UPTAKE OF PREVENTION WITH POSITIVES SERVICES AMONG HIV POSITIVE ADOLESCENTS ATTENDING COMPREHENSIVE CARE CENTRES IN KAKAMEGA COUNTY, KENYA

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DECLARATION

Declaration by the Candidate

This research thesis is my original work and has not been presented for a degree in any other university. No part may be reproduced without prior permission of the author.

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DEDICATION

I dedicate this thesis to my family members, especially my parents (Mr. and Mrs. Malangachi), who have been my constant source of inspiration and support throughtout my studies.

Special dedication to my husband, Fredrick Toloyi Musungu, for his unwavering emotional, material, financial and spiritual support and love that made this journey easier. To my daughters Chelsea, Daisy and Elsie, your enthusiasm for life, innocent curiosity and joyful laughter in the house always lifted my spirits whenever I felt low. I love you and God bless you abundantly.

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LIST OF ABBREVIATIONS:

AIDS	Acquired Immune-Deficiency Syndrome
ALHIV	Adolescent Living with Human Immunodeficiency Virus
APHIA	AIDS, Population and Health Integrated Assistance
ARHD	Adolescent Reproductive Health Document
CCC	Comprehensive Care Centre
CDC	Centre for Disease Control
FGD	Focused Group Discussion
HCP	Health Care Provider
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
IREC	Institutional Research and Ethics Committee
KAIS	Kenya Aids Indicator Survey
KDHS	Kenya Demographic Health Survey
MOH	Ministry of Health
NASCOP	National Aids and STI Control Programme
PLHIV	People Living With Human Immunodeficiency Virus

PLWA People Living With Aids

PMTCT Prevention of Mother to Child Transmission

PWP Prevention With Positives

STD Sexually Transmitted Disease

STI Sexually Transmitted Infection

UCSF University of California, San Francisco

UNAID United Nations Agency for International Development

UNICEF United Nations International Children's Emergency Fund

US PEPFAR United States President's Emergency Plan for AIDS Relief

WHO World Health Organization

OPERATIONAL DEFINITIONS:

1. **Adolescents:** people aged 10-19 years
2. **Early adolescents:** people aged 10-13 years
3. **Mid-adolescents:** people age 14-16 years
4. **Late adolescents:** people aged 17-19 years
5. **Comprehensive Care Centres**: Special clinics established for people living with HIV/AIDS.
6. **Disclosure:** The process of revealing to others one's HIV status
7. **Prevention with positive services**: These are prevention efforts that support HIV persons to reduce the risk of HIV transmission and/or re-infection.
8. **Youth**: people between 15-24 year
9. **Young people**: people aged 10-24 years

ABSTRACT:

BACKGROUND: Adolescents are vulnerable to HIV infection through engaging in behaviors associated with increased risk of HIV transmission. Prevention With Positives (PWP) Services are measures employed to minimize the risk of HIV transmission. Kenya is among the top six countries globally with a high burden of Adolescents Living with HIV (ALHIV). There is minimal data on the level of engagement of these adolescents with these PWP services.

OBJECTIVE: To evaluate the uptake of PWP services among HIV positive adolescents attending Comprehensive Care Centres (CCCs) in Kakamega County.

METHODS: A mixed methods, hospital based, cross-sectional study was conducted in seven CCCs within Kakamega County between February and December 2016. A structured questionnaire was used to collect data on socio-demographic characteristics, knowledge and uptake of PWP services among ALHIV. Focused group discussions (FGDs) for adolescents and key informant interviews (KII) for health care providers were conducted to explore factors that influenced uptake of these services. Descriptive statistics and frequency listings were used for continuous and categorical variables respectively. Fisher's exact and Pearson's Chi square tests were used to test for associations among socio-demographic characteristics and uptake of these services. Multivariate logistic regression was done to determine independent variables. Qualitative data was thematically analyzed.

RESULTS: The PWP services were offered in all the facilities. Of the 423 adolescents recruited, 218(51.5%) were females and 276(65.2%) were orphans and 127(30%) had secondary level of education. About 244(51.5%) reported Knowledge of PWP services. Engagement in risky behaviors was reported by 122(28.8%) with 70(16%) reporting sexual experience, of which 42/70(60%) had multiple sexual partners. Mean age at sexual debut was 13.4 years (range 7-19 years). Uptake of the PWP services was low. Condom use was by 30/70(42.9%) while contraceptives use was by 18/70(11.5%). Screening for sexually transmitted infections was at 24/70(34.3%). Disclosure of HIV status to sexual partners was at 16/42(38.1%) among the sexually experienced adolescents as 18/70(25.7%) did not know their own HIV status at sexual debut. Only 12/70(17%) knew their partners' HIV status. Higher education level was associated with increased likelihood of disclosure to sexual partner (AOR=2.74,CI=1.41-5.31, p value=0.003). Knowledge of own status was associated with higher condom use (AOR=19.3,CI 2.94-127.5, p value=0.014) while older age was associated with greater use of contraceptives (AOR=1.93, CI 1.02-3.67, p value =0.04). During FGDs, adolescents reported fear of rejection by partner, lack of privacy in accessing condoms and family planning (FP) commodities from health facilities and poor staff-adolescent relationship as challenges to the uptake of PWP services. Presence of peer counselors enhanced uptake. KII revealed lack of parental/guardian support and staff shortage hindered uptake.

CONCLUSION: All the facilities offered the PWP services but their uptake was low. Increase in age, level of education and presence of peer counsellors increased their uptake. Poor staff-adolescent relationship and lack of privacy in accessing condoms and FP commodities hindered their uptake.

RECOMMENDATION: Efforts should be made to enhance uptake of these services by improving staff-adolescent relationship and enhancing adolescents' privacy in accessing these commodities.

CHAPTER ONE

INTRODUCTION

1.1: Background

Acquired Immune-Deficiency Syndrome (AIDS) is a clinical condition that has caused significant global morbidity and mortality leading to its recognition as a global pandemic. It is caused by the Human Immunodeficiency Virus (HIV).

In 2016, there were more than 36.7 million people living with HIV of which 2.1 million (5.9%) were adolescents aged 10-19 years (WHO, 2016; UNAIDS 2013). Of these adolescents living with HIV, approximately 1.4 million (64%) were living in Eastern and Southern Africa (UNICEF, 2015a). Kenya is among the top six countries worldwide with the highest number of ALHIV (UNICEF, 2015b), contributing about 7% of global adolescent HIV. Ethiopia and Tanzania also contribute 7% each, while Uganda and Zimbabwe each contribute 5% of the global adolescent HIV burden (UNAIDS, 2013).

Adolescents constitute about 20% of the world's population with 83% of them living in developing countries (MOH, 2005). In Kenya, they contribute about 40% of the total population (NASCOP, 2014b). These adolescents together with young people (20-24 years) continue to be vulnerable to HIV infection despite the many efforts put forth to curb the HIV scourge (WHO, 2016). About one-seventh of all new HIV infections occur during adolescence (UNAIDS, 2013), with about 26 adolescents being infected with HIV hourly in Sub-Saharan Africa (UNICEF, 2015b). HIV/AIDS is the number one cause of death among adolescents in Sub-Saharan Africa (UNICEF, 2015 b).

Several studies done among adults have shown that prevention of new infections is a key element in curbing the spread of HIV. Various studies have demonstrated that Prevention

with Positive (PWP) services that focus on the HIV positive individuals are instrumental in the prevention of the continuous spread of HIV (Scheer S. et al., 2008). This is because studies have demonstrated that many HIV positive individuals are living longer and healthier lives due to the improved care and access to Anti-Retroviral drugs (ARVs) and as such, many are engaging in high risk behaviours that fuel the spread of HIV (Prevention with Positives work group, 2009).

Globally, the United States President's Emergency Plan for AIDS Relief (PEPFAR) has expanded focus to include preventive interventions for people living with HIV/AIDS (PLWHA). These support strategies include: providing PLWHA with information on ways to protect themselves; encouraging and counseling PLWHA to prevent HIV transmission; promoting and providing condoms to sexually active HIV positive individuals; encouraging uptake of Prevention of Mother to Child Transmission of HIV (PMTCT) services; encouraging HIV positive individuals to disclose their status to sexual partners and family members while offering HIV testing to the partners and family members; providing screening, diagnosis and treatment of Sexually Transmitted Diseases (STDs); providing information about risks of alcohol and drug abuse and incorporating prevention interventions with HIV-positive individuals in clinical, community and home based care programs (PEPFAR, 2015).

In Kenya, the Ministry of Health, through the National AIDS and STIs Control Program (NASCOP) recognized the importance of PWP services and recommended that these services be offered to HIV positive clients during their routine clinical visits. This is evidenced by the inclusion of the PWP services in the Ministry of Health tool (MOH 257) "blue card" that is used for routine clinical review of the clients.

In 2014, NASCOP developed the Prevention with Positives National Orientation Package for managers and supervisors (NASCOP, 2014a) that highlighted the pillars of PWP as: Pillar 1: diagnosis of HIV, Supporting disclosure, partner testing/child testing/family counseling, provision of care, ART and co-trimoxazole and behavioural intervention for HIV positive persons: and Pillar 2: Family Planning (FP) services, Access to PMTCT services, screening for STIs and meaningful involvement of PLWHA in the preventive strategies.

Studies have shown that engagement of HIV positive adolescents in the preventive strategies to curb the spread of HIV is vital in the war against the scourge. This study aimed at identifying what PWP services were available and are being utilized by the adolescents in Kakamega County and the factors that are associated with the uptake of these services. The facilities chosen to participate in the study had established adolescent clinic days in their CCCs and the study aimed to establish the level of engagement of these adolescents in the prevention of the continuous spread of HIV.

1.2: Problem Statement

Prevention with Positives services have been demonstrated both internationally and locally to be effective in curbing the spread of HIV. Involvement of adolescents and youth in utilization of these services has been advocated for by the WHO in order to address the unique needs of adolescents living with HIV.

Adolescence is a period during which many people engage in sexual debut and other high risk behaviours associated with increased risk of HIV transmission such as alcoholism and experimenting with substances of abuse. On top of being HIV positive, ALHIV face the challenges of how to address their sexuality with the knowledge and burden that they may

infect others. Teenage pregnancies have also been reported to be on the rise among HIV positive adolescents in Kakamega County from anecdotal data.

Anecdotal data from the Kakamega County, Dr. Habel Alwanga, Technical Advisor at Elizabeth Glasier Pediatric AIDS Foundation (EGPAF) Kakamega, during the Data Quality Analysis for Kakamega County, 2013, reported quite a number of HIV positive adolescents being lost to follow up in the clinic only to come back with a worsened clinical condition, pregnant or with pregnancy related complications. Others never return, with news of their demise reaching the facilities later. Others still are reported to be drinking alcohol or smoking cigarettes and other substances of abuse.

No studies have been done in Kakamega County to assess the level of engagement of HIV positive adolescents in the reduction and prevention of HIV transmission to others. This remains a big gap that needs to be addressed in order to actively involve the adolescents in this war against HIV spread.

1.3: Study Justification:

Adolescents are vulnerable to the HIV infection, whether as primary or secondary infection. AIDS is the number one killer of adolescents in Africa (UNICEF, 2015b). A seventh of all new HIV infections occur during adolescence (UNAIDS, 2013) with 26 adolescents being infected hourly in Sub-Saharan Africa (UNICEF, 2015b). The WHO called for shift in focus to adolescents during the World Aids Day of 2013 with the aim of improving access to prevention, treatment and care among the HIV positive adolescents (WHO, 2016). This was prompted by the fact that between the years 2005-2012, the global number of HIV related deaths reduced by 30% but that for HIV positive adolescents increased by 50% (UNAIDS, 2013).

About 16 million births occur annually among adolescents (WHO, 2011). These adolescents do not access PMTCT services as well as the adults. Adolescents are also vulnerable to HIV infection and transmission through engagement in risk behaviours such as early sexual debut, multiple sexual partners, use of drugs such as alcohol and injecting drugs which usually lead to unprotected sexual intercourse (Moore A. M. et al., 2007).

According to the first County Integrated Development Plan 2013-2017, Kakamega County prioritizes the management of HIV/AIDS by combating new infections, improving quality of life for those living positively and educating the girl child on dangers of engaging in early sex and HIV infection prevention (County Government of Kakamega, 2005).

NASCOP recognized the presence of ALHIV as a special cohort with special needs in their management of HIV infection. The Adolescent Reproductive Health and Development Policy (ARH&D) of the Ministry of Health, Kenya, in 2003, set out guidelines to address issues related to adolescents. Their goals included: doubling of contraceptive use rate among adolescents (15-19 years) from 4.2% in 1998 to 8.4% in 2015, increasing median age of sexual debut from 16.7 years for girls and 16.8 years for males to 18 years by 2015 and promoting facilities offering youth friendly services from 12% to 85% by 2015 (MOH, 2005).

This study was in response to the call by WHO to focus on adolescents in the fight against HIV since the adolescents remain vulnerable to HIV despite the many efforts that have been put forth to curb the scourge. It was also in response to the County Government of Kakamega's plan to combat new HIV infections. This study assessed what the HIV positive adolescents attending CCCs in Kakamega County knew about prevention with positive services and their utilization, since no study had been on this area in the region. It

also aimed at assessing the level of implementation of policies and National guidelines on care of HIV positive adolescents and their Reproductive Health.

Carrying out this study helped in identifying the gaps in the provision of adequate PWP services to the ALHIV.

1.4: Research Question:

What is the level of uptake of Prevention With Positives Services among HIV positive adolescents (10-19 years) attending Comprehensive Care Centres in Kakamega County?

1.5: Study Objectives:

1.5.1 Broad Objective

To evaluate the uptake of Prevention With Positives Services among HIV positive adolescents attending Comprehensive Care Centres in Kakamega County

1.5.2 Specific Objectives

1. To establish what Prevention With Positives Services are offered to HIV positive adolescents in the Comprehensive Care Centres in Kakamega County
2. To determine the uptake of the Prevention With Positives Services by the HIV positive adolescents attending the Comprehensive Care Centres in Kakamega County
3. To explore factors associated with the uptake of the Prevention With Positives services by the adolescents.

CHAPTER TWO

LITERATURE REVIEW

2.1: Adolescents and HIV

The continued spread of HIV is fueled when the HIV positive individual continues to interact unsafely, sexually with the HIV negative individual (Simon, J. & Pantalone, D., 2004). Studies have shown that up to **33%** of HIV positive individuals continue to have unprotected sex (Kallichman, S. 2006; Maks, G. et al., 1994; Wolitski, R. et al., 1998; Carlifornia STD/HIV Prevention Training Centre, 2006). This has led to the shift of focus from the HIV negative individual to the HIV positive individual in the prevention of transmission and spread of HIV (Simon, J. & Pantalone, D., 2004). Amongst the adolescents living with HIV, key concerns to them include disclosure, adherence to ART and prevention of HIV transmission to sexual partners (Michaella, K., 2008).

According to UNICEF, in 2013, there were 670,000 young people aged 15-24 years of age who were newly infected with HIV, of whom 250,000 were adolescents between the ages of 15-19 years (UNICEF, 2014). McClure, chief of HIV programs for UNICEF reported that a seventh of all new HIV infections occur during adolescence (UNICEF, 2014).

Center for Continuing Education in Adolescent Health, Division of Children's Medicine describes the sexual development among adolescents as a time when those aged between 10-13 years have an increased awareness to their sexuality, become attracted to others and may experiment with sex play. By 14-16 years of age, the interest in sex increases and may engage in sexual activities. By age 17-19 years, they develop intimate relationships and move from group to individualized relationship (Centre for Continuing Education in Adolescent Health, 2001). Because of the developmental sexual changes that occur during

this period, the adolescents are more vulnerable to HIV infection. This is coupled by their social and economic status which limits their access to proper information and services in many settings (Centre for Continuing Education in Adolescent Health, 2001; WHO, 2014). This is shown by the number of new HIV infections among adolescents, about 830 infections daily as was seen 2012 (UNICEF, 2013).

Global HIV pandemic cannot be reversed and the gains made cannot be sustained unless more efforts are put into reducing the rate of new infections (Kresge & McEnergy, 2009). Many HIV positive individuals continue to interact unsafely with HIV negative individuals. This means that there is continued spread of the HIV infection. This prompted Public and Professional organizations in the USA to advocate for the inclusion of HIV prevention interventions into the routine medical care of HIV positive individuals including discussion of safer sex practices (Centre for Disease Control, 2004). The young people, including adolescents are a crucial resource when it comes to the prevention of the spread of HIV and ensuring good health among those already living with the virus (Michaela, K., 2008).

Studies have demonstrated the effectiveness of prevention interventions with HIV positive individuals (Scheer, S. et al., 2008). The San Francisco HIV Prevention Planning Council defines the goals of PWP as: to reduce the spread of HIV and other STDs; to help HIV positive persons achieve and maintain physical, emotional, mental, sexual and reproductive health, economic stability and wellbeing; and to assist HIV positive persons who do not know that they are positive in learning their HIV status when they are ready (Prevention with Positives work group, 2009; San Francisco Department of Health, 2015).

It is therefore important for health care providers to prioritize PWP services among individuals who are living with HIV (Prevention with Positives work group, 2009). This is because "HIV positive persons live with both the experience of being infected … and the tremendous responsibility of knowing that they can infect other people" UCSF Center for AIDS Prevention Studies (University of Carlifonia, 2015).

2.2: Disclosure of One's HIV Status to Sexual Partner

Disclosure in HIV means the act of informing others, more importantly the sexual partner, about the sero-status of a person living with HIV (Michaela, K., 2008). According to the Prevention with Positives: Best Practices Guide (Prevention with Positives work group, 2009), there are different types of disclosure, which include:

Self-disclosure the client discloses his/her own HIV status to the sexual partner independently

Dual disclosure: The client will disclose his/her HIV status to the sexual partner in the presence of a counselor or third party

Anonymous 3rd party notification: trained staff will provide anonymous notification to the sexual partners.

