 2008/09).

A key characteristic of HIV epidemic in Kenya is the risk of infections among people in unions. This is supported by NASCOP (2010) in its latest edition on "AIDS in Kenya" which indicates that nearly half of all

new infections in 2008 were transmitted during heterosexual sex within union or regular partnership. It accounted for 44.1% of new infections, followed by casual heterosexual sex (20.3%) (UNGASS,2010). Studies done reveal that HIV prevalence by marital status is highest among widowed respondents (44.4%) and the lowest among those who had never been married (2.4%) while about 14.3% of respondents who are married or cohabitating are HIV positive (KDHS, 2008/09 & Centre for Prevention and Disease Control, 2009). Another study in Busia County, Kenya shows that PLWHA who had never married had a higher representation than other marital categories (Etyang, 2008). This reviewed literature shows the need to focus on PLWHA as key vulnerable populations in transmitting the virus. To achieve this, more research is needed on PLWHA to determine factors that are associated with the ability to comply to a healthy HIV preventive action.

#### **1.5.4 Sexual Practices of PLWHA**

Research shows that a large proportion of PLWHA engage in unprotected sexual relations with people of unknown or HIV negative status (Simbanyi, Kalichman, Strelbel, Cloete, Heda & Mgeketo, 2007). Nevertheless, Shapiro et al., (2007) in their study in New Delhi, India note that in many settings, PLWHA are expected not to have sexual lives, and their sexual needs may not even be considered. However it has been noted that the physiological improvement due to ARV drugs follows with the improvement of sexual activities of PLWHA and majority of them continue their normal sexual activities. It has been noted that the behavior change interventions have had an effect on behavior. For instance, KAIS (2007) reports that there was an increase in condom use, delay in sexual debut and reduction in number of sexual partners among PLWHA. Despite the change in behavior, PLWHA are still engaging in risky sexual and reproductive behaviours. In the context with PLWHA, risk arises from HIV-positive individuals engaging in risk-taking behavior for a variety of reasons; such as lack of awareness about possibility of re-infection, risks of other STIs, being unable to negotiate safe sex, or may not have access to condoms (Debeko et al., 2008). Also, KDHS 2008-09 points out this risky sexual behavior by reporting that among those who had sex in the last 12 months, 35% of men and 18% of women were likely to engage in higher-risk sex (sex with non-marital or non-cohabitating partners).

Other numerous studies also show that PLWHA engage in risky sexual and reproductive health practices. For instance, Oyebola (2009) in his study carried out in Nigeria reveals that risky sexual behavior remains a common practice among PLWHA. Along with this, Oyore (2009) in a study carried out in Nairobi, divulges that PLWHA have multiple concurrent sexual partnerships with a casual or commercial sex worker all of which are key factors in driving or escalating HIV epidemic. Similarly, another study done in Nairobi by Otieno (2008), shows that PLWHA after receiving a positive HIV diagnosis, continue to be sexually active and indulge in risky sexual behaviour; a situation that may accelerate the transmission of HIV and AIDS. Likewise, a study done in Mexico revealed that 87% continued to have sexual activity with 13% not disclosing their HIV status to their sexual partners but 65% of them were aware that they could transmit the HIV if they had intercourse (Debeko et al., 2008).

In South Africa, a study conducted among PLWHA showed that they are still susceptible to unprotected sex, despite wide spread health education. The study revealed that at baseline 48% and 84% at follow-up of sexually active PLWHA did not use a condom at their most recent vaginal intercourse (Oley et al., 2004). In Uganda, a study showed that PLWHA engage in sex with multiple partners. Out of 723 attending ART, 49% had sex in the preceding 6 months and 35% had other sexual partners whom the majority (86%) had at least 3 or more partners (Bategagya & Kityo, 2006). This confirms why sexual intercourse has been rated as the major (over 80%) way of HIV transmission through unprotected sexual intercourse and having multiple sexual partners (KAIS 2007; Stover et al., 2006; Ethiopia Public Health Association, 2005).

#### **1.5.5 Condom Use among PLWHA**

In today's world, condoms are a must as the threat of AIDS has reached alarming proportions (NASCOP, 2010). However, this has not been the case as a study by UNAIDS (2006), indicates that negative attitude towards condom use among PLWHA remains due to 'fatigue' of consistency and this could hinder efforts for prevention of HIV. Another research reported that some discordant couples do forgo condoms as they perceive that the HIV-positive partner's viral load is too low to permit transmission (Allan Gutmacher Institute [AGI], 2006) leaving them at risk of HIV and unintended pregnancy if no other contraceptive is used.

A study in Kilifi County, found that only 1% of married couples regularly used condoms (Papo, 2011). A study done in Addis Ababa showed that 74.9% of PLWHA used condom while one fourth did not use and were practicing risky sexual behavior. Out of those who reported condom use, 79.8% used it regularly, while 20.2% reported irregular use. The most common reason for non-use was partner's dislike for condoms (25.8%) while the most common reason for condom use was advice from health professionals (63%) (Debeko et al., 2008). Studies show that individuals tend to increase their condom use after learning their HIV status. However, correct and consistent condom use over long periods is difficult for most people, who may experience prevention 'fatigue' (AGI, 2006). A study done by UNAIDS (2006) worldwide found that PLWHA do not use

condoms since their partners are HIV infected while others refuse to use them. Similarly, a study done in Togo by Moore et al., (2007) found that because sexual behavior involves complex dynamics, condom use is not an easy option for many PLWHA despite years of condom distribution intervention. In fact, the complex nature of sexuality complicates efforts to combat HIV spread and limits the effectiveness of many prevention efforts. This may lead to spread of HIV and AIDS especially when they engage in risky sexual behavior.

It has been noted that levels of condom use are lower as the degree of intimacy and stability of the relationship becomes greater. This is seen in a study done in Nairobi that showed that the rate of condom use declines in PLWHA after some time as they become used to each other in their intimate sexual relationships (Oyore, 2009). This may pose a risk of transmitting HIV virus to the sexual partners or even having re-infections. Thus, using condoms demands communication and negotiation. This is evident in some studies which provide a more encouraging picture in terms of women's ability to influence men's sense of sexual risk and condom use. Women view the female condom as a means of enhancing their safer sex bargaining power within the relationship as they feel more in control (Welbourn, 2006). Since HIV is spread primarily through unprotected sex, safe sex practices such as condom use can reduce HIV spread significantly (AGI, 2006). Use of condom was investigated among the study population which gave insight on the consistency of use and its barriers.

### **1.5.6 HIV Disclosure by PLWHA**

HIV disclosure has remained at low levels in Kenya. This is supported by findings by KAIS (2007) which indicate that very few respondents (35%) are aware of the HIV status of their sexual partners with 78% reporting a sexual partner of unknown HIV status (NASCO, 2007). Another study done in Mombasa showed that only 37% of the respondents disclosed their HIV status to the sexual partners (Sarna et al., 2009). This lack of information about one another's HIV status increases the risk of HIV infection and re-infection. It has been shown that disclosure of HIV- status to partners promotes safer sex through increased condom use (Allen, Zulu & Fideli, 2003) which may prevent spread of HIV and AIDS. This knowledge of a sexual partner being HIV infected may help individuals make well-informed decisions regarding their sexual and reproductive behaviour. Disclosing HIV-positive results to sexual partner(s), allows people to engage in preventive behaviour which ultimately decreases transmission of HIV (Amberdir, Deribe, Haile, Woldemichal & Wondafrash, 2008).