Anonymous web-based disclosure: a client will go on line to www.inspot.org and send e-postcards to his or her partners alerting them that they may be HIV exposed.

It is important that the HIV positive person be given all the possible options of disclosure so as to facilitate this disclosure as a means of reducing HIV transmission.

According to Jane M. Simon, it is thought that disclosure of HIV status to sexual partners increases safety in subsequent sexual activities when both partners are aware of each other's HIV status (Simon, J. & Pantalone, D., 2004). She further emphasizes that encouraging disclosure of HIV serostatus is a major component of HIV prevention. Normal LR et al also emphasized the relationship between disclosure and the consistent and diligent use of condoms when a partner is aware of the sexual partner's HIV status (Norman, R. et al., 1998)[j]. Diligent condom use after HIV disclosure was also elaborated by Mohangi P. et al and Callegari L. et al who showed in their studies that non-disclosure of HIV status was associated with low condom use (Moharaj, P. et al., 2005; Callegari, L. et al., 2008) Apart from condom use, disclosure also increases awareness amongst sexual partners that allows them to make informed decisions on their sexual activities in order to protect themselves (Loubier, S. et al., 2009; Olley, B. et al., 2004; Irungu, E. et al., 2012).

Several studies done in adults have shown the importance of disclosure other than the increased use of condoms. Other benefits of disclosure include an improvement in the clinical outcome as measured by an increase in the CD 4 count (Sherman, B. et al., 2000). A study done by Dempsey AG et al amongst adolescents in West Africa showed disclosure to be associated with a decrease in the number of sexual partners amongst the adolescents but not in a reduction in the number of unprotected sexual activities (Dempsey, G. et al., 2012). Other studies also demonstrated that disclosure was associated with decreased number of sexual partners and increased condom use (Sigxashe, T. et al., 2001; Crepaz, N. et al., 2003; Kassaye, K. et al., 2005; Parsons, J. et al., 2005; Wong, L. et al., 2009; Bird, J. et al., 2011; Seid, M. et al., 2012).

Adolescents are usually not engaged in long term relationships. According to the WHO HIV and adolescents guidance for HIV testing and care for ALHIV, lack of enough knowledge and emotional instability may be associated with the difficulty in disclosing of HIV status to sexual (UNICEF 2014). Birungi et al, in a Uganda population Council in study among The AIDS Support Organization (TASO) group reported that more than 60% of adolescents who were in a sexual relationship had not disclosed their HIV serostatus to their partners and that about 40% of these adolescents were in a relationship with HIV negative partners (Birungi, H. et al., 2007). Other studies done also showed disclosure rates of 20-40% (Koenig, L. et al., 2010; Koenig, L. et al., 2011; Tassiopoulos, K. et al., 2012).

Certain barriers have been associated with disclosure of serostatus to partners in studies done among adults. In some studies, disclosure was associated with high levels of stigma; others reported negative experience from partners like anger, violence and termination of relationship (Kassaye, K. et al., 2005; Kilewo, C. et al., 2001; Gari, T. et al., 2010; Holzemer, W. et al., 2012).

Adolescents have been demonstrated in studies to be fearful about disclosing their status to potential sexual partners (Di Risiro, et al., 2010; Fernet, M. et al., 2007; Fielden, S. et al., 2006; Marhefka, S. et al., 2006). Several studies done in Uganda amongst the adolescents have reported several factors that affect disclosure among the adolescents. Some of these barriers include: fear of reaction from parents (Bakeeera Kitaka, 2006), fear of rejection by partners (Bakeera, K. et al., 2008), lack of confidentiality that their status will be kept a secret by those they disclose to and thus fear of gossip. These fears were also demonstrated by other studies (Fair, C. et al., 2012; Vijayan, T. et al., 2009; Weiner, et al., 2007) as the

reason why some ALHIV may deliberately choose not to disclose their status to the sexual partners.

Other factors associated with lack of disclosure include unequal power dynamics, for example, adolescents in relationships with older partners are more vulnerable to disclosure effects such as abuse from these partners or loss of economic gain (UNICEF, 2014).

Some adolescents however view disclosure as important before sexual debut (Marhefka, S. et al., 2011). These adolescents reported challenges in how best to communicate the information to their partners without losing them in the long run (Greenhalgh, C. et al., 2012). The main reason given for disclosure by the adolescents who favor it was the notion that it would lead to increased condom use (Marhefka, S. et al., 2011; Greenhalgh, C. et al., 2012).

WHO in its guidelines for HIV and adolescents care recommend that disclosure amongst adolescents to sexual partners should be encouraged but not forced. It recommended provision of supported disclosure or anonymous reporting systems that promote confidentiality and protection for the ALHIV that would encourage them to disclose (UNICEF 2014). This is further reinforced by Di Risio et al and Rydstrom et al who recommend provision of adolescent-specific tools to facilitate their safe and responsible sexual life (Di Risiro, M. et al., 2010; Rydstrom, L. et al., 2006).

2.3: Knowledge of Sexual Partner's HIV Serostatus

Knowledge of a sexual partner's HIV status is crucial in the prevention of the spread of HIV. This is because it can empower partners to use protective measures in case of serodiscordancy, or protect one another from acquiring new strains of the virus in case of concordance when both partners are positive.

HIV disclosure is necessary for one to know the HIV status of the partner (Bachanas, P. et al., 2006). A study done in Uganda reported 84% of Ugandans aged 15-49 had never discussed HIV with any of their partners and about 90% did not know the HIV status of any of their sexual partners (Uganda Bureau of Statistics, 2006). A study by Rostich et al among adolescents in Nairobi reported only 23% of sexually active adolescents had knowledge about the HIV status of their partners. Most had partners who had not been tested or had not shared their HIV status (Rostich, F. et al., 2012).

2.4: Condom Use by Adolescents

Studies have shown that consistent and correct use of condoms, especially the male latex condom, is effective in reducing the risk of transmission of Sexually Transmitted Infections, including HIV and preventing against unwanted pregnancies among high risk populations (Kajubi, P. et al., 2005; CDC, 2015).

Condom use as part of the PWP services is important among the HIV positive adolescents as it not only reduces risk of STDs and unwanted pregnancies, but is also effective in reduction of HIV transmission to others and acquiring new strains of the HIV virus.

Studies have demonstrated that despite reported benefits of condom use, their use among adolescents remains low and inconsistent as demonstrated by Ryan in his study (Ryan, K., 2006). Morris L. et al in their study reported that up to 44-88% of sexually active youth

reported inconsistent use of condoms (Morris, L. et al., 2014). The Kenya AIDS Indicator Survey 2012 reported that of the 6.7% children aged 12-14 years who were already sexually active, only 22.8% reported condom use (NASCOP, 2012). This low use is also demonstrated in a survey by CDC in the USA in 2013 that showed 41% of the sexually active adolescents had not used a condom during intercourse (CDC, 2010).

Disclosure of one's HIV status has been associated with increased condom use as reported in some studies (Marhefka, L. et al., 2011; Greenhalgh, C. et al., 2012). These studies also reported that other than prevention of HIV transmission, other factors that promoted condom use among adolescents included prevention of STDs and unwanted pregnancies. Positive attitude towards condom use and proper knowledge on condom use has been associated with increased condom use among adolescents (Kayiki, S. & Forste, R., 2011).

Some HIV positive adolescents reported low use of condoms because use of condoms served to constantly remind them of their HIV status (Fernet, M. et al., 2011). Others reported that negotiating for condom use was seen as a sign of mistrust in a relationship according to Georges Guiella in a study in Burkina Faso (Georges, G. & Nyovani, J., 2007). Ayuku D. in his study among college students of Moi University also demonstrated that introduction of condoms in a relationship where condoms were not previously used was associated with lack of trust (Ayuku, D., 2005).

Other factors associated with low use of condoms by adolescents have been cited to include: dislike of condoms, embarrassment to purchase condoms from adult providers, receiving gifts or money especially for female adolescents (Macphai, C. & Campbell, C., 2001). Others have cited affordability as a big barrier (Samuelson H. et al., 2006).

Negative attitude towards condom use has also been associated with poor use of condoms by the adolescents as demonstrated in a study by Ngare D. K among Turkana adolescents (Ngare, D., 2005).

Gender has also been described in some studies as a factor that determines condom use. Males are more likely to use condoms than females as illustrated in studies (Olley, B. et al., 2004; Irungu, E. et al. et al., 2012; Pranitha, M., 2006). Pranitha reported 14% of her respondents thought that women lose respect from men for asking for condom use. 34% of her respondents reported that use of condom led to reduced sexual pleasure. Some of her other respondents felt that condom was used mainly for illicit sex or prostitution.

2.5: Family Planning Among HIV Positive Adolescents:

There are about 16 million deliveries annually among the adolescents aged 15-19 years with about 2 million pregnancies occurring in adolescents less than 15 years of age (UNFPA, 2013). This has been attributed to high rates of unprotected sex among the adolescents regardless of their HIV status (Saskatchewas Prevention Institute, 2013). In a study by Tassiopoulous K et al in perinatally HIV affected adolescents, up to 62% reported unprotected sexual intercourse (Tassiopoulos, K. et al., 2013). According to UNAIDS facts sheet, about 30-50% of girls give birth before their 19^{th} birthday in countries with high HIV prevalence (UNICEF, UNAIDS, 2011). Idele et al in their study reported that one in three adolescent girls in developing countries is a mother by eighteen years of age (Idele, P. et al., 2014). A UNICEF report of 2012 reported that about 70-80% of pregnancies in sub-Saharan Africa occur in marriages (Cohen, S., 2004). This report indicates many young girls are getting married early in Sub-Saharan Africa. These statistics show that there is need for contraceptives use among adolescents.

HIV positive adolescents who get pregnant are unlikely to access PMTCT services compared to their older counterparts (UNICEF, 2014). Failure to access PMTCT services increases the likelihood of transmitting the virus to the unborn child. According to Koenig et al. 2011, in their study among perinatally HIV infected adolescents in the U.S., they found first pregnancy incident among ALHIV 15-19 years to be about 17.2%. This was similar to the other adolescents who were HIV negative. Key in the finding was that most of these pregnancies were unplanned.

The above statistics show that there is need for sexual education and reproductive health counseling early in adolescence to address pregnancy and risks of HIV transmission. This observation is also shared by Saskatchewan Prevention Institute who reported that there is need for proper education to adolescents on how to get pregnant and not transmit the infection to their partners and babies (Saskatchewan Prevention Institute, 2013).

Landolt et al. reported that choice of contraceptives should be individualized among the adolescents in his study of contraceptive use among HIV positive female adolescents (Landolt, N. et al., 2011). However, to make this decision, the adolescents require adequate information on the effectiveness, use, risk side effects and benefits of the contraceptives (Coerzer, R., 2011).

Studies have shown that for optimum prevention of unplanned pregnancies, sexually transmitted infections and HIV, dual method of protection is recommended which entails use of the male condom and either hormonal contraceptives or intra-uterine device (Landolt, N. et al., 2011; Coetzer, R., 2011; WHO, 2009; Panel of Antiretrovirl therapy and Medical Management of HIV-infected children, 2015). Coetzer R. in his study further proposed that the use of intra-uterine contraceptive device (IUCD) decreased the pill

burden in PLHIV as compared to use of oral contraceptives and the benefits of the IUCD outweighed the risks associated with increased infections (Coetzer, R., 2011). This is also supported by WHO 2009 in their medical eligibility criteria for contraceptive use (WHO 2009) and the NASCOP's Adolescent Package of Care in Kenya (NASCOP, 2014b). Health care workers should be vigilant of drug to drug interactions if the adolescent opts to use hormonal contraceptives and NASCOP proposes that for the ALHIV, emphasis should be placed on use of condoms together with the hormonal contraceptives (NASCOP, 2014b).

Some adolescents may opt for sterilization but this should be provided with great caution. This is because; studies have shown that ALHIV have a desire to have children in the future. Birungi, et al., 2007, in her study in Uganda reported that about 90% of males and 87% of females would wish to have children in the future. Fernet, M. et al., 2007, in their study among Canadian adolescents living with HIV, found that up to 65% expressed desire to have children in the future.

The Adolescent Reproductive Health and Development Policy of 2005 developed by the Ministry of Health, Kenya, set goals that included doubling of contraceptive use rate among adolescents 15-19 years from 4.2% in 1998 to 8.5% in 2015 (MOH, 2005).

2.6: HIV Positive Adolescents and Sexually Transmitted Infections:

Sexually transmitted infections should be addressed in all HIV positive adolescents (AIDS Info., 2014). This is because studies have shown that most adolescents are engaging in unprotected sexual relations and are at an increased risk of contracting and transmitting sexually transmitted infections including HIV.

According to the CDC fact sheet on the incidence, prevalence and cost of treating people with Sexually Transmitted Infections in the United States, 2013, it was estimated that about 20 million new infections occurred annually with 15-24 years old accounting for half of these infections (CDC, 2013).

Screening for STIs in HIV positive adolescents is important as the presence of an STI, whether symptomatic or asymptomatic is associated with increased sexual transmission of HIV-1 sexually through shedding of the virus from the genital tract (Carbett, L. et al., 2002). This is also supported by Rupert et al who reported in their study among Kenya sex workers that STIs are important co-factors in the HIV-1/AIDS pandemic (Rupert, K. et al., 2004).

In their study among street connected adolescents in Western Kenya, Winston, E. et al., 2014, reported 70.4% of females and 60.5% of males were sexually active. 28% of these had at least one STI screening turning positive with about 14.8% females being HIV positive.

In their Adolescent package of Care guide to health workers, NASCOP proposes that all adolescents should be screened for STIs at every visit to the clinics and managed accordingly (NASCOP, 2014b). The Prevention with Positives: Best Practices Guide also proposes comprehensive screening and treatment of STIs in PLHIV (Prevention with Positives work group, 2009).

2.7: Adolescents and Risk Behaviour Reduction:

Risk behaviors are those activities that are associated with increased risk of transmission or acquisition of the HIV infection. Risk reduction is defined as deliberate efforts to minimize the risk of transmission/acquisition of infection (NASCOP, 2014a). Several studies have identified a number of factors that are associated with a higher risk of HIV transmission.

Unprotected sexual intercourse has been identified as one of the risk behaviors associated with increased HIV transmission. Koenig, et al., 2011, in their study reported that a quarter to a third of HIV positive adolescents were sexually active of whom 28.6% were engaging in unprotected sex. Tassiopoulus, et al., 2013, in his study reported 42% ALHIV were sexually active and 62% of these adolescents reported unprotected sex despite knowledge of their status. NASCOP, 2012, in their KAIS 2012 report, reported that only 22.8% of the sexually active adolescents 12-14 years of age used a condom during their sexual activity.

Early sexual debut has also been identified as a risk behavior. Tassiopoulus and Koenig (Tassiopoulos, K. et al., 2013; Koenig, L. et al., 2011) reported sexual debut of between 13-15 years of age among the HIV positive adolescents in their study. According to KAIS 2012, 6.7% of children 12-14 years had ever had sex (NASCOP, 2012). Idele et al in their study reported that early sexual debut before the age of 15 years was associated with increased risk of HIV infection because of association with higher risk partners, multiple sex partners and not using condoms (Idele, P. et al., 2014).

Having multiple sexual partners is also a risk behavior that has been identified in several studies. Idele, et al., 2014 also reported in their study that multiple sexual partners in adolescent boys 15-19 years of age was common in HIV endemic areas, for example 39%

in Jamaica and 18% in Mozambique. KAIS 2012 reported that 18.3% of the sexually active adolescents had 3-6 sexual partners.

Alcohol consumption and substance abuse have been associated with increased risk of HIV transmission/acquisition. Studies have demonstrated increased risk of HIV transmission while under the influence of alcohol or other substances because of decreased use of protection (Koenig, L, et al., 2010; Elkington, K. et al., 2009; Wiener, L. et al., 2004). Landolt et al., 2011, in their study reported that ALHIV may be curious and engage in sexual activity while under the influence of substances. A survey by CDC among high school students reported that 22% of the 34% sexually active adolescents had used drugs or alcohol before the last sexual intercourse (CDC, 2010). KAIS 2012 reported 5/100 children 10-14 years had ever drank alcohol and 1/100 had ever tried drugs.