### **1.5.7 Reproductive Behaviour of PLWHA**

#### **1.5.7.1 Desire to Have Children among PLWHA**

Procreation is a basic human instinct and expectedly, HIV-affected couples also desire to have children (Zubairu, 2009). This could be related to dominant social norms, which continue to view reproduction as an integral part of women's lives. It has been shown that PLWHA still desire to have children which fulfills their sexual and reproductive rights, including the ability to decide if and when to have children. This has been due to the availability of ART which has greatly improved the possibility of PLWHA to have children through the PMTCT programmes as they believe that they will live long to take care of the children (Ayiga, 2008; CSIS, 2006). Generally, HIV-positive individuals who desire children are younger and have fewer children or no children as compared to their counterparts who do not desire children (Debeko et al., 2008). Literature shows that more PLWHA being in their reproductive years continue to want children after learning their positive status; they also ponder whether to start a family or to have more children (Boston Conference report, 2010).

It has been revealed that among discordant couples, the desire for pregnancy has been shown to outweigh concerns about horizontal transmission. This has been seen to be influenced by significant others. A research in Brazil suggested that in some settings due to cultural norms, HIV-positive men are more likely to want children than HIV-positive women (Boston Conference report, 2010). Thus to meet this need, some of HIV-positive people engage in unprotected sex while attempting to have children (Debeko et al., 2008; Moore et al., 2007). PLWHA usually have children for varied reasons such as desire to "leave something of themselves behind" as shown in a study in Kenya on PLWHA (CDC, 2009).

Other studies in Cote d'Ivoire and South Africa have demonstrated that some women want to become pregnant precisely to avoid the stigma associated with childlessness. There is also the implied interpretation that avoiding a pregnancy is like a pronouncement of being HIV-positive (Cooper et al., 2009). At the same time, studies show that women may not want to become pregnant for fear of potential HIV infection in their children or the fear that these children may be orphaned (Segurado et al. in Boston Conference Report, 2010). HIV-positive women have also expressed concern that, once pregnant, they may be more vulnerable to violence, backlash and abandonment by their partners, family and community (Birungi, 2009; Cooper et al., 2009). Therefore spousal, family, community and cultural influences greatly shape HIV-positive women's desire for children (Boston Conference Report, 2010). The fact that many HIV-infected adults desire and expect to have children might have important implications for the prevention of vertical and heterosexual transmission of HIV.

So the importance of children ever born after testing HIV positive cannot be understated and this is what the study sought to investigate.

### **1.5.7.2 Barriers to Safe Sexual and Reproductive Practices**

Research has demonstrated that key to the household's response when struck by HIV is not the women's, but their spouses' reaction to the new crisis in the family. Studies by WHO (2006) and Commission of HIV and AIDS and Governance in Africa [CHGA] (2004), reveal that the struggles for equality begin in the family which is also the primary site for stigmatization, discrimination, violence and abuse against women like being considered vectors of HIV transmission to their children. This is worsened by their inability to control their sexual and reproductive health which is always hampered by the cultural norms that subject them to harmful sexual and reproductive practices. Evidence shows that women who are HIV positive fear seeking information on sex and buying or negotiating for condom use because they will be labeled sexually active (General Assembly Report, 2008) reducing their ability to successfully take a healthy sexual and reproduction action. On the contrary, men are socially and culturally accepted to have more sexual partners in their lifetime as opposed to women (Oyore, 2009). Bearing in mind that it has been found that generally, there is perceived unwillingness of men to have protected sex, women are at risk of HIV infection or re-infection. This is worsened by the lack of female-controlled methods for preventing HIV transmission during sexual intercourse. The female condom which has been seen as a possible tool for HIV prevention that women themselves can have control of and use, is still too expensive and in too short supply to be widely available. Still it requires a similar kind of negotiation as using the male condom, and may not be the solution to gender power relations issues (CHGA 2004).

The challenges for most of PLWHA are using condoms consistently and finding a suitable sexual partner (preferably someone who is HIV positive) who could agree to have a sexual relationship with them and provide for their material needs (Wamoyi et. al., 2011). Likewise, engaging in sex under the influence of alcohol can impair judgment, compromise power relations, and increase risky sexual behaviour (KDHS 2008/09). The use of alcohol or drugs is related to sexual behaviour that is high risk for HIV infection. If substance use leads to unsafe sexual activity, it can be a factor influencing the ability of taking a HIV preventive action. Hence understanding the dynamics of this relationship can contribute to preventive efforts to contain the spread of HIV and AIDS. The vulnerability this leads to is particularly emphasized by the fact that marriage and other relations do not protect women against HIV. If the man has multiple partners and does not use a condom, his female partner is vulnerable, even if she is faithful (CHGA, 2004) or risks re-infection. Evidence from a study done in Uganda by Nakawiya (2006) found that many women who have tested HIV-positive continue to breastfeed their infants for fear of being ostracized and isolated. This puts the children in danger of contracting HIV through MTCT. The presence of such barriers to safe sexual and reproductive practices was investigated among the study population in order to determine if they influenced their likelihood of taking a healthy sexual and reproductive action.

### **1.5.7.3 Decision-making on Sexual and Reproductive Behaviour**

Often social norms restrict women from making decisions about their sexual relations, hence putting them at risk of HIV. This is because whereas both partners should be able to negotiate their own abstinence, faithfulness or condom use, in reality it is men who make these decisions. Consequently, the women particularly young women and adolescents lack control of their own bodies hence lack control over their own sexuality (CHGA 2007). On the other hand reproductive decision-making among PLWHA seems to be made by significant others. This is supported by a study done in Kabale, Uganda which showed that community members advise their male and female relatives who are HIV positive to refrain from having children in the event that they test positive and would die prematurely (Kakaire et al., 2010). Similarly Boston Conference Report (2010) posit that a decision to become pregnant is not only a personal choice but subject to family and community pressures, stigma and discrimination as well as healthcare providers which may weigh heavily on a woman's decision on intention to have a child. Thus, reproductive decision-making among PLWHA appears to be influenced by classical determinants that may not be related to HIV status (Sowell, Murdaugh, Addy, Moneyham & Tavokoli, 2002).

Further, presentations in Boston Conference 2010 reveal that while some women may make individual choices about pregnancy, many are likely to think about pregnancy in the context of their relationship with a partner. However, men may lack the information necessary to make informed decisions about fertility desires as information about PMTCT is rarely targeted or made available to men. Likewise, power imbalances in some sexual relationships may prevent women from insisting on condom use, even though they remain the only "dual function" contraceptive method to prevent both pregnancy and HIV infection (Boston Conference Report, 2010). Hence, women living with HIV face difficulties in making decisions regarding childbearing. However, despite the risks and challenges, many of them are deciding to bear children (Bunnel et al., 2005 cited in Boston

Conference Report, 2010). Thus decision making on matters of reproduction among PLWHA constituted an area of concern to the researcher.

### **1.5.8 HIV Prevention with Positives**

HIV prevention with positives is about PLWHA recognizing that they have a key role in controlling the HIV epidemic by avoiding transmitting the virus to others. This can be achieved by disclosing their HIV status to their sexual partners and also having safe sex through use of condoms (International HIV/AIDS Alliance, 2003). Over the years, HIV/STI prevention strategies have often failed to address the distinct prevention needs of people with HIV and to acknowledge their significant efforts to avoid infecting others as efforts have been directed to their medical needs. Historically, HIV prevention programmes have focused on reducing HIV acquisition risk among those not infected or those with unknown HIV status rather than on reducing transmission risk from those already infected (CDC, 2009). This reluctance to work on HIV prevention with people with HIV has been because of perceptions that the concept of prevention for people already infected is inherently contradictory (International AIDS Alliance, 2003) as it may seem to add stigma. The advent of new treatments for HIV infection heightens this need for positive prevention as more people are living with HIV than ever before. The increased access to ART results to PLWHA living longer and having healthier lives, raising concerns of a potential increase in transmission risk from HIV-infected persons (Puren, Males, Carael & Williams, 2004). So, strategies for positive prevention should aim at supporting people with HIV to protect their sexual health, to delay HIV and AIDS disease progression and to avoid passing their infection on to others (International AIDS Alliance, 2003).

This concept endorses the right of PLWHA to have a healthy sexual life and also to acknowledge that they have a crucial role in controlling the HIV and AIDS epidemic and avoiding transmitting HIV to others, while also preventing re-infection among themselves (Shapiro et al., 2007). Bearing in mind that HIV infection and disease occur after exposure and transmission of the virus from an infected person, PLWHA will always have an essential role to play in preventing new infections (Boston Conference Report, 2010). This calls for a need to focus on PLWHA in order to prevent HIV. This study focused on PLWHA and analyzed their socio-demographic characteristics and sexual and reproductive behaviour with the implication of their ability to adopt a safe HIV preventive action.

### **1.5.9 Understanding Compliance**

According to Bandura (1994), compliance is a person's ability to succeed in a particular situation or activity. These actions are determinants of how people think, behave and feel. He demonstrated that perceived compliance is an operative construct, that is, it is related to subsequent behaviour and therefore relevant for behaviour change. He asserted that people with a high compliance view challenging situations as tasks to be mastered, develop deeper interests in activities in which they participate and form a strong sense of commitment to these activities. On the contrary, people with weak compliance avoid challenging tasks as they believe they are beyond their capabilities. This study conceptualized this concept to refer to ability of PLWHA to adopt a safe HIV preventive action. The study sought to investigate compliance in HIV prevention among PLWHA in order to assess their capability in adopting successfully a healthy HIV preventive action.

## **II. METHODOLOGY**

### **2.1 Study Area**

The study was conducted in Rift Valley Provincial General Hospital, Nakuru, Comprehensive Care Clinic (CCC) located in Nakuru town of Nakuru County, Kenya. It is the largest referral hospital in the county. The area lies along the Mombasa-Nairobi- Busia transit corridor which has contributed to the high HIV prevalence in the area since commercial sex trade is rampant in all the towns along the highway. The CCC in this health facility is both a diagnostic and treatment center for HIV/AIDS.

### **2.2 Research Design**

The study adopted a cross-sectional survey research design which deemed appropriate because according to Mugenda and Mugenda (2003) and Gall, Borg and Gall (1967), survey research seeks to obtain information that describes existing phenomena by asking individuals about their perceptions, attitudes, behaviour or values and social conditions and relations at one point in time. This survey design was thought to be useful because of its convenience in collecting extensive data from a large sample of respondents within a short time (Miller, 1991).

### **2.3 Study Population**

The target population comprised persons living with HIV, who already knew their status and were registered and attended the CCC at Rift Valley Provincial General Hospital and who were purposely enrolled in the study and thought to be highly susceptible in transmitting HIV through sexual contact.



## **2.4 Sampling Techniques**

From total of 240 eligible and willing clients that were listed in the CCC register, 30% (72) were enrolled and purposely surveyed during the study.

## **2.5 Sample Size Determination**

The study used 30% of the accessible population (240) as the sample for the study following Mugenda and Mugenda (2003) who suggested that 30% of the target population was appropriate for most survey, hence the sample of 72 respondents.

## **2.6 Data Collection Techniques**

Primary data was collected using semi-structured interview schedules. Pre-testing was done before the actual study in order to sharpen the data collection tool. After the respondents were selected, a face-to-face interview was conducted with each respondent after seeking informed consent for participation, followed by an explanation of the purpose of the study. During the interview, notes were taken and the responses recorded verbatim in the prepared interview schedule guide. The interviews were conducted English, Kiswahili or local language based on respondent's preference.

## **2.7 Inclusion Criteria**

The inclusion criterion was PLWHA registered in the CCC at Rift Valley Provincial General Hospital who consented to participate in the study and who were within the reproductive age 18-49 years.

## **2.8 Exclusion Criteria**

The exclusion criterion was PLWHA who were not registered in the CCC at Rift Valley Provincial General Hospital, Nakuru, and other clients who were not HIV positive and those who did not consent or were below 18 years or above 49 years.

## **2.9 Ethical Considerations**

The study was approved by the Ethics Review Committee of Egerton University. Clearance to collect data was obtained from the County Secretary in-charge of Health Services in Nakuru County and the Medical Superintendent of Provincial General Hospital, Nakuru. Participants were requested to give informed verbal consent to be interviewed. All the information received was treated with a high degree of confidentiality.

## **2.10 Data Processing and Analysis**

The qualitative and quantitative data collected was sorted and coded then entered into the Statistical Packages for Social Sciences (SPSS) Version 21. Descriptive statistics was used to show the relation between the independent and dependent variables.

## **2.11 Constraints and Limitations**

The researcher could not dictate the number of clients who would timely turn out to the clinic during the period of the study. There was minor negative and none supporting attitude from some staff working at the CCC but thankfully this did not influence data collection process.

## **III. RESEARCH FINDINGS and DISCUSSIONS**

### **3.1 Response Rate**

Out of the 72 issued questionnaires, 60 questionnaires representing 83.3% of the total questionnaires distributed were fully completed, while 12 questionnaires were improperly filled, representing 16.7% of the total questionnaires distributed to the respondents. It can be inferred that the response rate was good. According to Mugenda and Mugenda (2003) a response rate of 70% and over is excellent for analysis and reporting on the opinion of the entire population.

**Table 3.1:** Response Rate

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Properly filled in questionnaires	60	83.3%
Improperly filled in questionnaires	12	16.7%
<b>Total</b>	<b>72</b>	<b>100.0</b>

### **3.2 Socio-Demographic Characteristics of the Respondents**

Table 3.2 below shows the demographic characteristics of the respondents.

**Table 3.2:** Demographic Characteristics of Respondents

Demographic Factor	Category	Frequency	Percentage (%)
<b>Gender</b>	Male	23	37.7%
	Female	37	62.3%
<b>Age</b>	30 Years or Younger	9	15.1%
	31 – 40 Years	25	42.3%
	41 – 50 Years	21	34.7%
<b>Residence</b>	Urban	15	25.5%
	Peri-urban	20	33.5%
	Rural	25	41.0%
<b>Marital Status</b>	Married	27	45.6%
	Divorced/Separated	13	21.8%
	Widow/Widower	12	20.5%
	Single	8	12.1%
<b>Level of Education</b>	Primary	36	60.3%
	Secondary and above	21	34.7%
	No formal education	3	5.0%
<b>Employment Status</b>	Casual worker	29	49.0%
	Business/self employed	22	36.8%
	Permanent Employment	5	8.8%
	Unemployed	4	5.4%
<b>Average Monthly Income (Ksh)</b>	Below 5000	31	51.3%
	5001 – 10,000	17	29.2%
	Above 10,001	12	19.5%
<b>Religion</b>	Protestant	26	43.9%
	Catholic	25	42.3%
	No religion	7	11.7%
	Muslims	2	2.1%
<b>Duration since testing HIV positive</b>	1 month – 1 year	12	20.3%
	2 – 3 years	15	24.9%
	4 – 5 years	14	25.3%
	6 years and above	19	29.5%

Gender is a variable that is important in sexual and reproductive behavior and HIV and AIDS management due to gender power relations. The results of distribution of respondents by gender as presented in Table 3.2 showed that 62.3% of the respondents were females and the rest (37.7%) were males. The findings were in line with KAIS (2007) which revealed that women had a higher prevalence rate than men which is almost two times; 8.4% against 5.4% respectively. This gender disparity could have been explained by the fact that females tend to engage in reproductive activities in an earlier age than their male counterparts. The earlier entry of females into reproduction could be explained both biologically and culturally. This is because females reach menopause at the age of 49 years while males remain sexually active for the rest of their lives. Hence, females seeking medical attention and psychosocial assistance in support groups and other organizations dealing with HIV related issues are highly likely to be more than their male counterparts.