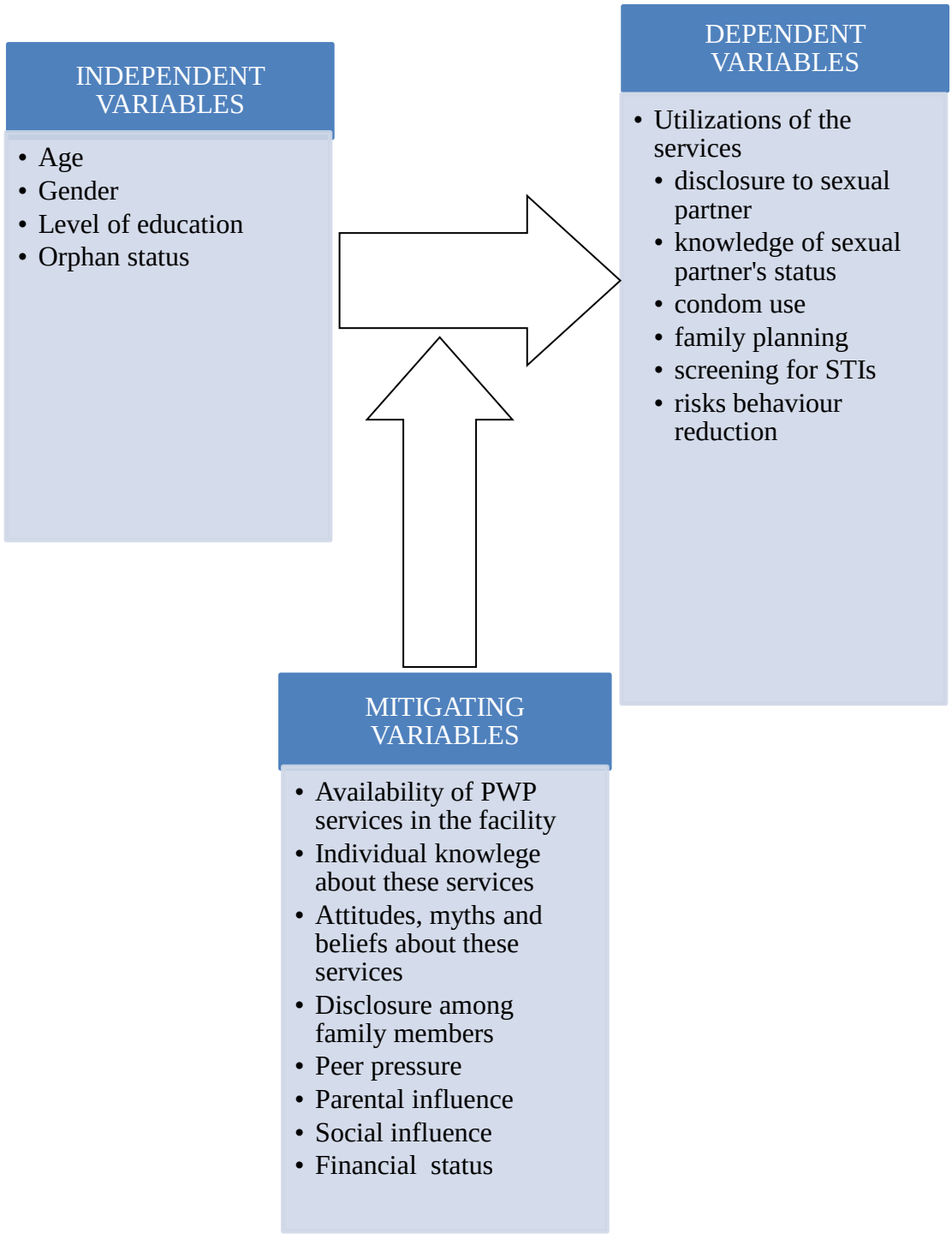
Alcohol and substance abuse may be used as a coping mechanism by ALHIV or to fit in with peers (Henry-Reid, et al., 2009). It is important for health care workers to identify stressors that may increase chances of adolescents engaging in alcohol or other substances. Stressors such as loss of a loved one or stigma among ALHIV may be associated with increased use of alcohol and other substances of abuse (Henry-Reid, et al., 2009; Mellins, C. et al., 2009).

In their study among street-connected children in Western Kenya, Winston E. et al reported that 66.7% of the females who turned HIV positive engaged in transactional sex, 91.7% engaged in drug use and 50% reported a prior STI (Winston, S. et al., 2015). A policy brief by the African Population and Health Research Center (2009), following a study done in secondary schools in Nairobi Kenya reported that about 50% of boys and 10% of girls were sexually active. Some of the characteristics that described the sexually active

adolescents included: older adolescents, those in co-educational (mixed boys and girls) schools, those in day schools as compared to those in boarding schools those living with non-relatives such as friends as compared to those living with parents and 90% of the boys who did not belong to any religion (African Population and Health Research Centre, 2009).

Change in sexual behaviour led to a decrease in HIV in Uganda in the 1990s (Cohen, S., 2004). Therefore, risk behavior reduction is an important aspect in the transmission and acquisition of HIV. Foster, C. and Fidler, S., 2011, in their study proposed that sex education should occur early among the adolescents prior to onset of sexual activity so as to reduce the spread of HIV.

2.8: Conceptual Framework



CHAPTER THREE

METHODOLOGY

3.1 Study Area

The study was conducted in seven selected Comprehensive Care Centres within Kakamega County. Kakamega County is one of the four counties in the western region. It borders Vihiga County to the South, Busia and Siaya Counties to the West, Bungoma and Trans-Nzoia Counties to the North East and Nandi County to the East. The County has an approximate area of 3050.3 Km^2.

The county is divided into 12 sub-counties namely: Butere, Khwisero, Lurambi, Navakholo, Shinyalu, Malava, Ikolomani, Likuyani, Lugari, Matungu, Mumias West and Mumias East.

The County has 153 public health facilities, 30 faith based facilities and 89 private health facilities according to the Master Facility list of 2015, of which 187 facilities offer clinical services for people living with HIV. Total bed capacity for both private and public facilities is 3,949. Patient-doctor ratio stands at 1: 34,916, and patient-nurse ratio stands at 1: 2,658.

The projected total county population for 2015 was 1,929,401 with an adolescent population projected to be 475,297. The adolescents thus contribute about 24.6% of the population in Kakamega County.

There are two main ecological zones in the county: the Upper medium zone that covers the Central and Northern parts of the County namely Lurambi, Malava, Shinyalu and Ikolomani and practices intensive maize, beans and horticultural farming on small scale;

Lugari and Likuyani where large scale farming is practiced. The lower Medium ecological Zone covers Mumias, Matungu, Butere and Khwisero with main activity being sugarcane farming.

The county has total road network of 3500 km of which 260 km is bituminous standard and 1701 km is earth surface. It has 30km of railway line with two railway station but not currently in use. There are two airstrips, one in Kakamega and the other in Mumias towns.

Major sources of water are the main rivers that flow through the county such as rivers Nzoia, Sasala, Viratsi, Isikhu, Yala and Lusumu.

The study was done within the Comprehensive Care Clinics in the county that had established adolescent clinics. The adolescent clinics are the routine HIV clinics that have set aside a special day of the week to attend only to the ALHIV. This special day is what is termed as adolescent HIV clinic. Services offered in these adolescent clinics include the routine follow up and screening of TB, assessment of adherence to medication, laboratory monitoring of viral load and CD 4 count. Specific adolescent services include assessment of level of disclosure and understanding by the adolescent of their HIV status, disclosure of HIV status to the adolescents, assessment of sexual maturity (Tanner Staging) of the adolescent and their engagement in sexual activities, health education with messages specific for adolescents and promotion of support group involvement by the adolescents among other services.

The selected clinics were: Kakamega County General Hospital CCC (Lurambi Sub-County), Malava Sub-County Hospital CCC (Malava Sub-County), Butere Sub-County Hospital CCC (Butere Sub-County), Matete Health Center CCC (Lugari Sub-County),

Iguhu Sub-County Hospital CCC (Ikolomani Sub-County), Matungu sub-County Hospital CCC (Matungu Sub-County), St. Mary's Mumias Hospital CCC (Mumias East Sub-County).

3.2: Study Design

This was a cross-sectional, hospital based, mixed method study design with two phases where both quantitative and qualitative data was collected. It was a recommended design for carrying out research among the youth on health related issues by Pluye, S. and Hong, Q., 2014.

3.3: Target Population

The target population was HIV positive adolescents within Kakamega County.

3.4: Study Population

The study population was HIV positive adolescents attending comprehensive care clinics within the County.

The key informants were health care providers, (medical/clinical officers-in charge or the nursing officers in-charge of the adolescent HIV clinic). One person was interviewed per facility. This was a person directly involved in the routine clinical management of the ALHIV and participated in their support group meetings.

3.5: Inclusion Criteria

- HIV positive adolescents aged 10-19 years attending the CCC who were aware of their HIV status
- Health care provider (medical, clinical or nursing officers in-charge of the Comprehensive Care Clinic).

3.6: Exclusion Criteria

- HIV positive adolescents who had intellectual disabilities that would interfere with comprehension of the questions

3.7: Sampling Technique and Sample Size Calculation:

3.7.1: Sample Size Calculation

From literature review, no documented studies were found that had been done to assess the uptake of PWP as a package. Most studies had focused on individual aspects of the package. Thus, a proportion of 50% was assumed.

The level of significance (α) = 5% (0.05), therefore, percentage point of normal distribution corresponding to the two sided significance level, Z, = 1.96

Margin of error = ± 5% (0.05)

Proportion $\hat{p}$ = 50% = 0.5

Therefore sample size: $n = Z^2 \hat{p} (1-\hat{p})$

$= (1.96)^2 \times 0.5 \times 0.5$

$(0.05)^2$

=384.16

= 384 + (10% to cater for non-response or incomplete responses)

= 422

3.7.2: Sampling Technique

To get the number of adolescents to be recruited in the study per facility, the following formula was used:

X / Y x 422 where:

X= total number of active clients in the respective clinic

Y=total number of active clients in the seven participating facilities

422= is the calculated sample size

Data from the District Health Information Systems (DHIS) as of end of September 2015 reporting period was used to calculate the number of participants per facility as shown in the table below.

FACILITY	**ACTIVE CLIENTS (X)**	**EXPECTED STUDY PARTICIPANTS (X/Y x422)**
KAKAMEGA COUNTY GENERAL HOSPITAL	3342	142
MALAVA SUB-COUNTY HOSPITAL	1015	43
BUTERE SUB-COUNTY HOSPITAL	1342	57
MATETE HEALTH CENTER	543	23
IGUHU SUB-COUNTY HOSPITAL	749	32
MATUNGU SUB-COUNTY HOSPITAL	1084	46
ST. MARY'S HOSPITAL MUMIAS	1889	80
TOTAL	**9964 (Y)**	**423**

To select the actual adolescent participant: total number of registered adolescents in the clinic was defined as the sampling frame (N). The total number of adolescents to be

interviewed in the facility was defined as the sample size (n). The first adolescent was selected by simple random sampling. The subsequent adolescents interviewed were identified after every k^{th} person found by N/n, which was different for every facility as shown below:

Kakamega: 200/142=1.5 thus, every third person was skipped and subsequent two people interviewed

Malava: 80/43=1.9 thus every second person was interviewed.

St. Mary's Mumias: 150/80 = 1.9 thus every second person was interviewed.

Matungu: 70/46=1.5 thus every third person was skipped and the two subsequent people interviewed.

Butere: 120/57=2.1 thus every second person was interviewed

Iguhu: 50/32 =1.5 thus every third person was skipped and the subsequent two people interviewed.

Matete: 50/23=2.2 thus every second person was interviewed.

3.8: Data Collection Tools

Interviewer-administered questionnaires were used in the initial phase of the study. Data collected from the questionnaires included: demographic data, knowledge of the PWP services, their uptake and factors associated with their uptake.

In phase two of the study, qualitative data was collected using focused group discussions with adolescents drawn from the different CCCs.

Key Informants who were health care provider in-charge of the adolescent clinics were interviewed.

3.9: Study Period

This study was undertaken over a period of eleven months starting from February 2016 to December 2016

3.10: Study Procedure

Data was collected by the principal investigator and three research assistants under the supervision of the supervisors. The research assistants were selected based on their training in HIV management. One was a clinical officer, one was a nursing officer and the last one was a psychological counsellor/peer educator. All of them had prior training from APHIA plus Western on adolescent HIV management and were working with ALHIV in the CCC in different facilities.

The principal investigator trained the research assistants on the adolescent recruitment process, how to obtain consent and assent for study participation from the participants/parents/guardians and ethical issues surrounding the study and the entire process of data collection.

A pilot study was carried out at Vihiga County Referral Hospital CCC to pre-test the questionnaire one month prior to the actual data collection period. This was done after the principal investigator acquired necessary permission from the institution's management.

At the beginning the study, staff at the CCCs were sensitized by the principal investigator about the study through sensitizations meetings.

The adolescents together with their parents/guardians were sensitized about the study prior to their recruitment. Since most adolescents aged fourteen years and above do not attend the clinic with their parents the adolescents who showed voluntary willingness to

participate in the study were requested to give informed written assent. The principal researcher sought waiver of parental/guardian consent from IREC so as to allow most adolescents to participate freely without fear of their information being shared with the parents thus leading to information bias. Early adolescents (10-13 years old) required parental/guardian consent and their own assent before being recruited into the study. This was because most of them still attended the clinics with their parents/guardians.

Prior to actual participation into the study, the investigators assessed the level of knowledge of the adolescent's own HIV status by using a screening tool (appendix 9). This tool was administered by the research assistants during the adolescent's routine clinical visit or support group meeting after the adolescent had been seen by the clinician, before or after the support group meeting without interfering with the primary reason why the adolescent had visited the clinic in the first place. The screening tool assessed age to ensure that only adolescents were recruited. It also assessed whether the adolescents were aware of their own HIV status and understood why the attended the CCC. Those adolescents who demonstrated knowledge of their own HIV status and understanding of the reasons for attending the CCC were found eligible for the study and were explained to the nature of the study including the filling of questionnaires and participation in FGD. Those who accepted were then recruited into the study. Adolescents aged 18 years and above gave informed written consent while those below 18 years gave informed written assent with those between 10-13 years getting additional parental/guardian written consent.

The participants were interviewed using interviewer-administered questionnaires by the principal researcher or research assistants in a private room pre-determined by the researchers. The interviewers read out the questions and provided pre-agreed upon

explanations (for purposes of uniformity) to the adolescents where necessary to facilitate their understanding of the questions. This was done after review of the questions raised during the pilot study. Responses given by the adolescent were indicated as received and those responses which required explanations were written down verbatim without alterations and were coded later during data entry.

Information received from the questionnaires was analyzed and used to formulate questions for the focused group discussions (FGD). Members of the FGD were derived from the different CCCs. The adolescents who had participated in filling the questionnaires were stratified into early (10-13 years), middle (14-16 years) and late (17-19 years) adolescents. Three baskets were created and labeled early, middle and late adolescents for each facility. Every member of a particular stratum was assigned a number and the numbers written on a piece of paper that was then put in their respective basket and picked randomly without replacement to select participants for the FGD. This was to ensure that all participants had an equal chance of participating in the FGD. Each stratum had several FGDs formed comprising of ten members each. New groups were formed within the same stratum until formation of new groups did not yield new information, that is, saturation had been reached. To get number of participants per facility, a weighted average was used using the formula below:

$$a/b \times 10$$

Where: a = number of adolescents in the specific stratum in the facility

b = total number of adolescents in the specific stratum in the entire study population

10 = number of participants required for each FGD

Three different FGDs were done for the early and mid-adolescents and four different FGDs were done for the late adolescents.

A tape-recorder was used during the discussion and field notes taken by the principal investigator and her research assistants. Specific permission to tape-record the discussion was sought from the adolescents prior to start of the FGD. The recordings were then transcribed and organized into common themes.

Key informants were interviewed by the principal investigator. One key informant from each facility participating in the study was interviewed, giving a total of seven interviews. These were people directly involved in the management of adolescents both clinically and in their support groups. Selection was based on the willingness of the key informant to participate in the study. The Medical/Clinical officer in-charge or the nursing officer in-charge of the adolescent clinic was requested to participate as a key informant. The interview was tape-recorded and short notes taken by the interviewer. The recordings were then transcribed and organized into themes.

3.11: Data Analysis and Presentation

Data collected was double entered in the computer program EpiData® and coding was done for some of the data collected. Data was then exported to STATA®s version 14 for analysis.

Descriptive analyses were first performed to characterize the population. These analyses gave demographic breakdown of the population such as male: female ratio, mean (standard deviation) / median (Inter-quartile range) age etc.

Associations of the demographic characteristics and the uptake of the PWP services were analyzed using bivariate analyses (Pearson's chi-square test and Fisher Exact Test) for each PWP service. P-value of less than 0.05 was statistically significant.

Multivariate logistical regression was done to assess for independent associations between socio-demographic characteristics and uptake of PWP services.

Data from qualitative research was transcribed and organized into themes.

3.12: Data Storage:

Participants' data was stored in the computer under a password known only to the principal investigator. The questionnaires were stored under lock and key accessible to only the principal investigator.

3.13: Ethical Consideration:

3.13.1 Ethics Approval

The study was done after seeking approval from Institutional Research and Ethics Committee (IREC) of Moi University and Moi Teaching and Referral Hospital. Permission was also sought from the County government of Kakamega and the management of the various CCCs and the institution's research bodies where they existed.

3.13.2: Informed consent/ Assent

Only adolescents who had given informed written assent and/or written consent participated in the study.

The health care workers (medical officer, clinical officer or nursing officer in charge of the adolescent HIV clinic) who gave voluntary informed consent were interviewed as key informants.

3.13.3: Confidentiality

Strict confidentiality was maintained with no use of identifiers on the questionnaires. The assent and consent forms were kept under lock and key with linkage to the respective questionnaires only by a code known by the principal investigator. Data was stored in a computer with a password known only by the principal investigator.

Responses by individual adolescents were not shared with anyone including the staff or the parents/guardians and were used only for research purposes.

3.13.4: Benefits to the participants:

All adolescents in the participating facilities received their routine medical care. There was no direct financial benefit to the participants.

3.13.5: Risks to the Participants:

There were no risks associated with the study except some discomfort that might have been experienced by the participants due to the nature of some of the questions in the questionnaire that may have been deemed private and personal. Participants were informed of their right to skip these questions.

3.13.6: Voluntary Participation:

Neither incentives nor inducements were used to coerce participants into the study. The participants were free to leave the study at whatever time with no consequences.

3.14: Dissemination of study findings:

Information from this study was shared with the adolescents, health care providers and the department of Health, Kakamega County. It will also be shared with stakeholders and policy makers involved in the care of ALHIV. This dissemination will also be done through presentation in thesis defense and publication journals.

CHAPTER FOUR
RESULTS

4.1: Demographic Characteristics

A total of 423 adolescents participated in the study. Table 1 shows the demographic characteristics of the participants. The gender distribution was almost equal with a male: female ratio of 1:1.07. The mean age of the adolescents was 14.81 years (SD 2.5). Only a third of the participants had both parents alive with about a half were living with non-biological relatives. Only two adolescents reported marriage with one being separated.