Age is an important demographic variable in sexual and reproductive behavior with great implication on prevention of HIV. The results presented in table 3.2 show that a large proportion (42.3%) of the respondents were aged between 31 and 40 years. This may have great implication on their sexual and reproductive behavior which may influence their ability to take a HIV preventive action. This distribution was in line with the national statistics where large proportions (18.6%) of those who are HIV positive fall in the age category of 30-39 years (KDHS, 2008/09).

From the findings in Table 3.2, it can be deduced that a large proportion of the respondents (41.0%) were from a rural setting followed by peri-urban (33.5%) and urban setting (25.5%). These findings were consistent with the national figures which showed that due to the vast majority of people in Kenya (75%) residing in the rural areas, the absolute number of HIV infections is higher in the rural settings (1 million adults) than urban areas (0.4 million adults) (NASCO, 2010).

Marital status was another key demographic variable that was examined among PLWHA as it influences sexual and reproductive behaviour which might have greater implication on one's adherence to HIV treatment. Results in Table 3.2 shows that a large proportion (45.6%) of respondents was married. The distributions across the marital groups were supported by Ayiga (2008) whose study shows a high representation of married persons (56.0%) among PLWHA in Uganda. On the contrary, this contradicted results of KDHS (2008/09) on the general populace which shows a high proportion (44.4%) of HIV infection among the widowed category with the lowest among those who had never been married (2.4%). From the findings, it could be deduced that a slightly more than half of the respondents (54.4%) was dominated by individuals who were not living with their sexual partners. Since majority of the respondents were within the reproductive age group, this

could have put unborn children and other people especially their sexual partners susceptible to HIV infection and re-infection. This is because being HIV positive does not obliterate them from sexual and reproductive desires. This might have had implications on adherence to HIV treatment by PLWHA.

Level of education of an individual is highly associated with knowledge about management of HIV and AIDS and especially HIV transmission (KDHS, 2008/09). This may influence decision-making on one's sexual and reproductive practices which may have greater implications on one's adherence in HIV treatment. Results on level of education of the respondents are presented in Table 3.2. The findings revealed that majority of the respondents (60.3%) had primary level of education with almost two thirds of the respondents (65.3%) having primary level of education or no formal education at all. This was consistent with KDHS (2008/09) results which show that a large proportion (14.5%) of the general populace infected with HIV was primary school graduates with 5.7% having no formal education and 5.1% with secondary or higher education. This meant that any programme targeting PLWHA in the study needs to pay special attention to this diversity in education level with a view to attending to their unique needs.

Occupation is an important determinant of socio-economic status and livelihood of an individual which might have an influence on an individual's sexual and reproductive behavior. Table 3.2 indicates that nearly half (49.0%) of the respondents were casual workers employed in flower farms and coffee plantations or unskilled farm workers. Slightly more than a third (36.8%) of the respondents were engaged in self-employment. Such businesses included having green grocer kiosks, selling farm produce like milk, selling charcoal, firewood, keeping small shops with general merchandise and a few others were commercial sex workers (mainly self-reported females). Some of these income-generating activities such as selling charcoal, milk or firewood were support group/organization initiatives the respondents benefited from. Only 8.8% were permanently employed while 5.4% of the respondents were unemployed. This means that over 90% of the respondents were in some kind of employment while only 5.4% were not engaged in employment. This finding was supported by KAIS (2007) and KDHS 2008/09 which reported that HIV is more prevalent in PLWHA who are currently employed than those who are unemployed.

The study also sought to investigate the average monthly income levels of the respondents. However, the study did not establish the household income levels as most of the respondents could not be able to give estimates. This was because some of the respondents did not know how much their spouses/partners or their parents (for those who were staying with their parents) earned. The results in Table 3.2 reveal that slightly over half of the respondents (51.3%) were earning a monthly income of below Ksh. 5,000. A gender analysis of the results showed that a large proportion of males (61.4%) had an average monthly income of Ksh.10, 001 or more. On the contrary, slightly more than two thirds (69.8%) had an average monthly income Ksh.5, 000 or less. This meant that there were comparatively more females than males in the lower income groups implying higher poverty levels among female respondents. From the study, majority earned below Ksh. 5,000; this could not have been enough to cater for their households' basic needs and medical expenses. This financial challenge could have made the respondents to be vulnerable to risky sexual and reproductive behaviors. Consequently, this could have facilitated HIV infection and re-infection.

Religion has been known to influence reproductive behavior through use of birth control methods. The results in Table 3.2 present the distribution of respondents by religious affiliation. It was deduced that a higher proportion (43.9%) of the respondents were Christians of protestant affiliation. This was consistent with national statistics in Kenya on HIV prevalence by religious affiliation that show a high incidence of HIV among Christians (12.5%). This could be explained by the fact that Christians are around 90% with Muslims being 6.8% (KDHS, 2008/09). The higher representation of those indicating non-affiliation to any religious group could be explained by the stigma associated with HIV. This could have made some to shy away from indicating their religion for fear of being ostracized. And the low representation of Muslims among the respondents was considered adequate given that Muslims were fewer in the study area. This could have been attributed by the fact that though they were usually infected, they rarely joined support groups.

Duration since testing HIV positive could be a key variable in being able to take a healthy HIV preventive action. The study investigated the duration since testing HIV positive prior to the time of the study. The results in Table 3.2 revealed that a large proportion (29.5%) of the respondents had tested HIV positive 6 years and over prior to the time of study. Thus, there was a good representation of PLWHA between one and six or more years since testing HIV-positive. This provided better relations with selected variables under study and adherence to HIV treatment by PLWHA which was the key area of focus.

### **3.3 The Relationship between Attitude towards Sexual and Reproductive behaviors by PLWHA and Compliance to HIV/AIDS Treatment.**

HIV infection may change one's attitude towards sexual and reproductive behavior. This is due to the stigma associated with the disease which may influence one's ability to take a safe HIV preventive action. The

study assessed respondents' attitude towards the virus, HIV negative people as well as attitude towards sexual and reproductive behaviour.

### 3.3.1 Respondents' Attitude towards HIV Epidemic

The respondents' attitude towards HIV epidemic was assessed by asking them three items which were measured on a three level Likert scale. The findings are presented in Table 3.3.

**Table 3.3:** Respondents' Attitude towards HIV

Attitude Items	Responses (n = 60)		
	Agree Freq./ %	Not Sure Freq./ %	Disagree Freq./ %
Regret having contacted HIV/AIDS	(58.8%)	(2.5%)	(38.7%)
It is tough living with HIV/AIDS	(57.0%)	(8.0%)	(35.0%)
HIV is better than terminal illness	(54.2%)	(16.1%)	(29.7%)

The results show that a large proportion (58.8%) of respondents regretted having contracted HIV and (57.0%) found living with HIV very tough. They reported that by virtue of being HIV positive, one was viewed as having led a promiscuous life. This did not augur well with the female respondents especially married ones as some claimed that they contracted the disease or infection from their husbands. Slightly more than half (54.2%) reported that HIV was manageable compared to terminal illnesses such as cancer or diabetes. They expressed views that those who had cancer or diabetes were usually given a specific period to live as opposed to PLWHA who lived with the virus. They felt that as long as they adhered to the doctors' instructions such as being ARVs adherent, eating quality food, having sex while using a condom and consulting the doctor when one desires to conceive, respondents could live longer just like HIV-negative people.

For further analysis, the three responses were assigned scores of 1, 2 and 3 where the negative responses were scored as 1 for 'agree', 2 for 'not sure' and 3 for 'disagree' and for positive responses the reverse applied. The lowest score expected was 3 and highest 9. After computation, it was found that more than half of the respondents (57.7%) had a negative attitude towards HIV epidemic while 42.3% had a positive attitude. This high negative attitude could have influenced their ability of following HIV treatment actions.

### 3.3.2 Respondents' Attitude towards People with HIV-negative Status

PLWHA may isolate themselves from others within the community and especially people with HIV-negative status as they may feel stigmatized and discriminated against. The study assessed the respondents' attitude towards people with HIV-negative status by asking them six Likert items measured by a three level scale; 'agree', 'not sure' and 'disagree'. The findings are presented in Table 3.4.

**Table 3.4:** Respondents' Attitude towards HIV Negative People

Attitude Items	Responses (n = 60)		
	Agree %	Not Sure %	Disagree %
Am reluctant to live with HIV negative people in the same community	(14.0%)	(16.9%)	(69.1%)
Dislike being in a group of HIV negative people	(28.3%)	(6.8%)	(65.0%)
Feel envious towards other people who are HIV negative	(20.7%)	(16.5%)	(62.9%)
Reduce my contact time with other people who are HIV negative	(58.1%)	(5.1%)	(36.9%)
Feel discriminated by HIV negative people	(43.6%)	(16.7%)	(39.7%)
PLWHA are not able to mix with others in the community freely	(18.4%)	(24.3%)	(57.3%)

The results indicate that slightly more than two thirds (69.1%) of the respondents were willing to live among people whom they perceived as being HIV negative while 65.0% did not have issues when in a group of HIV negative people. Also, 62.9% reported that they were not envious about those they perceived as being HIV negative. More than half of the respondents (58.1%) reduced their contact time with other people whom they perceived as being HIV negative. This was due to the kind of utterances the HIV negative people made about PLWHA. Slightly less than a half of the respondents (43.6%) felt that they were discriminated against by HIV negative people such as their families, the church and in social gatherings. Some reported that their immediate family members did not allow their children to mix with the children of PLWHA. Others cited that they had been shunned from visiting their rural homes.

Further the responses of the six items used to measure respondents' attitude towards HIV negative people were given scores of 1 for 'agree', 2 for 'not sure' and 3 for 'disagree'. The items were negatively stated hence the reason why the highest score of 3 was assigned to 'disagree' and the lowest score of 1 assigned to

‘agree’. The minimum score expected was 6 while the maximum score expected was 18. Those who scored between 6 and 12 were considered to have a negative attitude towards HIV negative people while those who scored between 13 and 18 were considered to have a positive attitude. After computation, the results showed that a large proportion of the respondents (63.0%) had a positive attitude on HIV negative people while 37.0% held a negative attitude. This high positive attitude of HIV negative people could have meant that the respondents were living positively and did not harbor self (internal) stigma.

### 3.3.3 Respondents’ Attitude towards Sexual Behaviour

Attitude towards sexual behaviour among PLWHA is an important aspect which may have far reaching implications on HIV treatment. This was assessed by asking the respondents their attitude towards a set of items related to sexual behavior on aspects of abstinence, faithfulness and condom use. These items were measured by a three level Likert scale which comprised ‘agree’, ‘not sure’ and ‘disagree’. The findings are presented in table 3.5 below:

**Table 3.5: Respondents’ Attitude towards Sexual Behavior**

Attitude Items	Responses (n = 60)		
	Agree %	Not Sure %	Disagree %
PLWHA should abstain from sex.	(26.1%)	(2.1%)	(71.8%)
PLWHA should be faithful to their sexual partner.	(90.8%)	(1.7%)	(7.5%)
Using condoms is necessary for PLWHA.	86.6%	1.7%	11.7%
PLWHA should disclose their HIV status to every sexual partner they have.	26.7%	5.1%	68.2%
PLWHA should not have sex with many partners.	87.0%	7.5%	5.5%
Buying of condoms is embarrassing for PLWHA.	29.7%	10.5%	59.8%
Condoms diminish sexual pleasure.	76.6%	7.1%	16.3%

The results in Table 3.5 revealed that a large proportion of the respondents (90.8%) felt that they should be faithful to their sexual partners. This was supported by the large proportion of the respondents (87.0%) who felt that PLWHA should not have multiple sexual partners. Likewise, a large proportion of the respondents (86.6%) felt that condoms were necessary for PLWHA when engaging in sexual intercourse. However, slightly more than three quarters of the respondents (76.6%) acknowledged that condoms reduced sexual satisfaction. This negative attitude towards condoms was in line with results by UNAIDS (2006) which indicated that negative attitude towards condom use among PLWHA remained due to ‘fatigue’ of consistency. The findings also showed that majority of the respondents (71.8%) felt that PLWHA should not abstain from sex. Further, slightly more than two thirds of the respondents (68.2%) felt that they should not disclose their HIV status to every sexual partner they had sex with. This could be a hindrance in the pursuit of HIV prevention. In addition to this, more than half of the respondents (59.8%) felt that buying of condoms was not embarrassing. This was a good motivator of taking a healthy HIV preventive action as they did not view buying of condoms as being associated with promiscuity.

Further, the seven items used to measure respondents’ attitude towards sexual behavior, were assigned scores of 1 for ‘agree’, 2 for ‘not sure’ and 3 for ‘disagree’ respectively for negatively stated items while the reverse was done for the positively stated items. The minimum score expected was 7 while the maximum score expected was 21. Those who scored 7-14 were considered to have a negative attitude towards sexual behavior while those who scored 15-21 were considered to have a positive attitude. After computation, the results showed that a larger proportion of the respondents (86.6%) had a positive attitude towards sexual behavior while 13.4% held a negative attitude. This high positive attitude on sexual behavior could have explained why PLWHA were still sexually active even after testing HIV positive.

### 3.3.4 Respondents’ Attitude towards Reproductive Behaviour

Attitude towards getting children is an important aspect among PLWHA which may have great implications on HIV prevention. This was assessed by asking the respondents their attitude towards a set of items related to reproductive behavior on aspects of children and birth control methods. These items were measured by a three level Likert scale which were ‘agree’, ‘not sure’ and ‘disagree’. Table 3.6 below presents the findings.

**Table 3.6: Respondents Attitudes towards Reproductive Behaviour**

Attitude Items	Responses (n = 60)		
	Agree %	Not Sure %	Disagree %
PLWHA should have more children if they desire.	64.4%	7.1%	28.5%

PLWHA should use birth control methods to avoid a pregnancy.	90.7%	5.9%	3.4%
Use of birth control methods to avoid pregnancy is ungodly.	10.9%	47.5%	41.6%
Birth control methods reduces sexual urge.	52.7%	23.8%	23.4%

The results in Table 3.6 revealed that a large proportion of the respondents (90.7%) felt that they should use birth control methods to avoid a pregnancy. Despite the fact that the respondents felt PLWHA should use birth control methods, almost two thirds of the respondents (64.4%) had the opinion that they should have children if one desired. Nonetheless, slightly more than a half of the respondents (52.7%) felt that birth control methods reduced sexual satisfaction. Interestingly, 10.9% of the respondents held a misconception that birth control methods are ungodly. This could have influenced the respondents' use of birth control methods leading to unplanned pregnancies which might predispose the child to vertical transmission of HIV.

Further, the responses of each of the four items used to measure attitude towards reproductive behavior were assigned scores of 1, 2 and 3 for 'agree', 'not sure' and 'disagree' respectively for negatively stated items while the reverse was done for the positively stated items. The minimum score expected was 3 while the maximum score expected was 9. Those who scored between 3-8 were considered to have a negative attitude towards reproductive behavior while those who scored more than 9 were considered to have a positive attitude. After computation, the results showed that two thirds of the respondents (66.5%) had a positive attitude towards reproductive behavior while 33.5% held a negative attitude.