Table 1: Demographic Characteristics of the Participants

Characteristics	**Frequency n=423 (%)**
Gender	
Female	218(51.5%)
Male	205(48.5%)
Age	
10-13 years	136(32.1%)
14-16 years	157(37.1%)
17-19 years	130(30.8%)
Level of education	
Primary	294(69.5%)
Secondary	123(29.1%)
Tertiary (college/university)	4(0.9%)
None	2(0.5%)
Orphan status	
Both parents alive	147(34.8%)
Maternal orphan	67(15.8%)
Paternal orphan	90(21.3%)
Total orphan	119(28.1%)
Guardian status	
Living with both parents	119(28.1%)
Living with mother	87(20.6%)
Living with father	35(8.3%)
Living with grandparents	105(24.8%)
Living with sibling	14(3.3%)
Living with other relatives	63(14.9%)
Treatment status	
On antiretroviral treatment	407(96.2%)
On Prophylaxis for opportunistic infections	418(98.8%)

4.2: Knowledge of own HIV status

Majority of the adolescents screened for eligibility, 423/450 (94%) were aware of their own HIV status. The mean age at knowledge of own status was 10.58 years (SD 2.6). Majority of the adolescents had their HIV status disclosed to them by health care providers at 176/423 (41.6%) while parents disclosed to 168/423 (39.7%).

4.3: Sexuality of the Participants:

About 70/423 (16%) of the adolescents reported to have ever engaged in sexual activity of which majority, 42/70 (60%) were females. Majority of the sexually experienced were the late adolescents at 42/70 (60%), followed by the mid adolescents at 22/70 (31.4%)) with the early adolescents only having 8/42 (8.6%). Table 2 describes the sexual characteristics of the participants. Males had an earlier sexual debut compared to their female counterparts. Females had more sexual partners at a median of 2 (IQR 1-2) as compared to males who had one partner at a median of 1 (IQR 1-2).

Table 2: Sexual Characteristics of the Participants (bivariate analysis).

Parameter	Male	Female	P value
Sexual experience			
No	177(86%)	176(81%)	0.077
Yes	28(14%)	42(19%)	
Mean Age at sexual debut (years)	12.54	14.05	**0.015**
Type of sexual activity			
Oral	0(0%)	1(2%)	0.60
Vaginal penetrative	28(100%)	41(98%)	
Number of sexual partners			
One	16(57%)	12(29%)	0.08
Two	10(36%)	25(60%)	
More than two	2(8%)	5(12%)	

4.4: PWP Services.

4.4.1: Knowledge of PWP Services

More than half of the adolescents, 244 (58%) reported knowledge of PWP services. The adolescents' sexual experience was positively associated with knowledge of PWP services (p=0.001). Condom and abstinence were the most known PWP services as shown in figure 1.

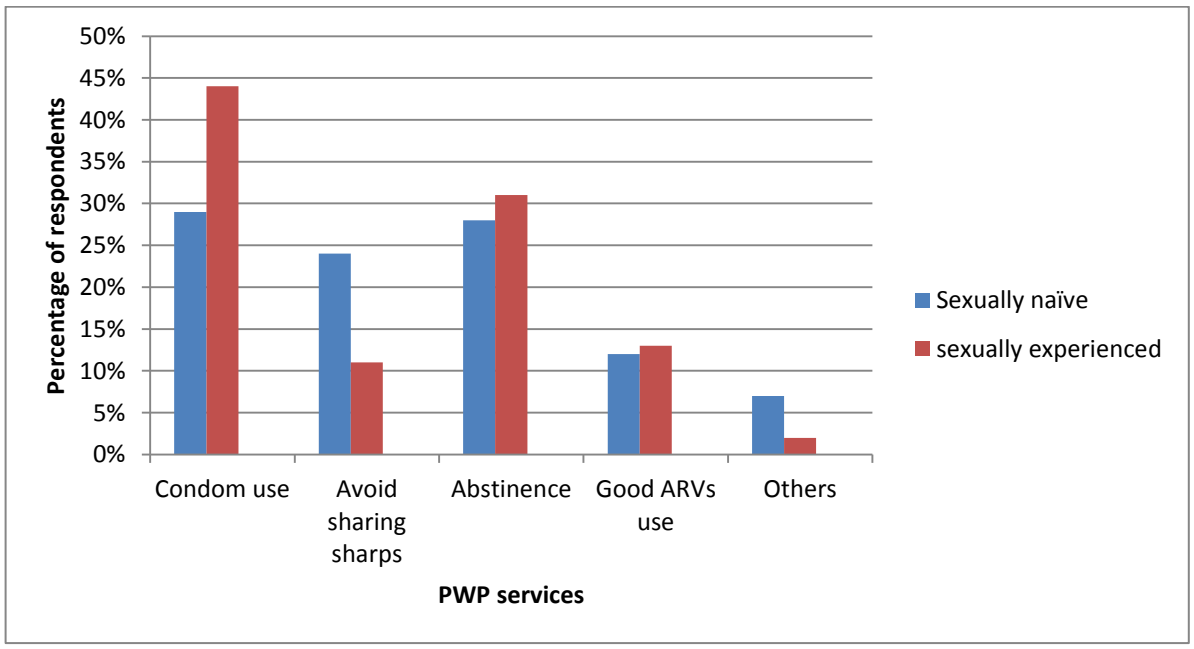


Figure 1: Showing PWP Services Known by Adolescents.

4.4.2: PWP Services Offered in the Clinics

All the PWP services of interest to the study were available at all the facilities in the study. There was an association between sexual experience and knowledge of PWP services for all the services except risk behavior reduction as shown in table 3.

Table 3: PWP services offered at the clinics (bivariate analysis).

PWP services offered at the facilities		Sexually experienced			
		No	**Yes**	**P value**	**Odds Ratio**
Counselling of disclosure of HIV to sexual partner	**No**	176 (50%)	18 (26%)		
	Yes	177 (50%)	**52 (74%)**	**0.001**	2.87
Counselling on knowledge of partner's HIV status	**No**	172 (49%)	14 (20%)		
	Yes	181 (51%)	**56 (80%)**	**0.001**	3.80
Condoms	**No**	220 (62%)	21 (30%)		
	Yes	133 (38%)	**49 (70%)**	**0.001**	3.86
Family planning/Use of contraceptives	**No**	**276 (78%)**	35 (50%)		
	Yes	77 (22%)	35 (50%)	**0.001**	3.58
Screening for STIs	**No**	**279 (79%)**	42 (60%)		
	Yes	74 (21%)	28 (40%)	**0.001**	2.51
Risk behaviour reduction messages	**No**	**214 (61%)**	36 (51%)		
	Yes	139 (39%)	34 (49%)	0.098	1.45

4.5: Uptake of the PWP Services:

4.5.1: Disclosure of HIV Status to Sexual Partners:

Among the sexually active adolescents, 42/70 (60%) had known their HIV status at any one time during their sexual activity. Only 16/42 (38.1%) disclosed their HIV status to their sexual partners.

The main reasons given for disclosure were:

To also know their partners' HIV status as reported by 8 (50%) adolescents and to prevent spread of HIV infection to partner as reported by 8 (50%) adolescents

The main reasons given for non-disclosure were:

Fear of rejection by sexual partner as reported by 17 (65.4%) and fear that their partners will not keep this information confidential as reported by (15.4%)

Among the 353 sexually naïve adolescents, majority 247 (70%) reported that they would disclose their HIV status to their future sexual partners, citing the following reasons:

To know partners' HIV status as reported by 100 (40.5%) adolescents and to prevent spread of HIV infection to partner as reported by 126 (51.0%) adolescents.

Of the 106 sexually naïve adolescents who would not disclose their status:

Fear that their sexual partners would tell others about their HIV status was reported by 66 (62.3%) and 32 (30.2%) reported fear of rejection by partner.

4.5.2: Knowledge of Sexual Partner's HIV Status.

Only 12/70 (17%) of the adolescents who had ever engaged in sexual activity knew the HIV status of their sexual partners of whom 11/12 (91.7%) reported being informed by their partners.

4.5.3: Condom Use:

Table 4 shows condom use by adolescents. Less than half the adolescents reported use of condoms with a third reporting getting the condoms from the health facilities.

Table 4: Condoms Use (bivariate analysis)

Characteristic		Males	Females	Total	P value
Ever used a condom	No	17 (61%)	23 (55%)	40 (57%)	
	Yes	11 (39%))	19 (45%)	30 (43%)	0.251
	Total	28 (100%	42(100%)	70 (100%)	
Source of Condoms	Hospital	4 (36%)	5 (26%)	9 (30%)	
	Shop	3 (27%)	3 (16%)	6 (20%)	
	Friend	3 (27%)	0 (0%)	3 (10%)	**0.04**
	Partner had them	1 (9%)	11(58%)	12 (40%)	
	Total	11 (100%)	19 (100%)	30 (100%)	
Who initiated condom use	Myself	10 (90%)	11 (58%)	21 (70%)	
	My partner	1 (10%)	8 (42%)	9 (30%)	0.09

The main reasons cited for condom use were to prevent the spread of HIV infection and prevent unplanned pregnancies as reported by 15/30 (50%) and 9/30 (30%) of the adolescents respectively.

The main reason for not using condom was reported as lack of knowledge about condom by 30/40 (75%) of the adolescents.

Only 33/423 (7.8%) of all the study participants reported ever being issued with condoms at their facilities, with 20/33 (60.6%) of them reporting having been taught on how to use them correctly.

4.5.4: Contraceptive Use:

Only 157/423 (37.12%) of the study participants reported knowledge of contraceptives and gender was not associated with this knowledge (p=0.13). Among the sexually experienced adolescents, 19/70 (27.1%) did not know about contraceptives. Health care providers (45%) and teachers (26%) were the main sources of information on contraceptives.

Condoms and pills were the most known form of contraceptives at 83% and 39% respectively with intrauterine contraceptive device (IUCD) being the least known at 2%.

Only 18/70 (25.7%) of the sexually experienced adolescents reported use of contraceptives with majority, 16/18 (88.9%) reporting use of condoms. Only 2 (11.1%) reported use of implants.

The adolescents using implants reported long duration of action and fewer hospital visits for contraceptives as the main reasons for use of this method. Among the adolescents who were using condom users, 9/16 (56.3%) reported ease of usage of the condom as the main reason they chose the method.

4.5.5: Screening For Sexually Transmitted Infections

Majority, 260/423 (61.5%) of the adolescents reported knowledge of STIs. Among the sexually experienced adolescents, 13/70 (18.6%) reported lack of knowledge on STIs.

Teachers (65%) and Health care providers (24%) were the main sources of information on STIs.

Syphilis (58%), Gonorrhea (55%) and HIV (50%) were listed as the main STIs known by the adolescents. However, 29 (11.2%) of the adolescents reported non-STIs such as tuberculosis (n=10), typhoid (n=6) and malaria (n=3) among others as STIs.

Only 24/70 (34.3%) of the sexually experienced adolescents reported ever being screened for sexually transmitted infections with 9/24 (12.9%) having suffered from an STI of whom 7 had gonorrhea, 1 had genital herpes and 1 had trichomoniasis.

4.5.6: Risk Behavior Reduction:

The commonest risk behaviors associated with increased risk of HIV transmission as listed by the adolescents were as shown in figure 2. Notably, 29% of the study participants did not know any risk behaviours associated with increased risk of HIV transmission.

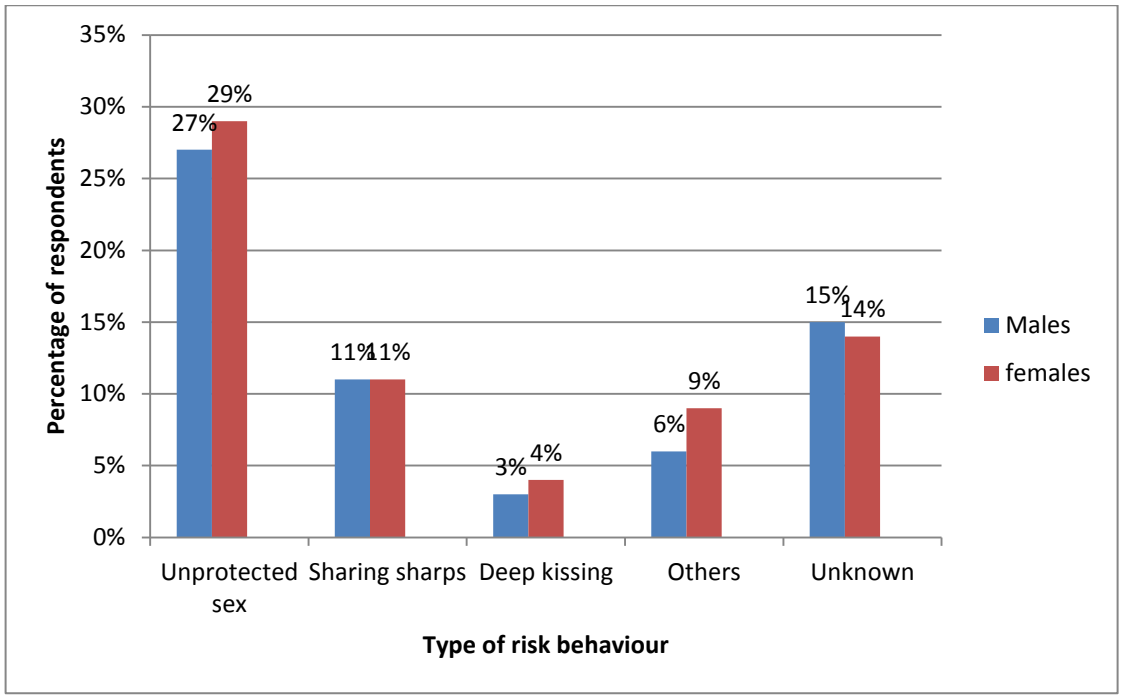


Figure 2: Risk Behaviours Associated with Risk of HIV Transmission.

Risk behaviors listed as others included having multiple sexual partners, alcohol and substance abuse and poor adherence to ARVs.

A few of the ALHIV, 53/423 (12.3%) reported ever engaging in risk behaviors with majority, 40/52 (77%), reporting sharing of sharps and unprotected sex 12/52 (23%). 47(11.1%) adolescents reported ever partaking of alcohol, 6(1.42%) reported cigarette use and 2(0.47%) reported use of bhang. 17(4.0%) reported ever engaging in sexual intercourse while under the influence of a substance of abuse.

Majority of the adolescents, 281/423 (66.4%) reported receiving risk reduction messages. The commonest risk reduction messages received were abstinence and condom use as shown in figure 3. Most of the adolescents reported getting the messages during support group meetings 238/281 (85%), with the remaining reporting individual counselling at 50/281 (12%) and use of posters.

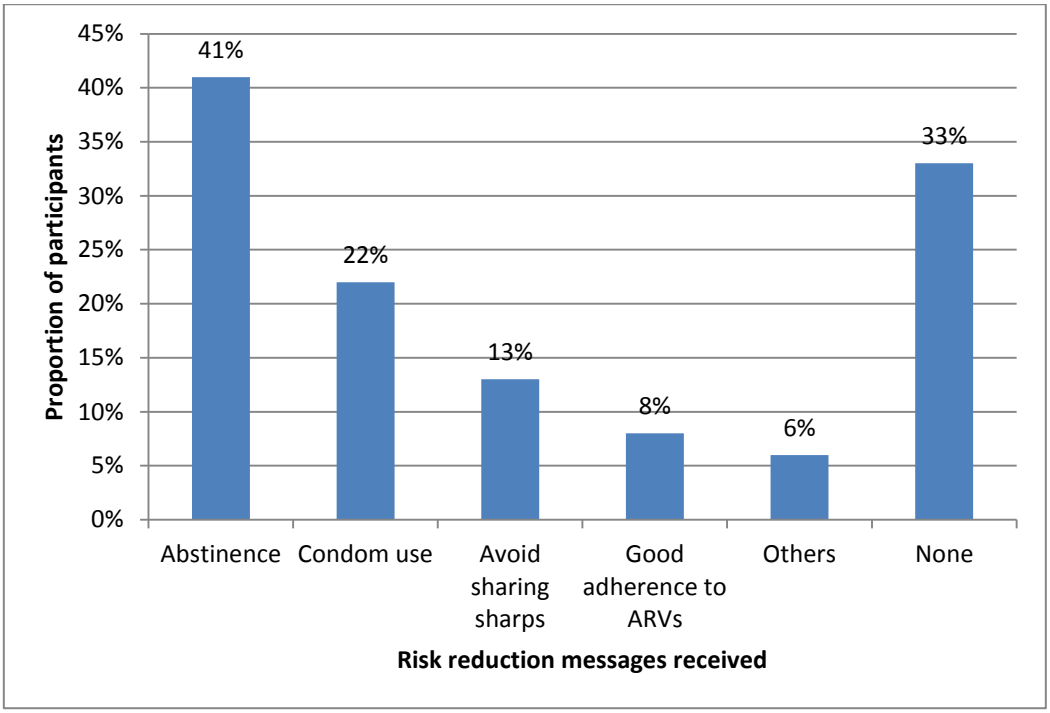


Figure 3: Bar graph showing risk behavior reduction messages received by the adolescents

4.6: Factors Associated with Uptake of PWP

4.6.1: Factors Associated with Disclosure of HIV Status to Sexual Partner:

Level of education, sexual experience, engagement in risk behavior and discussion of PWP services with friends and parents/guardians were found to be associated with disclosure of HIV status to sexual partner at bivariate analysis as shown in table 5.