For the purpose of further analysis of relationships and predictions, the overall perception of the respondents on the four aspects, that is, HIV and AIDS, HIV negative people, reproductive behaviour and sexual behaviour was calculated based on the overall perception of each aspect. A score of 1 and 2 were assigned to the negative and positive perceptions respectively of every aspect assessed and for every respondent. The minimum score a respondent could attain was 4 and the maximum 8. The overall perception was categorized as 4-6 as negative overall perception and 7-8 as positive overall perception as presented next. After computation, the study established that more than half of the respondents (54.8%) had an overall positive attitude towards HIV epidemic, HIV negative people, sexual and reproductive behaviour while 45.2% held a negative attitude. This high overall positive attitude towards the four aspects could have influenced the respondents' sexual and reproductive practices with an implication on their ability to take a healthy HIV preventive action. On the contrary, those harboring an overall negative attitude towards the four aspects could have prevented them from taking a healthy HIV preventive action by adhering to treatment, hence facilitating transmission of new cases of HIV infections and re-infections.

### **3.4 Sexual and Reproductive Practices of PLWHA and their influence on HIV/AIDS Treatment Adherence**

This study sought to investigate the sexual and reproductive practices of PLWHA after testing HIV positive to establish whether they engage in risky sexual practices with great implication on their adherence to HIV/AIDS treatment.

#### **3.4.1 Number of Sexual Partners**

Number of sexual partners is a major risk factor in transmission of HIV. In the study, number of sexual partners was assessed by asking respondents to indicate the number of sexual partners they had in the last 12 months prior to the study. The results presented in table 3.7.

**Table 3.7: Number of Sexual Partners**

<b>Number</b>	<b>Frequency</b>	<b>Percentage (%)</b>
One	27	44.8
Many	29	48.1
None	4	7.1
<b>Total</b>	<b>60</b>	<b>100.0</b>

The results presented in table 3.7 indicate that 48.1% had not been faithful to their sexual partners for the previous 12 months prior to the study while 44.8% had been faithful. Only 7.1% of the respondents were abstaining. This implied that nearly half of the respondents had had extramarital sexual relationships. This finding was supported by a study in South Africa on PLWHA which found that 29% of the study population had multiple sexual partners (Simbayi et al., 2007).

For those who had additional sexual partners, 67.0% indicated they had an affair with a casual sex partner while the remaining 33.0% had had sex with a stable sexual partner. The findings were consistent with Oyore (2009) in a study carried out in Nairobi where he reported that PLWHA have multiple concurrent sexual partnerships with a casual or commercial sex worker.

The study sought to explore the reasons for having multiple partners among the respondents. The respondents were asked to rate selected factors that could explain the practice of multiple sexual partners. The results were presented in Table 3.8.

**Table 3.8: Reasons for having Multiple Sexual Partners**

Reasons	Responses (n = 60)		
	Agree %	Not Sure %	Disagree %
Being sexually dissatisfied.	7.2	1.3	91.5
Lack of money.	20.5	8.5	71.0
Due to friend/peer pressure.	51.3	11.6	37.1
Bitterness of being HIV positive.	20.8	15.2	64.0
To spread to others.	8.1	11.9	80.0
Spousal strained relationships.	1.7	1.3	97.0
HIV negative partner refusing sex.	1.8	3.0	95.3
Death of a spouse.	30.6	19.6	49.8

The results show that the key explanations for having multiple sexual partners included relationship issues and desire for revenge. As shown, 97.0% of the respondents agreed that strained relationship with a spouse or a stable partner could force the respondents to have multiple partners. Other family related factors included HIV negative partner refusing sex (95.3%) and lack of sexual satisfaction (91.5%). It was also clear that the respondents were motivated by the desire to revenge their HIV status. The results showed that 80.0% of the respondents agreed that some respondents were involved with multiple sexual partners in order to infect others while others did so as a result of being bitter of their condition (64.0%). Economic and social considerations were also highly ranked with 71.0% of the respondents reporting that lack of money forced a considerable proportion of the respondents into having multiple sexual partners and peer pressure cited by 37%. The findings also showed that the psychological loneliness emanating from the loss of a loved one was considered by nearly half of the respondents (49.8%) as a factor in multiple sexual relationships. Therefore, the problem of multiple sexual partners among the respondents was a multifaceted phenomenon driven by strained social family relationships, economic disempowerment, lack of self-acceptance, and emotional instability at the loss of a loved one.

### 3.4.2 Use of Condoms among PLWHA

Use of condoms among PLWHA is strongly recommended since it reduces re-infections and new infections for discordant sexual partners. The study sought to establish the use of condoms during the last sexual intercourse prior to the study and the reasons for use and non-use of condoms.

**Table 3.9: Condom Use during Last Sexual Intercourse**

Status	Frequency	Percentage (%)
Used	39	65.8
Did not use	20	32.9
Can't remember	1	1.3
<b>Total</b>	<b>60</b>	<b>100.0</b>

The results presented in Table 3.9 indicated that almost two thirds (65.8%) had used a condom during their last sexual intercourse at the time of the study while 32.9% did not use. This proportion of those who did not use a condom was lower than those of a study conducted in South Africa among PLWHA which revealed that at baseline 48% and 84% at follow-up of sexually active PLWHA did not use a condom at their most recent vaginal intercourse (Olley et al., 2004). However, the finding was consistent with a study done in Addis Ababa that showed that 74.9% of PLWHA used a condom while 25.1% did not use (Debeko et al., 2008).

**Table 3.10: Reasons for Using and not Using Condoms**

Status	Frequency	Percentage (%)
<b>Reasons for using condom (n = 39)</b>		
For fear of HIV re-infection and STIs	18	48.6
To avoid a pregnancy	10	31.5
To Both prevent HIV re-infection and STIs.	6	15.0
For lack of trust of sex partner.	3	5.4
Because the partner wants to use.	2	4.7
Not knowing partner's HIV status	1	0.7
<b>Reasons for not using condom (n = 20)</b>		
Partner's refusal and disapproval of condom use.	9	49.3
To enjoy sex	6	30.1
Did not disclose HIV status	1	5.0

To conceive.	1	5.0
Both HIV infected.	1	5.0
Condom not available.	1	5.0
To get more money	1	5.0

A proportion of 49.3% indicated that they did not use condom because the other partner refused while 30.1% showed they wanted to enjoy sex and 5.0% took advantage of their sexual partners not knowing their HIV status. The other reason for non-use of condoms were cited as to conceive (5.0%), both HIV- infected (5.0%), condom not available (5.0%) and to get more money in the case of commercial sex workers (1.3%). Thus, the reasons provided for not using condom were mainly as a result of sexual power relation, quest for sexual satisfaction, fear of stigma, desire to have a child, mutual agreement, lack of condom and financial considerations. The use of condom among the respondents was a multidimensional phenomenon explained by a number of factors including gender, psychological factors, economic factors, social considerations, personal preferences and availability of condoms. These findings of use and non-use of condoms among PLWHA were closely consistent with a study in Addis Ababa where the most common reason for non-use was partner’s dislike for condom (25.8%) while the most common reason for condom use was due to health as advised by health professionals (63%) (Debeko et al., 2008). However the results contradicted the study by AGI (2006) which reported that some discordant couples do forgo condoms when they perceive that the HIV-positive partner’s viral load is too low to permit transmission.