Table 5: Bivariate analysis of Factors Associated With Disclosure of HIV Status to Sexual Partner

Characteristic		**Disclosure of HIV status to sexual partner**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		14.9	2.6	14.7	2.4	0.54
Age category	10-13 years	82	60.3	54	39.7	0.66
	14-16 years	96	61.1	61	38.9	
	17-19 years	85	65.4	45	34.6	
Gender	Male	126	61.5	79	38.5	0.77
	Female	137	62.8	81	37.2	
Religion	Protestant	143	61.9	88	38.1	0.29
	Catholic	72	62.6	43	37.4	
	Muslim	25	67.6	12	32.4	
	African religion	18	51.4	17	48.6	
	None	5	100	0	0	
Education	Primary	172	58.5	122	41.5	**0.04**
	Secondary	85	69.1	38	30.9	
	Tertiary	4	100	0	0	
	None	2	100	0	0	
Orphan status	Both parents alive	87	59.2	60	40.8	0.26
	Dad alive/Mum dead	48	71.6	19	28.4	
	Mum alive/Dad dead	52	57.8	38	42.2	
	Total orphan	76	63.9	43	36.1	
Lives with	Both parents	71	59.7	48	40.3	0.56
	Mother	51	58.6	36	41.4	
	Father	25	71.4	10	28.6	
	Aunt	30	66.7	15	33.3	
	Uncle	8	61.5	5	38.5	
	Sibling	10	71.4	4	28.6	
	Grandparents	63	60	42	40	
	Other	5	100	0	0	
Who disclosed status *(disclosurer)*	Parents	108	64.3	60	35.7	0.16
	Guardian	54	69.2	24	30.8	
	HCW	100	56.8	76	43.2	
Age at disclosure (years), *mean[sd]*		10.4	2.6	10.7	2.7	0.28
On ARVs	Yes	256	62.9	151	37.1	0.12
	No	7	43.7	9	56.3	
Knowledge of PWP services	Yes	159	65.2	85	34.8	0.14
	No	104	58.1	75	41.9	
Ever engaged in sexual	Yes	17	24.3	53	75.7	**<0.001**
	No	246	69.7	107	30.3	

activity						
Ever given condom in the facility	Yes	24	72.7	9	27.3	0.19
	No	239	61.3	151	38.7	
Ever engaged in risk behaviours	Yes	14	26.9	38	73.1	**<0.001**
	No	249	67.1	122	32.9	
Ever discussed PWP with friends	Yes	103	72	40	28	**0.003**
	No	249	67.1	120	42.9	
Ever discussed PWP with parent/ guardian	Yes	114	71.3	46	28.7	**0.003**
	No	149	56.6	114	43.4	
Engage in IGA	Yes	24	72.7	9	27.3	0.9
	No	239	61.3	151	38.7	

At multivariate analysis, level of education and sexual experience remained statistically significant and being issued with condoms in the facility became statistically significant as shown in table 6.

Table 6: Multivariate Regression Analysis of Factors Associated with Disclosure of HIV Status to Sexual Partner

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	0.98	0.86 – 1.12	0.81
Gender	Females compared to males	1.2	0.76 – 1.9	0.43
Religion	Change from one category to another	0.96	0.79 -1.15	0.65
Education	Change between categories	2.74	1.41 – 5.31	**0.003**
Orphan status	Change between categories	0.95	0.75 – 1.21	0.7
Lives with	Change between categories	1.08	0.95 – 1.22	0.23
Disclosurer	Change between categories	0.79	0.6 – 1.05	0.11
Age at disclosure	1 year increase in age	1.03	0.93 – 1.15	0.59
On ARVS	No compared to Yes	0.62	0.18 – 2.1	0.45
Knowledge of PWP services	No compared to Yes	0.84	0.51 – 1.4	0.51
Ever engaged in sexual activity	No compared to Yes	26.73	7.43 – 96.14	**<0.001**
Ever given condom from facility	No compared to Yes	0.26	0.81 – 0.84	**0.024**
Ever engaged in risk behaviour	No compared to Yes	0.88	0.25 – 3.13	0.85
Ever discussed PWP with friends	No compared to Yes	0.58	0.32 – 1.08	0.09
Ever discussed PWP with parent/ guardian	No compared to Yes	0.74	0.42 – 2.44	0.31
Engage in IGA	No compared to Yes	0.42	0.74 – 2.44	0.38

AOR=Adjusted Odds Ratio, CI= Confidence Interval

4.6.2: Factors Associated with Knowledge of Sexual Partner's HIV Status

Level of education and the person who disclosed to the adolescent their own HIV status were found to be statistically significant at bivariate analysis with knowledge of partner's HIV status as shown in table 7.

Table 7: Bivariate analysis of Factors Associated with Knowledge of Partner's HIV Status among the Sexually Experienced Adolescents

Characteristic		**Knowledge of sexual partner's HIV status**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		17.4	1.4	16.6	1.9	0.21
Age category	10-13 years	0	0	6	100	0.51
	14-16 years	2	10	18	90	
	17-19 years	9	20.4	35	79.6	
Gender	Male	4	14.3	24	85.7	0.9
	Female	7	16.7	35	63.3	
Religion	Protestant	6	14.6	35	85.4	0.9
	Catholic	3	16.7	15	83.3	
	Muslim	1	20	4	80	
	African religion	1	16.7	5	83.3	
Education	Primary	3	18.3	33	91.7	**0.012**
	Secondary	6	18.8	26	81.2	
	Tertiary	0	0	2	100	
Orphan status	Both parents alive	2	10.5	17	89.5	0.72
	Dad alive/Mum dead	1	10	9	90	
	Mum alive/Dad dead	2	13.3	13	86.7	
	Total orphan	6	23.1	20	76.9	
Lives with	Both parents	2	13.3	13	86.7	0.65
	Mother	2	12.5	14	87.5	
	Father	1	25	3	75	
	Aunt	1	16.7	5	83.3	
	Uncle	0	0	1	100	
	Sibling	2	50	2	50	
	Grandparents	3	14.3	18	85.7	
	Other	0	0	3	100	
Who disclosed status *(disclosurer)*	Parents	2	11.8	15	88.2	**0.03**
	Guardian	6	37.5	10	62.5	
	HCW	3	8.1	34	91.9	
Age at disclosure (years), *mean[sd]*		11.8	2.8	11.9	3.1	0.87
On ARVs	Yes	11	17.2	53	82.8	0.58
	No	0	0	6	100	
Knowledge of PWP services	Yes	9	16.4	46	83.6	0.9
	No	2	13.3	13	86.7	
Ever discussed PWP with friends	Yes	7	22.6	24	77.4	0.2
	No	4	10.3	35	89.7	
Ever discussed PWP with parent/ guardian	Yes	7	21.9	25	78.1	0.19
	No	4	10.5	34	89.5	
Engage in IGA	Yes	2	33.3	4	66.7	0.24
	No	9	14.1	55	85.9	

However, on multivariate logistical regression, no factor was found to be significantly associated with knowledge of sexual partner's HIV status as shown in table 8.

Table 8: Multivariate Regression Analysis of Factors Associated With Knowledge of Partner's Status

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	1.13	0.61 – 2.11	0.69
Gender	Females compared to males	0.72	0.14 – 3.80	0.72
Religion	Change from one category to another	1.34	0.66 – 2.71	0.42
Education	Change between categories	4.48	0.91 – 21.98	0.06
Orphan status	Change between categories	1.77	0.65 – 4.78	0.26
Lives with	Change between categories	0.87	0.55 – 1.36	0.54
Disclosurer	Change between categories	0.37	0.1 – 1.26	0.11
Age at disclosure	1 year increase in age	1.05	0.75 – 1.48	0.29
Knowledge of PWP services	No compared to Yes	4.32	0.28 – 67.51	0.3
Ever discussed PWP with friends	No compared to Yes	0.34	0.45 – 2.52	0.29
Ever discussed PWP with parent/ guardian	No compared to Yes	0.6	0.1 – 3.52	0.57
Engage in IGA	No compared to Yes	0.35	0.27 – 4.56	0.42

4.6.3: Factors Associated With Condom Use.

At bivariate analysis, the age of the respondent, age at disclosure and sexual debut, knowledge of own HIV status, disclosure of HIV status to sexual partner and engaging in risk behavior were statistically significantly associated with the use of condoms by the adolescents as shown in table 9.

Table 9: Bivariate analysis of Factors Associated With Use of Condoms

Characteristic		**Use of condom**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		17.5	1.4	16.1	1.9	**0.001**
Age category	10-13 years	0	0	6	100	**0.03**
	14-16 years	7	35	13	65	
	17-19 years	23	52.3	21	47.7	
Gender	Male	10	35.7	18	64.3	0.3
	Female	20	47.6	22	52.4	
Religion	Protestant	19	46.3	22	53.7	0.77
	Catholic	8	44.4	10	55.6	
	Muslim	1	20	4	80	
	African religion	2	33.3	4	66.7	
Education	Primary	13	36.1	23	63.9	0.2
	Secondary	15	46.9	17	53.1	
	Tertiary	2	100	0	0	
Lives with	Both parents	8	53.3	7	46.7	0.39
	Mother	6	37.5	10	62.5	
	Father	2	50	2	50	
	Aunt	2	33.3	4	66.7	
	Uncle	1	100	0	0	
	Sibling	1	25	3	75	
	Grandparents	7	33.3	14	66.7	
	Other	3	100	0	0	
Who disclosed status *(disclosurer)*	Parents	8	47.1	9	52.9	0.33
	Guardian	9	56.3	7	43.7	
	HCW	13	35.1	24	64.9	
Age at disclosure (years), *mean[sd]*		12.8	2.9	11.3	3.1	**0.05**
On ARVs	Yes	25	39.1	39	60.9	0.78
	No	5	83.3	1	16.7	
Knowledge of PWP services	Yes	24	43.6	31	56.4	0.78
	No	6	40	9	60	
Age at sexual debut (years), *mean(sd)*		15.1	1.7	12.2	2.4	**<0.001**
Number of sexual partners	1	15	42.9	20	57.1	0.64
	2	13	46.4	15	53.6	
	3	1	20	4	80	
	4	0	0	1	100	
	5	1	100	0	0	
Knowledge of one's own status at	Yes	26	61.9	16	38.1	**<0.001**
	No	4	14.3	24	85.7	

sexual activity						
Disclosure of HIV status to partner	Yes	12	70.6	5	29.4	**0.008**
	No	18	34	35	66	
Knowledge of partner's HIV status	Yes	7	63.6	4	36.4	0.19
	No	23	39	36	61	
Given condom in the facility	Yes	10	66.7	5	33.3	**0.04**
	No	20	36.4	35	63.6	
Engagement in Risk behaviours	Yes	17	34.7	32	65.3	**0.03**
	No	13	61.9	8	38.1	
Ever discussed PWP with friends	Yes	12	38.7	19	61.3	0.53
	No	18	46.2	21	53.8	
Ever discussed PWP with parent/ guardian	Yes	16	50	16	50	0.27
	No	14	36.8	24	63.2	
Engage in IGA	Yes	4	66.7	2	33.3	0.39
	No	26	40.6	38	59.4	

At multivariate analysis, only knowledge of own status was statistically significantly associated with use of condom as shown in table 10.

Table 10: Multivariate Regression Analysis of Factors Associated with Use of Condoms

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	2.60	0.92 – 7.16	0.07
Gender	Females compared to males	0.31	0.03 – 3.70	0.36
Religion	Change from one category to another	0.61	0.16 – 2.35	0.47
Education	Change between categories	0.48	0.54 – 4.22	0.51
Lives with	Change between categories	2.02	0.94 – 4.37	0.07
Disclosurer	Change between categories	0.18	0.03 – 1.27	0.08
Age at disclosure	1 year increase in age	2.30	0.94 – 5.63	0.07
Knowledge of PWP services	No compared to Yes	3.78	0.98 – 145.2	0.47
Age at sexual debut	1 year increase in age	1.79	0.77 – 1.84	0.17
Number of sexual partners		0.37	0.07 – 1.84	0.22
Knowledge of own status at sexual activity	No compared Yes	193.6	2.94 – 12758.5	**0.014**
Disclosure of status to sexual partner	No compared yes	1.31	0.08 – 20.87	0.85
Knowledge of Partner's HIV status	No compared Yes	0.68	0.02 – 25.08	0.83
Given condom in the facility	No compared Yes	0.52	0.03 – 7.84	0.64
Ever engaged in risk behaviours	No compared yes	11.03	0.63 – 193.8	0.10
Ever discussed PWP with friends	No compared to Yes	2.44	0.17 – 33.97	0.5
Ever discussed PWP with parent/ guardian	No compared to Yes	0.41	0.47 – 3.6	0.42
Engage in IGA	No compared to Yes	4.5	0.07 – 289.6	0.48

4.6.4: Factors Associated with Use of Contraceptives.

At bivariate analysis, only age of respondent and discussion of PWP services with friends were found to be statistically significantly associated with use of contraceptives as shown in table 11.

Table 11: Bivariate analysis of Factors Associated with use of Contraceptives

Characteristic		**Use of contraceptives**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		17.6	1.3	16.7	1.6	**0.05**
Age category	10-13 years	0	0	1	100	0.69
	14-16 years	4	26.7	11	73.3	
	17-19 years	14	40	21	60	
Gender	Male	7	35	13	65	0.97
	Female	11	35.5	20	64.5	
Religion	Protestant	13	41.9	18	58.1	0.48
	Catholic	2	18.2	9	81.8	
	Muslim	1	20	4	80	
	African religion	2	50	2	50	
Education	Primary	10	56.5	13	43.5	0.45
	Secondary	8	30.8	18	69.2	
	Tertiary	0	0	2	100	
Orphan status	Both parents alive	8	53.3	7	46.7	0.22
	Dad alive/Mum dead	2	33.3	4	66.7	
	Mum alive/Dad dead	4	40	6	60	
	Total orphan	4	20	16	80	
Lives with	Both parents	6	54.6	5	45.4	0.263
	Mother	5	38.5	8	61.5	
	Father	0	0	2	100	
	Aunt	0	0	3	100	
	Uncle	1	100	0	0	
	Sibling	0	0	2	100	
	Grandparents	4	25	12	75	
	Other	2	66.7	1	33.3	
Who disclosed status *(disclosurer)*	Parents	6	42.9	8	57.1	0.8
	Guardian	3	27.3	8	72.7	
	HCW	9	34.6	17	65.4	
Age at disclosure (years), *mean[sd]*		13.1	3.5	12.1	2.5	0.25
On ARVs	Yes	15	31.9	32	68.1	0.12
	No	3	75	1	25	
Knowledge of PWP services	Yes	16	34.8	30	65.2	0.9
	No	2	40	3	60	
Ever discussed PWP with friends	Yes	5	18.5	22	81.5	**0.008**
	No	13	54.2	11	45.8	
Ever discussed PWP with parent/ guardian	Yes	10	35.7	18	64.3	0.94
	No	8	34.8	15	65.2	
Engage in IGA	Yes	1	25	3	75	1.0
	No	17	36.2	30	63.8	

At multivariate analysis, both age of respondent and discussion of PWP with friends remained significant as shown in table 12.

Table 12: Multivariate Regression Analysis of Factors Associated With Use of Contraceptives

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	1.93	1.02 – 3.67	**0.04**
Gender	Females compared to males	1.82	0.34 – 9.62	0.48
Religion	Change from one category to another	0.88	0.46 – 1.69	0.7
Education	Change between categories	0.31	0.45 – 1.97	0.22
Orphan status	Change between categories	0.61	0.28 – 1.31	0.20
Lives with	Change between categories	1.08	0.70 – 1.68	0.72
Disclosurer	Change between categories	0.69	0.23 – 2.01	0.49
Age at disclosure	1 year increase in age	0.97	0.69 – 1.34	0.84
On ARVs	No compared to Yes	1.60	0.38 -66.2	0.81
Knowledge of PWP services	No compared to Yes	0.60	0.48 – 7.42	0.69
Ever discussed PWP with friends	No compared to Yes	9.42	1.48 – 59.9	**0.02**
Ever discussed PWP with parent/ guardian	No compared to Yes	0.56	0.10 – 3.20	0.52
Engage in IGA	No compared to Yes	5.8	0.24 – 143.2	0.28

4.6.5: Factors Associated With Screening for STIs.

At bivariate analysis, age of the respondent, sexual experience, knowledge of PWP services and discussion of PWP services with friends and parents/guardians were found to be statistically significantly associated with screening of STIs as shown in table 13.

Table 13: Bivariate analysis of Factors Associated With Screening for STIs

Characteristic		**Screened for STIs**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		16.3	[2.0]	14.7	[2.5]	**0.003**
Age category	10-13 years	3	2.2	133	97.8	**0.021**
	14-16 years	8	5.1	149	94.9	
	17-19 years	13	10	117	90	
Gender	Male	12	5.8	193	94.2	0.88
	Female	12	5.5	206	94.5	
Religion	Protestant	17	7.4	214	92.6	0.48
	Catholic	6	5.2	109	94.8	
	Muslim	1	2.7	36	97.3	
	African religion	0	0	35	100	
	None	0	0	5	100	
Education	None	0	(0)	2	(100)	0.07
	Primary	12	4.1	282	95.9	
	Secondary	11	8.9	112	91.2	
	Tertiary	1	25	3	75	
Orphan status	Both parents alive	4	2.7	143	97.3	0.17
	Dad alive/Mum dead	6	9.0	61	91.0	
	Mum alive/Dad dead	5	5.6	85	94.4	
	Total orphan	9	7.6	110	92.4	
Lives with	Both parents	4	3.4	115	96.6	0.14
	Mother	5	5.8	82	94.2	
	Father	3	8.6	32	91.4	
	Aunt	1	2.2	44	97.8	
	Uncle	2	15.4	11	84.6	
	Sibling	2	14.3	12	85.7	
	Grandparents	6	5.7	99	94.3	
	Other	1	20.0	4	80.0	
Who disclosed status *(disclosurer)*	Parents	8	4.8	160	95.2	0.65
	Guardian	6	7.7	72	92.3	
	HCW	10	5.7	166	94.3	
	Other	0	0	1	100	
Age at disclosure (years), *mean[sd]*		11.4	[2.7]	10.4	[2.6]	0.09

On ARVs	Yes	22	5.4	385	94.6	0.23
	No	2	12.5	14	87.5	
Knowledge of PWP services	Yes	22	9.0	222	91.0	**0.001**
	No	2	1.1	177	98.9	
Ever had sex	Yes	13	18.6	57	81.4	**<0.001**
	No	11	3.1	342	96.9	
Ever discussed PWP with friends	Yes	18	12.6	125	87.4	**<0.001**
	No	6	2.1	274	97.9	
Ever discussed PWP with parent/ guardian	Yes	16	10.0	144	90.0	**0.003**
	No	8	3.0	255	9.7	
Engage in IGA	Yes	1	8.3	11	91.7	0.509
	No	23	5.6	388	94.4	

At multivariate analysis, only sexual experience and discussion of PWP services with friends remained significant as shown in table 14.