The study also sought to investigate the consistency of condom use by type of partner within the past six months prior to the study. The results are presented in table 3.11 below:

**Table 3.11: Consistency of Condom Use**

Consistency of Condom Use	Type of Sexual Partner			
	Regular Sexual Partner		Occasional Sexual Partner	
	Freq.	%	Freq.	%
Always	21	56.6	6	32.7
Sometimes	11	28.6	12	58.2
Rarely	2	6.6	2	7.3
Never	4	8.2	1	1.8
<b>Total</b>	<b>38</b>	<b>100.0</b>	<b>22</b>	<b>100.0</b>

The results in Table 3.11 revealed that of those respondents using condoms always, a higher proportion was reported among the regular sexual partners (56.6%) as compared to those who had occasional sexual partners (32.7%). Those indicating using condoms, ‘sometimes’ had a higher representation among occasional sexual partners as opposed to regular sexual partners (28.6%). Rare use of condom was high among occasional sexual partner (7.3%) as compared to regular sexual partner (6.6%). Non-use of condom was reported to be highest among the regular sexual partners (8.2%) as compared to occasional sexual partners (1.8%). Consistency in the use of condom was high in sexual relations involving regular sexual partners. This meant that some respondents sought sexual satisfaction away from their closely-knit sexual relationship with spouse for the married and a stable partner for the singles. Consequently, this perhaps indicated that the use of condoms was to a lesser extent driven by health considerations. The results presented a strong case for sexual satisfaction and economic considerations as the underlying factors explaining the non-use of condoms. This boiled down to engaging in risky sexual practices. The figure for consistency of condom use among regular sexual partners was much higher than for a study in Kilifi District, Kenya on PLWHA which found that only 1.0% of married couples regularly used condoms (Papo, 2011). However, the findings were consistent with results from a study in Addis Ababa where a larger proportion (79.8%) among stable partners used condoms regularly while 20.2% reported irregular use (Debeko et al., 2008). This could be explained by the fact that correct and consistent condom use over long periods is difficult for most people who may experience prevention ‘fatigue’ (AGI, 2006).

### 3.4.3 HIV Self-disclosure to Sexual Partner

HIV self-disclosure is an important aspect in the lives of PLWHA as it may have far reaching implications on whether they use a healthy HIV preventive action. The study sought to investigate whether the respondents have disclosed their HIV status to their partners. This is presented in Table 3.12.

**Table 3.12: HIV Disclosure**

Status	Frequency	Percentage (%)
Disclosure	40	67.4
Did not Disclose	20	32.6
<b>Total</b>	<b>60</b>	<b>100.0</b>



The results showed that two thirds of the respondents (67.4%) disclosed their HIV status in their last sexual intercourse at the time of the study while 32.6% did not disclose. That revealed that some respondents engaged in sexual relations without necessarily disclosing their HIV status. This concurred with a study done in Mombasa that showed that only 37% of the respondents disclosed their HIV status to the sexual partners (Sarna et al., 2009). Further analysis between condom use and HIV disclosure showed that majority of those who disclosed (63.3%) used a condom. This was in line with a study by CDC (2009) where it was reported that disclosure of HIV status to sexual partners has been known to promote safer sex through increased condom use (Allen et al., 2003 cited in CDC, 2009) which may prevent the spread of HIV and AIDS. Interestingly, 35.0% of those who did not use a condom had disclosed their HIV status to their sexual partner. A 25.3% who did not use a condom also did not disclose their HIV status. The findings also showed that a large proportion of the respondents (89.5%) who did not disclose their HIV status had no prior knowledge of HIV status of the sexual partner while majority of those who disclosed (80.8%) knew their sexual partner's HIV status as positive.

Further probing showed that majority of the respondents refused to disclose for fear of being rejected (98.8%), conflicts in the relationship (96.2%), loss of intimate relationship (96.2%), wanting to infect others (73.0%) and fearing loss of job (61.8%). This was supported by Supra et al., (2007) who found that fear of consequences of disclosure of HIV to a sexual partner hampered communication around sexual issues. Therefore, disclosing HIV-positive results to sexual partner(s), could allow people to engage in preventive behavior and motivate partners to seek testing or change behavior which could ultimately decrease transmission of HIV.

### 3.4.4 Desire to Have More Children after Testing HIV Positive

Desire to have children after testing HIV positive can be a predisposing factor in HIV transmission by PLWHA. This is because in order to conceive, unprotected sex precedes which may put the sexual partner at risk of getting infected (for discordant couples) or re-infection (concordant couples) and also infection of the baby through mother-to-child transmission. The study investigated desire for more children among PLWHA after testing HIV positive and also probed for reasons for the response given.

**Table 3.13: Desire to have more Children**

Desire	Frequency	Percentage (%)
Desire	17	28.5
Do not desire	43	71.5
<b>Total</b>	<b>60</b>	<b>100.0</b>

Results in Table 3.13 shows that, a large proportion (71.5%) of the respondents did not desire to have more children with only 28.5% indicating they had a desire to have more children. This concurred with Ayiga (2008) who had a similar observation from a study in Uganda where 30% of PLWHA who participated in his study reported that they intended to have children with 70% on the contrary. This showed that being HIV positive modified but did not remove reproductive desires and that diversity existed in reproductive desires. Similarly, studies show that more PLWHA being in their reproductive years continue to want children after learning their positive status; whether to start a family or to have more children (Boston Conference Report, 2010).

Further probing showed that the respondents had varied reasons of either wanting or not wanting to have more children as shown in Table 3.14 and Table 3.15.

**Table 3.14: Reasons for Having More Children**

Reasons	Frequency	Percentage (%)
Help me in old age and when sick	8	39.5
Parenthood and keeping family lineage	5	28.4
One child is lonely	2	12.3
To inherit my property	1	9.9
Husband demands	1	4.9
Parents demands	1	2.5
<b>Total</b>	<b>17</b>	<b>100.0</b>

As shown in Table 3.14, the major reasons given for desiring more children were: children were good and would care for them when they were sick and also in their old age (39.5%). This could be explained by the fact that the respondents were found to have a positive attitude towards reproductive behavior. Also, due to ARV intake and PMTCT programmes they could raise their children who would take care of them in their old age. This was consistent with various studies which attributed that availability of ART greatly improved the possibility of PLWHA to have children through the PMTCT programmes as they believed that they would leave

long to take care of their children (Ayiga, 2008; CSIS, 2006). Strong desires to experience parenthood and keep the family lineage was another reason given by 28.4%. This could have emanated from social and cultural norms in African settings that encourage childbearing. This finding was in consonance with many studies done worldwide which showed that PLWHA still desired to have children to fulfill their sexual and reproductive rights (Boston Conference Report, 2010; CDC, 2009; Cooper et al., 2009). Thus, the results showed that the respondents would have desired to have children so as to have heirs, give purpose to life and to regain their sense of womanhood and sexuality so as to avoid stigma associated with childlessness. This is very critical in the African settings where children are perceived as social security and continuation of family lineage. Other reasons given were that one child would feel lonely (12.3%) and if the only child died, one would be left childless; to inherit one's property (9.9%) which is another paramount issue in African culture; husband's demand (4.9%) and parents demand for additional children (2.5%). Therefore, spousal, family, community, cultural and social factors influenced the respondent's desire for children.

**Table 3.15: Reasons for not Desiring More Children**

Reasons	Frequency	Percentage (%)
Financial constraints	16	38.5
Don't want HIV positive children	9	22.6
Single parenthood	6	13.8
Low immunity/my body is weak	5	12.8
Are enough	4	8.2
Due to old age	2	3.1
Step parents mistreat children	1	0.5
Spouse is HIV negative	1	0.5
<b>Total</b>	<b>43</b>	<b>100.0</b>

Table 3.15 showed that among those who did not desire more children, majority of them (38.5%) felt that financial constraints restricted them to have more children since more than half of them (52.6%) were earning less than Ksh.5000 which was not enough to cater for the family basic needs and their own medical expenses. This finding concurred with a research by Boston Conference Report 2010 which reported that lack of adequate financial resources complicated their desire to have more children. Another reason cited by 22.6% of the respondents indicated that they did not want HIV-positive children as this would add their expenses yet their financial situation was already precarious. They felt that it was difficult to practice PMTCT. 13.8% felt that being single parents deterred them from having more children. These respondents felt that it would be strenuous caring for the children single handedly as they claimed their sexual partners were not supporting them financially. Another 12.8% of the respondents felt that they had low immunity where additional pregnancies could complicate their already weak bodies and poor health leading to faster death. Other reasons given were: have enough children (8.2%), due to old age (3.1%), step-parents mistreat children (0.5%) and spouse was HIV-negative (0.5%). These findings of reasons for not desiring children among PLWHA are supported by Birungi, (2009) and Cooper et al., (2009) who purport that HIV-positive women once pregnant may be more vulnerable to poor health and ridicule from other people.