Table 14: Multivariate Regression Analysis of Factors Associated with Screening for STIs

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	0.96	0.73 - 1.27	0.8
Gender	Females compared to males	0.51	0.19 – 1.34	0.17
Religion	Change from one category to another	0.52	0.27 – 1.03	0.06
Education	Change between categories	1.37	0.50 – 3.75	0.54
Orphan status	Change between categories	1.05	0.62 – 1.81	0.84
Lives with	Change between categories	1.03	0.80 – 1.33	0.81
Disclosurer	Change between categories	0.91	0.50 – 1.66	0.77
Age at disclosure	1 year increase in age	1.06	0.87 – 1.29	0.55
On ARVs	No compared to Yes	3.42	0.47 – 25.1	0.22
Knowledge of PWP services	No compared to Yes	0.32	0.06 – 1.62	0.17
Ever had sex	No compared to Yes	0.19	0.06 – 0.52	**0.001**
Ever discussed PWP with friends	No compared to Yes	0.22	0.07 – 0.73	**0.014**
Ever discussed PWP with parent/ guardian	No compared to Yes	0.65	0.22 – 1.94	0.44
Engage in IGA	No compared to Yes	2.07	0.21 – 20.15	0.53

4.6.6: Factors Associated with Engaging in Risk Behaviours.

At bivariate analysis, the age of the respondents, age at knowledge of own HIV status, sexual experience, knowledge of PWP services and discussion of PWP services with

friends were statistically significantly associated with engaging in risk behavior as shown in table 15.

Table 15: Bivariate analysis of Factors Associated With Engaging in Risk Behaviour Reduction Activities

Characteristic		**Engaged in risk behaviour reduction activities**				
		Yes		**No**		
		N	**(%)**	**N**	**(%)**	***P* value**
Age (years), *mean[sd]*		16.8	[1.8]	14.5	[2.5]	**<0.0001**
Age category	10-13 years	4	(3)	132	(97)	**<0.001**
	14-16 years	16	(10)	141	(90)	
	17-19 years	32	(25)	98	(75)	
Gender	Male	24	(12)	181	(88)	0.7
	Female	28	(13)	190	(87)	
Religion	Protestant	28	(12)	203	(88)	0.6
	Catholic	18	(16)	97	(84)	
	Muslim	4	(11)	33	(89)	
	African religion	2	(6)	33	(94)	
	None	0	(0)	5	(100)	
Education	None	0	(0)	2	(100)	**0.008**
	Primary	26	(9)	268	(91)	
	Secondary	26	(20)	98	(80)	
	Tertiary	1	(25)	3	(75)	
Orphan status	Both parents alive	14	(10)	133	(90)	**0.048**
	Dad alive/Mum dead	11	(16)	56	(84)	
	Mum alive/Dad dead	6	(7)	84	(93)	
	Total orphan	21	(18)	98	(82)	
Lives with	Both parents	12	(10)	107	(90)	0.07
	Mother	6	(7)	81	(93)	
	Father	4	(11)	31	(89)	
	Aunt	4	(9)	41	(91)	
	Uncle	1	(8)	12	(92)	
	Sibling	3	(21)	11	(79)	
	Grandparents	20	(19)	85	(81)	
	Other	2	(40)	3	(60)	

Who disclosed status *(disclosurer)*	Parents	9	(5)	159	(95)	**0.001**
	Guardian	11	(14)	67	(86)	
	HCW	32	(18)	144	(82)	
	Other	0	(0)	1	(100)	
Age at disclosure (years), *mean[sd]*		11.9	[3.3]	10.3	[2.5]	**0.0001**
On ARVs	Yes	46	(11)	361	(89)	**0.008**
	No	6	(38)	10	(63)	
Knowledge of PWP services	Yes	43	(18)	201	(82)	<**0.001**
	No	9	(5)	170	(95)	
Ever had sex	Yes	49	(70)	21	(30)	<**0.001**
	No	3	(1)	350	(99)	
Ever discussed PWP with friends	Yes	25	(17)	118	(83)	**0.02**
	No	27	(10)	253	(90)	
Ever discussed PWP with parent/ guardian	Yes	24	(15)	136	(85)	0.2
	No	28	(11)	235	(89)	
Engage in IGA	Yes	5	(42)	7	(58)	**0.009**
	No	47	(11)	364	(89)	

At multivariate analysis, only sexual experience remained significant while the person who disclosed the HIV status to adolescent and who the adolescent lives with became significant as shown in table 16.

Table 16: Multivariate Regression Analysis of Factors Associated With Engaging in Risk Behaviour Reduction Activities

Characteristic		**AOR**	**95% CI**	***P* value**
Age	1 year increase in age	1.15	0.80 – 1.66	0.4
Gender	Females compared to males	0.33	0.10 – 1.11	0.07
Religion	Change from one category to another	0.84	0.52 – 1.35	0.5
Education	Change between categories	0.74	0.21 – 2.60	0.6
Orphan status	Change between categories	0.58	0.32 – 1.05	0.07
Lives with	Change between categories	1.47	1.09 – 2.0	**0.01**
Disclosurer	Change between categories	2.70	1.27 – 5.73	**0.01**
Age at disclosure	1 year increase in age	0.92	0.73 – 1.16	0.5
On ARVs	No compared to Yes	4.88	0.28 – 84.2	0.3
Knowledge of PWP services	No compared to Yes	0.28	0.06 – 1.24	0.09
Ever had sex	No compared to Yes	0.002	0.0004 – 0.01	**<0.001**
Ever discussed PWP with friends	No compared to Yes	0.42	0.12 – 1.51	0.2
Ever discussed PWP with parent/ guardian	No compared to Yes	1.94	0.54 – 6.92	0.3
Engage in IGA	No compared to Yes	0.70	0.06 – 7.47	0.5

4.7: Results from the Focussed Group Discussions:

1.) THEME 1: KNOWLEDGE OF PREVENTION WITH POSITIVES SERVICES

The early adolescents understood PWP mainly as ways of preventing the different methods through which HIV transmissions occur. Majority mentioned avoidance of sharing sharps (mainly razor blades) as a key way of PWP. Other methods mentioned included: use of condoms, avoidance of deep kissing and avoidance of blood transfusion. However, a few among them mentioned avoidance of sharing of clothes and utensils, good adherence to ARVs and clinical appointments and eating a well-balanced diet as ways of preventing HIV infection/transmission.

The mid-adolescents described PWP as *"how to avoid or prevent much spread of HIV"*. Some of the methods of PWP that they mentioned included abstinence from sex, use of condoms, avoid sharing of sharps, education on effects of HIV and avoidance of sexually transmitted infections. A few mentioned about avoidance of breastfeeding to prevent mother to child transmission.

One of the late adolescents described PWP as *"measures or actions that one can take when HIV positive to improve body's immunity and thus prevent transmission of HIV"*. Another description given was *"measures carried out by doctors and other health care providers to prevent others from being infected and the ones who are HIV positive from getting further infections"*. Some of the methods mentioned included disclosure of HIV status to sexual partner, being faithful to one partner, avoidance of unwanted pregnancies, condom use during sexual intercourse, prevention of mother to child transmission and proper screening of blood prior to transfusion.

2.) THEME 2: PWP SERVICES OFFERED IN THE CLINICS

Majority of the early adolescents reported information on importance of adherence to ARVs and clinical appointments, eating balanced diet and information on avoidance of sharing of sharps as the main PWP services offered in their clinics.

The mid and late adolescents reported information on importance of abstinence, condom use and provision of condoms, information on disclosure of HIV status to partner and knowledge of partner's status and education on how to live positively with HIV as the key PWP services they receive. A few of the adolescents reported receiving information on family planning but rarely getting the family planning commodities from the facilities. However, an adolescent from a faith based institution (St. Mary's Mumias) reported that the key information they received was abstinence since the facility did not offer condoms nor family planning commodities.

3.) THEME 3: FACTORS THAT PROMOTE UPTAKE OF THE PWP SERVICES:

The main factors that were reported by the adolescents that promoted the uptake of PWP services were:

Education on the importance of preventing the spread of HIV. The adolescents reported that knowledge of how HIV is spread helped them avoid transmitting the infection to others.

Having adolescent clinics and psycho-social support group meetings separate from the adults and pediatrics clinics. This was explained by the fact that the adolescents felt more comfortable when they attended clinic with peers. During these clinics, matters touching on adolescent development were discussed and the adolescents were more at ease

sharing their experiences. One adolescent reported "*coming to the clinic with my peers makes me feel like I am not alone. When I attend clinic with the small children, I feel out of place. When parents attend our support group sessions, it makes me uncomfortable to discuss some things like boyfriend or girlfriend relationships*". Some even suggested that the psycho-social support group meetings should be stratified into early, mid and late adolescents as they felt that matters affecting the late adolescents were quite different from those affecting the early adolescents and having them in the same support group makes free discussion a challenge.

Presence of peer educators in the clinics. The peer educators are young people living with HIV who have been employed by APHIA plus to work in the CCC and help in adherence counselling. The adolescents reported that since the peer educators were young and also HIV positive, they felt that they were able to identify with them more readily. One adolescent reported "*it is easier discussing my sexuality with the peer educator because she is like me, I mean, HIV positive and young, so she understands me better than others and understands the challenges that I face living with HIV and having a boyfriend. She does not judge me like others do.*"

4.) THEME 4: FACTORS THAT HINDER THE UPTAKE OF PWP SERVICES:

The adolescents highlighted a number of challenges that hindered their utilization of the PWP services such as:

Lack of adequate knowledge on PWP services. Some adolescents explained that they rarely got adequate information regarding PWP services from their clinics. A few reported that they did not know the PWP services that were available in their facilities. This was especially true for the early adolescents who had not internalized the fact that they could transmit the virus to others and talked of HIV transmission in third person such as "*they*

will transmit the virus if they do bad manners "as was reported by a few of them where 'bad manners' meant sexual intercourse.

Clinic days coinciding with school days thus they miss most clinics and in the process miss education the PWP services among other services. This was noted as most of the adolescents in boarding schools or upper primary or secondary level of education had their treatment supporters collect drugs for them in most occasions thus missing out on clinic appointments and psycho-social support group meetings.

Stigma. Some adolescents reported fear of disclosure of status because of fear of rejection by friends. A few reported that their parents had forbidden them from disclosing their HIV status to anyone. One adolescent narrated her story*: "He was my first boyfriend. We met during one of the school outings and we became friends. During the school holidays, he invited me to his home. He wanted us to have sex and I insisted on using a condom. When he asked why, I told him I was HIV positive. He immediately called me a murderer for wanting to kill him with the virus and threw me out of his house. Later on, I met his friends who would refer to me as "live wire", meaning am dangerous because I have HIV. I felt so bad and am not sure if I will ever tell someone else about my HIV status."*

Lack of adequate privacy in the clinics and denial of some services by health care providers especially when one wants to pick things like condoms and family planning commodities. The adolescents explained that the condoms were placed in the clinician's room or the pharmacy. They reported challenges in accessing them due to questions asked by the clinicians. Some reported being asked questions like "*why are you picking the condoms? What are you going to do with them? Have you started having sex?"* Some suggested that condoms should be put in private areas like the wash rooms to allow for easy access.

Fear of the health care providers. Most adolescents reported that they were uncomfortable discussing PWP services with the health care providers whom they viewed as their parents. They suggested need for peer educators with whom they could easily identify with. Some adolescents reported fear of requesting for services like condoms and family planning services as they felt that they could not confide in the health care providers. Some reported that after requesting for these services, the health care provider that they had confided in discussed them with other health care workers who started counseling them on immorality and this discouraged them from seeking these services. Some adolescents reported that most of the health care providers in their facilities were well advanced in age and this made them feel uncomfortable to discuss PWP issues with them as they felt that they were talking to their parents or even grandparents.

Fear of parents/guardians. Some adolescents reported that they were afraid of taking some of the PWP commodities like condoms or family planning commodities because they feared the reactions of their parents/guardians. Most of them reported never discussing these services with their parents/guardian.

4.8: RESULTS FROM KEY INFORMANTS INTERVIEWS

1) THEME 1: UNDERSTANDING OF PWP SERVICES

Most of the Heath care providers interviewed described PWP services as services offered to people living with HIV to try and minimize the risk of HIV transmission or re-infection.

The PWP services mentioned by the health care providers included: Disclosure of HIV status to the infected person by a health care provider, disclosure of HIV status by the infected person to their sexual partners, knowledge of sexual partner's HIV status, good adherence to clinical appointments and ARVs by the PLHIV, prevention of unwanted pregnancies, prevention, screening and early treatment of sexually transmitted infection

and education on avoidance of risk behaviours associated with increased risk of HIV transmission.

2) THEME 2: PWP SERVICES OFFERED TO ADOLESCENTS

Most of the key informants interviewed reported that the key PWP message that they gave to the adolescents was abstinence from sex. However, they reported that the other messages given to the adolescents were based on the adolescents' assessment in terms of their chronological and mental age. For the early adolescents, the key PWP messages were mainly on avoidance of sharing of sharps, eating a well-balanced diet and good adherence to ARVs. This was explained by one of the key informants as: *"sometimes when you start discussing sex with the early adolescents, you notice they become shy, start fidgeting and biting nails because of the discomfort. For such adolescents, we just discuss avoidance of sharing of sharps and good adherence to drugs, but still reinforce that they continue abstaining. However, it is difficult to tell which adolescents have started engaging in sex though we suspect when we notice a change in clinical condition like rise in viral load or we get reports from their peers."*

For the mid and late adolescents, the key informants reported that they assessed the sexuality of the adolescents. For those who were still sexually naïve, the key message of abstinence was given. However, for those who were sexually active, messages like condom use, faithfulness to one partner, disclosure of status to sexual partner and knowledge of sexual partner's status and family planning were given to them. However, the sexually active adolescents were also counseled on importance of abstinence.

Many of the key informants interviewed reported imparting the adolescents with the information but rarely gave them the commodities. Only one out of the seven interviewed reported offering contraceptives to the adolescents in their clinic.

All of them reported assessing the adolescents' sexuality and reproductive health using the adolescent encounter form designed by NASCOP that captured among other things, sexual activity, sexual maturation using the Tanner staging and presence of a sexually transmitted infection.

3) THEME 3: FACTORS THAT PROMOTE UPTAKE OF PWP BY ADOLOESCENTS

The key factors highlighted by the key informants that promoted the uptake of PWP services were:

Adolescents' participation in support group: All the key informants reported that majority of the adolescents' teaching and counseling took place during the support group meetings. As such, they had noted most of the adolescents who participated in support groups had better understanding of the PWP messages and had better clinical outcomes as compared to their peers who did not participate in support groups. This was explained by the fact that there was staff shortage with competing tasks and thus individual counseling for the adolescents was a challenge and most favoured group counseling. However, in special circumstances, individual counseling was still done.

Presence of peer educators: The peer educators who were youth living with HIV were assigned in some facilities to lead the adolescent support groups. Health care workers from these facilities reported that most adolescents would confide in these peer educators and send them to the health care providers on their behalf when they were not comfortable talking to the HCW directly. This is similar to findings in the FGD where the adolescents reported peer educators as key motivators in the uptake of PWP services.

Training of health care workers on management of ALHIV. A few of the key informants who had received training on the adolescent package of care for the ALHIV

reported that this training had equipped them with knowledge and skills that bettered their management of these adolescents as compared to those who had not received the training. They reported that the training had informed them about the services that these adolescents needed and it was easier for them to discuss reproductive health issues with the adolescents. One of them shared her experience: "*Prior to the training, I used to find it difficult to give condoms or family planning commodities to adolescents as I would view them as young and I thought giving them condoms was encouraging them to have sex. However, after the training, I realized that most of these adolescents were actually having unprotected sex and I actually met a few of these adolescents at the MCH. The training helped me realize that apart from advocating for abstinence, I should also discuss the issue of safe sex and unwanted pregnancies with the adolescents and equip them with knowledge to make informed choices"*

4) THEME 4: CHALLENGES THAT HINDER UPTAKE OF PWP

The key informants reported that there were many challenges that they faced in provision of PWP services to adolescents. The key challenges highlighted included:

Staff shortage. All the key informants reported staff shortage as a big challenge in offering adequate counselling to the adolescents on PWP services. They reported that the few HCW trained on APOC were still deployed to carry out other services within the clinic. Thus, individual counseling of adolescents was compromised and this might have affected the uptake of PWP services among other services by the adolescents. On top of staff shortage, frequent changeover of staff also compromised uptake of PWP. Some reported that adolescents would still follow them to their new deployment areas seeking for services as they were not yet comfortable with the newly deployed staff members.

Staff attitude. Poor staff attitude was mentioned by a few as a challenge in uptake of PWP by ALHIV. Some interviewees reported receiving complaints from adolescents about feeling "harassed" by a HCW when requesting for some services. One key informant reported that in his facility, adolescents would run away when they found a particular health care worker on duty. This compromised the quality of care offered to the adolescents

Lack of parental/guardian support. A few of the key informants interviewed reported receiving complaints from parents as to why they were discussing sexual and reproductive health issues with their children. Two informants reported being quarreled by parents for discussing condom use and family planning with their adolescents. Thus, they felt that their hands were tied as some parents did not want them to discuss reproductive health issues with their adolescents. Some parents did not want their adolescents to be disclosed to their HIV status and this also hindered uptake of PWP.

CHAPTER FIVE
DISCUSSION

5.1: Socio-Demographic Characteristics

There was an equal distribution of the study participants in each age category (early, mid and late adolescents). Although there were more females than males, the difference was not marked as most of the participants were perinatally infected and factors that place the female gender at a higher risk had not come into play.

More than two thirds of the participants in our study were orphaned. Nearly half of the study participants were staying with guardians who were not their biological parents. This is similar to study findings by Obare, F. et al., 2010 in their study among HIV positive adolescents in former Nyanza and Nairobi provinces, Kenya, where they found that majority of the adolescents were orphaned (67%) and/or not living with their biological parents (63%). This was because most of our study participants were perinatally infected with HIV and as such, their parents had died possibly due to HIV related complications.

5.2: Knowledge of Own HIV Status

While all the adolescents were aware of their HIV status, the mean age at knowledge of own HIV status was 10.5 years. This is relatively late as compared to the recommended age of disclosure at seven years by NASCOP (NASCOP, 2014b). This could affect the uptake of some of the PWP services such as disclosure of status to sexual partner among adolescents who engage in early sexual debut without knowledge of their own status.

5.3: Sexual Experience of Adolescents

Only 16% of our study participants reported to have ever engaged in sexual activity with males having their sexual debut at an earlier age compared to the females which was statistically significant. Of the adolescents who had engaged in sexual activity, majority were female. This is similar to a study by Toska, et al., 2015, in South Africa where she

found that 14.8% of their study participants had ever engaged in sexual activities, majority being female. However, Birungi, et al., 2011, in their study among Kenyan HIV positive adolescents in former Coast and Rift Valley provinces, Kenya, found that more than half of their study participants had engaged in sexual activities and majority of the sexually experienced adolescents were female. The high percentage in Birungi's study could be attributed to the older age of participants (15-19 years). Our study found that about ninety percent of the study sexually experienced adolescents were the mid and late adolescents. This correlates with adolescents' developmental stages where mid and late adolescents are more likely to experiment sexual matters as described by Center for Continuing Education in Adolescent Health, 2001.

5.4: PWP Services

More than half of the participants reported knowledge of PWP services with those sexually experienced being more likely to know about PWP services as compared to their sexually naïve counterparts. This finding was explained by the key informants who reported that after screening the adolescents for sexual activity, those found to be in a relationship or sexually active would receive more counselling in regards to PWP services.

5.4.1: PWP Services Offered in the Facilities.

All the PWP services of interest to the study were offered in all the facilities though at varying proportions. Key informants reported that, information on knowledge of partner's status and disclosure of status to sexual partner were the most commonly offered services. This was perceived to be important as explained by the key informants since it was hoped to encourage safe sexual practices in view of sexual transmission of HIV being the main mode of transmission among adolescents who acquire HIV behaviourally.

5.4.2: Uptake of PWP Services

The general uptake of all the six services by the adolescents was poor across board with the least utilized services being screening for STIs and knowledge of sexual partner's status. No study has been done in the past looking at all the six components together and therefore, their uptake and factors associated with the uptake will be discussed individually.

5.5 Disclosure of HIV Status to Sexual Partner

5.5.1 Uptake of disclosure of HIV to Sexual Partner

About fourty percent of the sexually experienced adolescents had no opportunity of disclosing their HIV status to their sexual partners since they did not know their own status at time of sexual debut. In Tassiopoulos, et al., 2013, study among youth with perinatal HIV infection in the United States, eighteen percent of her participants did not know their own status by time of sexual debut and thus had no opportunity of disclosing to sexual partners. This finding reiterates the importance of early disclosure of HIV status to an adolescent before sexual debut.

Slightly more than a third of the sexually experienced adolescents who knew their own HIV status disclosed to their partners their HIV status. They reported prevention of the spread of HIV and knowledge of partner's status as the main reasons for their disclosure. This was further reinforced during the FGD where the mid and late adolescents reported that disclosure of status to sexual partner helped in practicing safe sex. Some adolescents reported that they disclosed so that their partners would also disclose their status to them.

Tassiopoulos, et al, 2013, found a disclosure rate of 33% despite most of her participants (82%) knowing their own HIV status. This low disclosure rate could imply that knowledge of one's own HIV status did not necessarily translate to disclosure of status to sexual

partner. Other factors may influence whether an adolescent would disclose their HIV status to sexual partner such as nature of the sexual relation, whether casual or in a relationship. However, Birungi, et al., 2011, found a high disclosure rate of 67%. This high rate of disclosure in Birungi's study could be attributed to the fact that her study participants were mid and late adolescents and most of them were in relationships. Adolescents in relationships were found to have more likely disclosed their status as compared to those in casual sexual relations. In our study, we were not able to establish the nature of the sexual relations, whether casual sexual relationship or sexual intercourse occurring in a stable relationship.

5.5.2: Factors that enhanced disclosure of HIV status to partner.

From the logit model, level of education and sexual experience were found to be significantly associated with disclosure to sexual partner. The level of education could be explained by the fact that as the adolescent advances in education level, so does he/she also advance in age. This means that they get more information regarding HIV transmission. Older adolescents tend to be more focused about forming lasting relationships as opposed to younger adolescents and this could contribute to the uptake of disclosure as was revealed by Dempsey, et al., 2012,) in their study among HIV positive youth in the United States, where older adolescents in relationships were more likely to disclose their HIV status as opposed to those not in relationships but have multiple sexual partners.

Discussion of PWP services with friends and parents/guardians was also found to be significant at bivariate analysis. This indicates the key role that friends and parents/guardians play in some decisions made by adolescents. Even among the sexually naïve adolescents, similar reasons were given as to why they would disclose or not disclose their status to their future sexual partners.

5.5.3: Factors that hindered disclosure of HIV status to Sexual Partner

The low disclosure rate in our study was attributed to fear of rejection by the partner and fear that partner would tell others about the adolescents's HIV status (stigma) as was highlighted during the FGDs. This is similar to findings by Bakeera, et al., 2008, in their study among HIV positive adolescents in Uganda, where she found that fear of rejection by partner and lack of confidentiality made many adolescents in her study in Uganda fail to disclose their status.

5.6: Knowledge of Partner's HIV Status

Only 17% of the sexually experienced adolescents reported knowledge of their partner's HIV status. Dempsey, et al., 2012, found that 56% of her study participants knew the HIV status of their sexual partner. In a multicenter study in Kenya, Namibia and Tanzania, disclosure of one's status to sexual partner was associated with knowledge of partner's status (Bachanas, P. et al., 2006). This could explain the high rate of knowledge of partner's status in Dempsey's study since the disclosure rate to sexual partner in this study was equally high (79%) as opposed to our study where the disclosure rate was equally low.

5.6.1: Factors associated with knowledge of partner's HIV status

Level of education was found to be significantly associated with knowledge of partner's status at bivariate analysis. This could be explained by the same reason as disclosure of status to sexual partner whereas the adolescent advances in education, they get more teachings on HIV. They also advance in age and are likely to form relationships which they would want to last and thus knowledge of each other's status becomes important. No

factors were found to be independently associated at the multivariate logistic regression analysis.

5.7: Condom Use

5.7.1: Uptake of Condom use

Less than half of the sexually experienced adolescents reported use of condoms at any one point during their sexual activity despite majority, (70%), reporting to have received information on importance of condom use from their facilities. Majority reported the condom use to be inconsistent. MacPhail, C. et at., 2001, in their study among South African HIV positive adolescents found that more than two thirds of the adolescents in relationships were having unprotected sex with more than half in casual relationships engaging in unsafe sex.

The main motivating factors for condom use in our study as reported by the adolescents were to prevent the spread of HIV and also to prevent pregnancy.

5.7.2: Factors that enhanced Condom use.

Age of the adolescent, knowledge of own HIV status and age at sexual debut were found to be associated with use of condoms. This means that adolescents should be taught about their own HIV status and importance of delaying sexual debut but also taught on safe sex at an early age, preferably before sexual debut. This is similar to findings by Toska, et al., 2015, in their study among ALHIV in South Africa, where she found knowledge of own status remained significantly associated with safe sex at multivariate analysis.

Presence of peer counsellors in the clinics also enhanced the uptake of condoms. The adolescents preferred discussing condom use and sexual matters with a peer as opposed to

some health care workers whom they perceived as being "*like their parents*" and this made the adolescents shy away from discussing sexual and reproductive health issues with them.

5.7.3: Factors that hindered condom use:

Lack of knowledge about condoms was reported as the main reason why some adolescents did not use condoms.

Key informants reported that discussion on condom use with the adolescents was not done as a preemptive measure in anticipation of sexual debut. It was mainly discussed with those adolescents who reported to be sexually active. Hence, by the time of their sexual debut, many adolescents did not know about condoms.

Difficulty in accessing condoms was reported as a challenge in the use of condoms. About a quarter of the sexually experienced adolescents got their condoms from the hospital. In the FGD the adolescents reported fear of collecting the condoms from the health facility as the condoms were usually placed in the clinician's consultation room or the pharmacy. The adolescents feared retribution from the persons serving in these departments since the healthcare provider perceived the adolescent as being "*too young*" to be engaging in sexual activity. Some of them recounted how they were denied the condoms by the HCP who instead gave them a lecture on importance of abstaining and castigated them for being immoral. They suggested that the condoms be put in a more private place like the wash rooms for them to access them easily and comfortably. Some key informants confirmed this finding reporting that they were uncomfortable giving condoms to the adolescents as they viewed them as still young and should be abstaining instead. This observation was also reported by Macphail, et al., 2001, during the FGD where an adolescent recounted how they would not take condoms from the clinics as the staff shouted at them and threatened to tell their parents that they have become sexually active.

5.8: Family Planning

5.8.1: Uptake of family Planning

About a third of the study participants reported knowledge of some form of contraceptive. This is quite low compared to the findings by Obare, F. et al., 2010, in a study among HIV positive adolescents in Nairobi and Nyanza regions, in Kenya, where almost 90% of their study participants had knowledge of some form of contraceptive. This difference could be attributed to the fact that Obare enrolled adolescents in the mid and late adolescence where we assume that majority would be advanced in their schooling where this information is also given. The other reason could be because more adolescents were sexually experienced in Obare's study compared to ours and may have received more information on family planning from the HCP.

The most commonly known contraceptive methods were condoms and pills which is similar to the findings by Obare, F. et al., 2010 in their study. Females were also noted to mention more methods like injectables and IUCD as compared to their male counterparts who mainly mentioned condom.

Our study had a low uptake (11.5%) of contraceptive services, contrary to Obare, F. et al., 2010, where they found that almost three quarters of the adolescents had ever used some form of contraceptive. This difference could be attributed to the fact that the level of knowledge about contraceptives was quite high in Obare's study as compared to our study. However, in comparing the level of knowledge and actual use, there is still a big discrepancy with knowledge not necessarily translating to use. Toska et al., 2015, in their study found that almost two thirds of their adolescents had used contraceptives. This could be due to the fact that most of these adolescents were in relationships and had regular sexual intercourse as opposed to our study where we were not able to ascertain the nature

of the sexual relationship, whether casual or a relationship. This finding signifies that knowledge alone is not enough to assure use of contraceptives. Other factors that hinder the use of family planning among adolescents need to be explored.

The most preferred form of contraceptive was the condom by more than eighty percent of the adolescents who reported use of contraceptives. The main reason cited was ease of use. This was also found by Birungi, et al., 2011, where nine in ten of her adolescents were using condoms as the main form of contraceptives. This is good in that condom offers dual protection against pregnancy and STIs. However, adolescents need to be encouraged to use another form of contraception together with the condom to enhance protection against both unwanted pregnancies and STIs as has been shown by several studies (Landolt et al., 2011; Coetzer R., 2011; WHO, 2009).

5.8.2: Factors that enhanced Uptake of Family Planning.

Age of the respondents and discussion of PWP services with friends were found to be associated with the uptake of family planning. This could be explained by the fact that the older the adolescent the more likely they are advanced in level of education and thus could have learned about contraceptives from higher level in school. Teachers were noted to contribute greatly to the source of information on family planning in this study. Friends also play a key role as many adolescents remain vulnerable to peer pressure.

Presence of peer counsellors was noted to enhance uptake of family planning. The adolescents suggested having peers in the clinics with whom they could easily discuss sexual and reproductive health issues. This is similar to findings by Toska, et al., 2015, who also found during FGDs that adolescents were more comfortable discussing sexual and reproductive health issues with their peers.

5.8.3: Factors that hindered Uptake of Family Planning

Low level of knowledge about family planning was noted to contribute significantly to the low uptake of this service in our study. Compared to other studies, studies in which the participants had better knowledge on family planning showed higher uptake of this service as compared to studies in which the participants had less knowledge (Birungi et al., 2011; Obare et al., 2010).

Challenges in accessing the family planning commodities was also noted to hinder the uptake of this service. Less than ten percent of the adolescents reported receiving the contraceptive from their facilities. This finding was further elaborated during the FGDs and Key informant interviews. The adolescents reported fear of requesting for contraceptives from the HCP because of the harsh response they received.

Parents were also reported as a big challenge as some key informants reported being questioned by parents as to why they were discussing sexual and reproductive health issues with their adolescents. This reinforces the need to bring all the stakeholders on board when dealing with issues of adolescent sexual and reproductive health to ensure the adolescent gets the appropriate services that they may need.

5.9: Screening for Sexually Transmitted Infections

5.9.1: Uptake of screening for STIs

More than half of the adolescents reported knowledge of STIs with the commonest known STIs being syphilis and gonorrhea. However, more than ten percent of adolescents, mainly the early adolescents reported tuberculosis, typhoid among other illnesses as STIs. This was further confirmed during the FGDs where majority of the early adolescents in lower primary did not understand what STIs were.

Only about thirty percent of the sexually experienced adolescents reported ever being screened for STIs. This is quite low and may indicate that quite a number of adolescents with asymptomatic STIs may go unnoticed and this may facilitate the continuous spread of the STIs including HIV. All ALHIV should be screened for STIs (NASCOP, 2014) since most of them may not readily report sexual experience and HCP should be more aggressive in seeking and treating STIs to reduce HIV transmission.

More than ten percent of the sexually experienced adolescents reported to have ever suffered from a sexually transmitted infection with females being more affected. The commonest STI suffered was Gonorrhea. This is in keeping with studies done in the past that have shown the female adolescent to be more predisposed to gonorrhea because of the mucosa lining the vaginal wall and the pH that favours attachment of the bacteria. At the time of this study, there was no published literature on screening for STIs among ALHIV from which comparisons could be drawn.

5.9.1: Factors that enhanced Screening for STIs

Age, knowledge of PWP services, discussion of PWP services with friends and sexual experience were found to be associated with screening for STIs. Age could be attributed to the fact that the older adolescents were more likely to have engaged in sexual activity. Knowledge of PWP services which includes screening for STIs could explain why those who knew about the service were more likely to report receiving the service. Sexually experienced adolescents were more likely to be screened for STIs. This is because, as the key informants explained, knowledge that an adolescent was sexually experienced made the HCP more vigilant in terms of screening for STIs as opposed to the adolescent who had not disclosed his sexual activity.

5.9.3: Factors that hindered screening for STIs

Lack of adequate knowledge on screening for STIs by some HCP contributed to the low uptake of this service. During the key interviews, some HCP reported not being familiar with the syndromic approach of screening for STIs. This finding reinforces the need for appropriate training for all health care workers dealing with the management of ALHIV especially on matters surrounding their sexual and reproductive health.

5.10: Risky Behavior Reduction Messages

5.10.1: Engagement in Risky Behavior

Almost thirty percent of the study participants reported that they did not know any behavior associated with increased risk of HIV transmission. This is alarming since it may imply that some adolescents could be engaging in risky behaviors without their knowledge of the increased risk of HIV transmission.

More than ten percent of the adolescents were found to have had early sexual debut. This is similar to the findings by Idele et al., 2014, in their multicenter study, where they found that more than 10% of Kenyan adolescents had engaged in sexual activity before the age of fifteen years. Early sexual debut is a risk factor for HIV because most of the adolescents tend to be young, practice unsafe sex and have multiple partners hence increased risk of HIV transmission. More than half of the sexually experienced adolescents reported having multiple sexual partners. This is higher compared to the findings by KAIS, 2012, where about twenty percent of the sexually active adolescents were found to have multiple partners. This could be explained by the fact that most of the adolescents' sexual relationships are short lived and thus the adolescent changes partners frequently Idele, et al., 2014).

More than ten percent of the adolescents reported use of alcohol and other substances of abuse with a small percentage reporting engaging in sexual activity while under the influence of a substance of abuse. This is similar to findings by Landolt, et al., 2011, in their literature review article, where adolescents were found to engage in sexual activities while under the influence of a substance and most of these sexual activities were unprotected. It is important for health care providers to address social stressors that may push the adolescents to use alcohol as a coping mechanism as proposed by Henry-Reid, et al., 2009 in their study about caring for the youth with HIV. This may help in reducing the number of adolescents using substances of abuse and consequently decrease the number of unprotected sexual activities due to impaired judgment while under the influence of a substance of abuse.

5.10.2: Factors Associated with Engaging in Risky Behavior:

Age, level of education and guardian status were found to be significantly associated with engaging in risky behavior. Age could be explained by the fact that as the adolescent grows through the different stages, there is an increased interest in sexual activity. Adolescents living with guardians other than their parents were found to be more likely to engage in risky behaviors. Tassiopoulos, et al., 2013, found that adolescents living with guardians other than their biological mother were more likely to engage in unprotected sex. The reason behind this was not clear and further exploration is needed to unravel the reason behind this finding.

5.10.3: Risky Behavior Reduction Messages:

Abstinence and condom use were the commonest messages given by health care providers to the adolescents as listed by the adolescents and reported during the key interviews.