### 3.5 Other Factors Influencing Adherence to HIV Treatment amongst PLWHA

Table 3.16 below summarizes other factors identified during the study as affecting adherence to HIV treatment amongst PLWHA.

**Table 3.16: Other Factors**

Factor	Percentage (%)
Drug side effects	15.0%
Did not have food	10.0%
Pill Burden	13.0%
Felt better	20.0%
Distance to the clinic	12.0%
Cost of Medication	8.0%
Lack of care and support	34.0%
Alcohol use	7.0%
Traditional herbs and medicines	11.0%
Was prayed for	4.0%

## **IV. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 Summary**

#### **4.1.1 To assess the Influence of Socio-Demographic characteristics of PLWHA on Compliance to HIV Treatment**

More than half of the respondents (62.3%) were females and a larger proportion (41.0%) was residing in the rural areas. Majority of the respondents (42.3%) were in the age category of 31-40 years while nearly five in every ten respondents (45.6%) were married. Almost two thirds of the respondents (65.3%) had attained primary school education or no education. Nearly half of the respondents (49.0%) were casual workers while slightly more than a half of the respondents (51.3%) earned below Ksh. 5,000. Five in every ten respondents (52.3%) had between 1-3 children and a larger proportion of the respondents had tested HIV-positive six years and over from the time of the study. The study established that socio-demographic characteristics had a significant relationship with Compliance to HIV Treatment.

#### **4.1.2 To determine the relationship between Attitude towards Sexual and Reproductive behavior by PLWHA and Compliance to HIV Treatment**

More than half of the respondents (57.7%) had a negative attitude towards HIV epidemic while a large proportion of the respondents (63.0%) had a positive attitude towards HIV-negative people. Nearly nine in every ten respondents (86.6%) had a positive attitude towards sexual behavior while almost seven in every ten respondents (66.5%) had a positive attitude towards reproductive behavior. The findings established that the selected attitude towards HIV-negative people and attitude towards reproductive behavior had a significant relationship with compliance to HIV treatment. Those who had a positive attitude towards HIV-negative people and/or reproductive behaviour had a high compliance to HIV treatment.

#### **4.1.3 To establish the influence of Sexual and Reproductive practices of PLWHA on Compliance to HIV Treatment**

The study established that a large proportion of the respondents (48.1%) had multiple sexual partners. Almost two thirds (65.8%) had used a condom during their last sexual intercourse within six months at the time of the study. A large proportion of the respondents (61.7%) were in regular sexual relationships within the last one year at the time of the study. Two thirds of the respondents (67.4%) disclosed their HIV status in their last sexual intercourse at the time of the study. Nearly three quarters (71.5%) of the respondents did not desire to have more children. The results demonstrated that number of sexual partners a respondent had in the last 12 months prior to the study, type of sexual partner in the last six months prior to the study, awareness of HIV status of sexual partner, HIV disclosure and desire to have more children had a significant relationship with compliance to HIV treatment. Those respondents with either no or one sexual partner who was regular, knew the HIV-status of their sexual partner, had self-disclosed HIV-status and/or did not desire to have more children had a high compliance to HIV treatment as compared to those who reported otherwise.

### **4.2 Conclusions**

- i.** Socio-demographic characteristics of PLWHA that influenced significantly adherence to HIV treatment were gender and average monthly income. With regard to gender, female respondents were found to have a high compliance to HIV treatment as compared to their male counterparts who had a low compliance. Hence female were able to take a safe HIV preventive action as compared to males. As for the average monthly income, the study established that middle income earners (Kshs.5, 001-10,000) had compliance in HIV treatment. Those who earned high (over Kshs.10, 001) had a low compliance followed by those who earned low income (below Kshs.5, 000). This could be construed to imply that low income earners could have been having transactional sex with high income earners where use of condom was highly compromised.
- ii.** Attitude aspect of PLWHA that influenced compliance to HIV treatment was having a positive attitude towards reproductive behaviour. Those respondents who had a positive attitude towards reproductive behaviour were able to take a healthy HIV preventive action as opposed to their counterparts who perceived them negatively. This positive attitude towards reproductive behaviour could have enhanced their ability to take a healthy HIV preventive action such as using a condom to prevent unplanned pregnancies or adhering to PMTCT practices.
- iii.** The respondents' sexual and reproductive practices that influenced compliance to HIV treatment comprised of the number of sexual partners a respondent had and the number of children born after testing HIV-positive. It was shown that the respondents who had one or no sexual partner (being faithful

or abstaining) for the last 12 months prior to the study were able to take a healthy HIV preventive action as compared to those who had multiple sexual partners. Moreover, those respondents who had two children after testing HIV-positive had a high compliance as opposed to those who had no child.

#### **4.3 Recommendations**

- i.** The study findings accentuated a number of factors that influence compliance to HIV treatment among PLWHA. Therefore in relation to HIV intervention programmes, the focus should be on addressing those factors by putting in place HIV intervention strategies that would raise compliance in HIV treatment among PLWHA. There is need for the government and other relevant stakeholders to review and implement existing policies on HIV and AIDS to determine their applicability to compliance in HIV treatment by focusing on PLWHA.
- ii.** There is need to promote inclusion of both men and women in HIV and AIDS programs to enhance decision making in all aspects of socio-economic development. These might promote behaviour change among PLWHA within the community. PLWHA should be encouraged to be faithful to their sexual partners. Both men and women should be sensitized to join support groups for PLWHA. This will enhance acquisition of sexual and reproduction information which would assist in bridging the significant differences that were found to exist across gender lines.
- iii.** The government in collaboration with organizations dealing with HIV and AIDS should enhance programs for economic empowerment for PLWHA. They should focus on having sustainable income generating activities by putting in place mechanisms to enhance management of these activities. This could be achieved through training and educating PLWHA on aspects of entrepreneurship and business management in order to improve their economic well-being.
- iv.** There is need to integrate sexual and reproductive health programs and HIV management. In line with this also, there is need to enhance the implementation of maternal and child health programs in HIV and AIDS programs. This would assist in promoting PMTCT programs to enhance child survival rates for PLWHA. These issues need to be addressed by adopting a multi-sectoral approach comprising the government, non-state players, private sector and general public.
- v.** Organizations dealing with HIV prevention programmes and the government need to enhance and ensure effective provision of alcohol and drug abuse counseling sessions among PLWHA. In addition effective follow-up mechanisms need to be ensured as this is an integral component of care for people who have just tested HIV positive. The support groups need to be assisted to widen the scope and enhance capacity to handle additional concerns of PLWHA.
- vi.** The government and other stakeholders dealing with HIV prevention need to strengthen mechanisms that would promote correct and consistent use of condoms among PLWHA. This would assist in behaviour change in sexually risky practices.

#### **4.4 Suggestions for Further Research**

This study has shown that some PLWHA factors are associated with compliance to HIV treatment while others fail to do so. Further research can be done on:

- a.** A study of PLWHA who are not registered in a support group to establish whether there are any variations in compliance to HIV treatment between members and non-members.
- b.** A study should be done with different populations to compare compliance to HIV treatment and prevention between HIV-negative people and PLWHA.

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