However, most of the health care workers focused on the negative attribute of sex and little effort was put in addressing issues of safe sex. There is need to shift from criminalizing adolescents who are sexually experienced and rather focus on teaching them how to bargain for and practice safe sex as also suggested by Toksa, et al., 2015, in their study. More than a quarter of the adolescents reported not receiving any risk behavior reduction messages from the HCP in their facilities. Most of these adolescents who reported not to have received any messages were found not to belong to any adolescent support group. This is because most health care providers preferred group counseling and teaching and thus those adolescents who missed out on support group meetings were more likely to miss out on many of the teachings. HCP reported challenges in individual counselling due to staff shortages and competing tasks.

5.11: Study Limitation

Most of the adolescents in the study were not able to read and write hence the data was collected using interviewer guidance. We were not able to offer them the privacy of filling the questionnaire on their own. However, we ensured that the questionnaires were filled in a room that had been identified at a prior date by the researchers in each facility and adolescent privacy was ensured. We also ensured that the researchers assistants did not interview adolescents from facilities were they worked to minimize bias.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1: Conclusion

1. All the six PWP services of were offered in all the facilities though in different proportions with the sexually experienced adolescents more likely to have received these services as compared to their sexually naïve counterparts
2. The uptake of the PWP services by the adolescents was low across all the six services.
3. Advanced age, advanced level of education and presence of peer counsellors in the clinics were significantly associated with enhanced uptake of these PWP Services. Poor adolescent-health care provider relationship, lack of adequate privacy in accessing condom and family planning commodities and staff shortage in the clinics were significantly associated with decreased uptake of these services.
4. The younger adolescents and those with lower level of education were noted to have a lower uptake of PWP services compared to their older, more educated counterparts.

6.2: Recommendations

1. Efforts to improve the adolescent-health care provider relationship should be made to enhance discussion about and subsequent uptake of these PWP services.
2. Adolescents' privacy in the provision of family planning and condoms commodities among other PWP services should be enhance.

3. Efforts should be made to promote the presence of peer educators/counselors in the clinics to enhance uptake of the PWP services and also mitigate the effects of staff shortage.
4. The health care providers should focus on all adolescents, including the young and the less educated as a target group in the provision of PWP services as findings have revealed less uptake of the services compared to their counterparts.

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APPENDICES

Appendix 1: Questionnaire:

STUDY TITLE: UPTAKE OF PREVENTION WITH POSITIVE SERVICES AMONG HIV POSITIVE ADOLESCENTS ATTENDING COMPREHENSIVE CARE CLINICS IN KAKAMEGA COUNTY

Serial number…….

Date……/……/……(dd/mm/y
ear)

Station…….....

Administered by…… (Interviewer's name).

A. <u>Demographic Data:</u>

A.1 Date of birth: ……/……/……. (Dd/mm/year)

A.2 Gender: Male ☐ Female ☐

A.3 Marital Status (tick one)

1) Ma ☐ 3) Not applicable ☐

2) Sin ☐ b. Divorced/separated ☐

A.4 Religion: (tick one)

1) Protestant ☐ 4) Hindu ☐

2) Catholic ☐ 5) African religion

6) None ☐

3) Muslim ☐ 7) Others (specify)……☐…….

B. <u>Level of education: (tick one)</u>

1) Primary ☐ 6) (Specify)……
2) Secondary
3) Tertiary ☐ ……
(college/university) ☐
4) None ☐ ……..
5) Others ☐

C. <u>Orphan status (tick one)</u>

1) Father: Alive: ☐ Dead: ☐

2) Mother Alive: ☐ Dead: ☐

D. Guardian/parent status:

1) Living with both parents: ☐

2) Living with mother: ☐

3) Living with father: ☐

4) Living with relative (tick one)

(i) Aunt: ☐

(ii) Uncle: ☐

(iii) Sibling: ☐

(iv) Grandparents:

(v) Others ☐

(Specify)……

……

E. Disclosure status

E.1 At what age at did you get to know about your HIV status (write in years)……

E.2 Who told you about your HIV status (tick one)

1) Parents: ☐

2) Guardian: ☐

3) Health care provider: ☐

4) Others

(specify)……

F. Treatment status

F.1 Are you on ARVs (tick one) Yes: ☐ No: ☐

F.2 Are you on opportunistic infections Prophylaxis (Septrin or Dapsone) (tick one)

Yes: ☐ No: ☐

G. Prevention with Positive Services:

G.1 Do you know what prevention with positive services are? (Tick one) Yes: ☐ No: ☐

G.2 If yes above, (G.1) list the ones you know below

……

……

G.3 Tick Yes or No on the Prevention with Positive Services listed below that you receive at your facility

1.) Information on HIV status disclosure to sexual partner Yes: ☐ No: ☐

2.) Information on importance of knowledge of sexual partner's HIV status Yes: ☐ No:

3.) Condom use services (information and availability Yes: ☐ No: ☐

4.) Family planning services Yes: ☐ No: ☐

5.) Screening for STIs Yes: ☐ No: ☐

6.) Risk behavior reduction messages Yes: ☐ No: ☐

H .Disclosure of HIV status to sexual partner

H.1 Have you ever engaged in sexual intercourse? (Tick one) Yes ☐ No ☐

(If the answer is no above, (H.1), skip to question H.11 below)

H.2 Which kind of sexual contact did you engage in? (Tick all that apply)

1. Oral sex ☐
2. Vaginal penetrative sex ☐
3. Anal sex ☐
4. Same sex relation (i.e. men with men or female with female) ☐
5. Others (specify)……

H.3 What was your age when you had your first sexual intercourse? (Write in years)……

H.4 How many sexual partners have you had since you became sexually active? (Write in numbers)……

H.5 At the time of your first sexual intercourse, did you know your HIV status?

(Tick one) ☐ ☐

Yes: No:

H.6 At time of your last sexual intercourse, did you know your HIV status? (Tick one) ☐ ☐

Yes: No:

H.7 If yes above, (H.5) did you inform your sexual partner of your HIV status?

(Tick one) ☐ ☐

Yes: No:

H.8 If yes above, (H.6) did you inform your sexual partner of your HIV status?

(Tick on ☐ ☐

Yes: No:

H.9 If yes above,(H 7) what are the reasons that made you inform them of your status

……

……

H.10 If no above, (H 7) what reasons made you not disclose your status to your sexual partner

……

……..

H.11 If you have never had sex, would you inform your sexual partner about your HIV status (tick one) ☐ Yes: ☐ No:

H.12 If yes above,(H.11) what reasons will make you disclose your status

……

……

……

……

H.13 If no above, (H.11) what factors would make you not disclose your status ……
……
……

H.14 Have you ever been talked to about disclosing your HIV status to your sexual partner by a health care worker at this facility? Yes ☐ No ☐

I. Knowledge of sexual partner's HIV status

I.1 At time of your first sexual intercourse, did you know the HIV status of your partner? (Tick one) Yes: ☐ No: ☐

I.2 If yes above, (I.1) how did you find out their HIV status (Tick all that apply)

1) Partner informed me ☐
2) Informed by third party ☐
3) Accidental discovery ☐
4) Others (specify)…….

I.3 If no above, do you think it is important to know the HIV status of your partner? (Tick one ☐ ☐

Yes: No:

(Explain) …….

I.4 Have you ever been talked to by a health care provider about the importance of knowing your sexual partner's HIV st ☐ Y ☐

No

J. Condom use:

J.1 At time of your first sexual intercourse, did you use a condom? (Tick one)

Yes: ☐ No: ☐

J.2 At time of your last sexual intercourse, did you use a condom? (Tick one)

Yes: ☐ No: ☐

J.3 If yes above, (J.1) where did you get the condoms from (tick all that apply)

1) Hospital: ☐

2) Bought from the shop: ☐

3) Was given by a friend: ☐

4) My sexual partner had them ☐

5) Others (specify)……

J.4 If yes above, (J.1) who initiated the use of the condom (tick one)

Yourself: ☐ Your partner: ☐

J.5 If yes above, (J.1) what made you use a condom? Specify

……

……

J.6 If no above, (J.1) what made you not to use a condom? Specify

……

……

J.7 Have you ever been issued with condoms in this facility?

Yes ☐ No ☐

J.8 If yes above in J.7, have you ever been taught on appropriate use of condoms by a health care w☐n this f☐? Yes No

☐

K. Contraceptive use:

K.1 Do you know what contraceptives are? (Tick one) Yes: No ☐

K.2 If yes above, (K.1) how did you learn about the contraceptives (tick all that apply) ☐

1) From parents:
2) From friends: ☐
3) From health care providers: ☐
4) Others (specify)……..

K.3 If yes above, (K.1) list the contraceptive methods that you know

……
……

K.4 What contraceptive methods are available at your clinic? (List all)

……
……

K.5 Have you ever been issued with contraceptives in this facility?

Yes ☐ No ☐

K.6 Have you used contraceptives before? (Tick one)

Yes: ☐ No: ☐

K.7 If yes above, K.6, specify which method was used and why

……
……

K.8 If not using contraceptive, and you are sexually active, explain the reason(s) why

……
……. ……..

L. Sexually transmitted infections (STIs) screening:

L.1 Do you know sexually transmitted infections? (Tick one)

Yes: ☐ No: ☐

L.2 If yes above, (L.1) how did you learn about the STIs? (Tick all that apply)

1. From parents/guardians ☐
2. From teachers: ☐
3. From health care providers: ☐
4. From friends: ☐
5. Others (specify)……
……

L.3 If yes above, (L.1) list the STIs that you know of

……

……

……

L.4 Have you ever been screened for an STI in this facility? (Tick one) Yes: ☐

No: ☐

L.5 Have you ever suffered from an STI? (Tick one) Yes: ☐ No: ☐

L.6 If yes above, (L.4) specify which one(s)

……

……

M. <u>Risk behavior reduction:</u>

M.1 List some of the risk behavior activities that are associated with increased HIV transmission

……

……

……

M.2 Have you ever engaged in any activities listed above (M.1)? (Tick one) Yes: ☐

No:

M.3 If yes above, (M.2) specify reasons why

……

……

……

M.4 What are some of the risk reduction messages that you receive from your clinic? (List all that apply)

……

……

M.5 How do you receive these messages? (Tick all that apply)

1) Through support group meetings: ☐

2) Through individual counseling by the health care provider: ☐

3) Through use of posters: ☐

4) Others (specify)

……

M.6 Have you ever used any of the substances listed below? (Tick all that apply)

1.) Alcohol ☐

2.) Cigarettes ☐

3.) Bhang ☐

4.) Others (specify)……..

M.7 Have you ever engaged in unsafe sexual practice while under the influence of a substance of abuse? Yes ☐ No

N. Factors that may influence uptake of PWP services (as listed in question G.3)

N.1 Have you ever discussed PWP services with your friends? Yes ☐

No ☐

N.2 Do your friends approve the use of PWP services? Yes ☐ No ☐

N.3 Have you ever discussed PWP services with your parents/guardians? Yes ☐

No ☐

N.4 Do your parents approve the use of PWP services? Yes ☐ No ☐

N.5 Does your religion allow you to use PWP services? Yes ☐ No ☐

N.6 Does your community allow you to use PWP services? Yes ☐

No ☐

N.7 Do you engage in any income generating activity? Yes ☐ No ☐

THANK YOU FOR YOUR CO-OPERATION

Appendix 2: Fomu Ya Maswali (Dodoso)

KICHWA CHA UTAFITI: UTUMIZI WA HUDUMA ZA KUZUIA MAAMBUKIZI YA VIRUSI VYA UKIMWI KATI YA VIJANA WANAOISHI NA VIRUSI VYA UKIMWI WANAOENDA KATIKA KLINIKI ZA WAADHIRIWA WA VIRUSI VYA UKIMWI KATIKA KAUNTI YA KAKAMEGA:

Nambari…….
Tarehe……/……/…….(siku/mwezi/mwaka)
Kituo……..
Chini ya usimamizi wa…… (Jina la mtafiti)

A. Data ya washiriki

A.1 Tarehe ya kuzaliwa ……/……/…….(ss/mm/mw)

A.2 Jinsia: mwanamme ☐ mwanamke ☐

A.3 Hali ya ndoa (chagua moja)

1.) Uko katika ndoa ☐

2.) Hauko katika ndoa ☐

3.) Umetengana kutoka kwa ndoa ☐

A.4 Dini: (chagua moja)

1. Protestanti ☐
2. Katoliki ☐
3. Islamu ☐
4. Hindu ☐
5. Dini ya Kiafrika ☐
6. Nyingineyo (elezea)… ……

B. Kiwango cha Elimu (chagua moja)

1. Shule ya msingi ☐
2. Shule ya upilli ☐
3. Chuo kikuu au chuo cha kati ☐
4. Hakuna ☐

Nyingineyo (elezea)……..

C. Hali ya wazazi

1.) Mama: Yuko hai ☐ Marehemu ☐

2.) Baba: Yuko hai ☐ Marehemu ☐

D. Unaishi na nani?

1.) Wazazi wote wawili ☐

2.) Mama ☐

3.) Baba ☐

4.) Jamaa (chagua moja)

i) Shangazi ☐

ii) Mjomba ☐

iii) Ndugu/dada ☐

iv) Babu/Nyanya ☐

v) Mwingine yeyote (elezea)…….

E. Kujua hali ya virusi

E.1 Ulikuwa umri gani ulipopata kujua hali yako ya virusi vya ukimwi? (andika kwa miaka)…….

E.2 Nani alikuelezea kuhusu hali yako ya virusi vya ukimwi? (chagua moja)

1. Wazazi ☐
2. Mlezi ☐
3. Mhudumu wa afya ☐
4. Mtu mwingine yeyote (elezea)……

F. Hali ya matibabu

F.1 Unatumia madawa ya ARVs? (chagua moja) Ndio ☐ La ☐

F.2 Unatumia madawa ya kuzuia magonjwa tegemezi, (Sptrin, Dapsone)? (chagua moja)

Ndio ☐ La ☐

G. Huduma za kuzuia maabukizi ya virusi vya ukimwi

G.1 Unafahamu kuhusu huduma za kuzuia maambukizi ya virusi vya ukimwi? (chagua moja)

Ndio ☐ La ☐

G.2 Kama ndio kwa swali la G.1, orodhesha huduma zile ambazo unafahamu

……
……
……

G.3 Chagua huduma zote za kuzuia maambukizi ya virusi vya ukimwi zilizo orodheshwa hapa unazopata katika kituo chako cha afya

1.) Mafunzo kuhusu umuhimu wa kumwelezea mpenzi wako hali yako ya virusi vya ukimwi

2.) Mafunzo kuhusu umuhimu wa kufahamu hali ya virusi vya ukimwi ya mpenzi wako

3.) Huduma za mipira ya kondomu (mafunzo na uwepo wa mipira)

4.) Huduma za upangaji wa uzazi

5.) Huduma ya kuchunguzwa kwa magonjwa ya zinaa

6.) Mafunzo kuhusu kupunguza tabia zinzzohusishwa na ueneaji wa virusi vya ukimwi

H. Kueleza mpenzi (mwenzi) wako kuhusu hali yako ya Virusi Vya Ukimwi

H.1 Umewahi kushiriki katika tendo la ngono? (chagua moja) Ndio ☐ La ☐

H.2 Ulishiriki katika tendo gani ya ngono? (chagua zote zinazofaa)

1.) Ngono kwa kutumia mdomo ☐

2.) Ngono ya kawaida kati ya mwanamme na mwanamke ☐

3.) Ngono kwa kutumia sehemu ya nyuma ☐

4.) Ngono kati ya watu wa jinsia moja (k.m mke kwa mke) ☐

5.) Nyingineyo (elezea)…….

H.3 Kama ndio kwa swali H.1, ulikuwa na umri gani uliposhiriki tendo la ngono kwa mara ya kwanza? (andika miaka)……

H.4 Umeshiriki na wapenzi wangapi tendo la ngono kwa ujumla tangu ulipoanza kujihusisha na tendo la ngono? (andika nambari)……

H.5 Wakati wa kushiriki ngono kwa mara ya kwanza, ulikuwa unafahamu hali yako ya virusi vya ukimwi? (chagua moja) Ndio ☐ La ☐

H.6 Wakati wa kushiriki ngono kwa mara ya mwisho, ulikuwa unafahamu hali yako ya virusi vya ukimwi? (chagua moja) Ndio ☐ La ☐

H.7 Kama ndio kwa swali la H.5, je, ulimweleza mpenzi wako hali yako ya virusi? (chagua moja) ☐ ☐

H.8 Kama ndio kwa swali la H.6, je, ulimweleza mpenzi wako hali yako ya virusi? (chagua moja) ☐ ☐

H.9 Kama 'ndio' kwa swali H.7, sababu gani zilifanya ukamueleza mpenzi wako hali yako ya virusi vya ukimwi (andika sababu)
……
……
……

H.10 Kama 'la' kwa swali H. 7, sababu gani zilifanya haukumuelezea mpenzi wako kuhusu hali yako ya virusi vya ukimwi (andika sababu)
……
……
……

H.11 Kama hujawahi kushiriki katika tendo la ngona, utamueleza mpenzi wako hali yako ya virusi vya ukimwi siku za usoni? (chagua moja)
Ndio ☐ La ☐

H.12 Kama 'ndio' kwa swali H.11, sababu gani zitafanya umweleze mpenzi wako kuhusu hali yako ya virusi vya ukimwi?
……
……
……..

H.13 Kama 'la' kwa swali H.11, sababu gani zitafanya usimweleze mpenzi wako kuhusu hali yako ya virusi vya ukimwi?
……
……
……..

H.14 Umewahi kuzungumuziwa na mhudumu wa afya katika kituo hiki kuhusu umuhimu wa kumuelezea mpenzi wako kuhusu hali yako ya virusi vya ukimwi?

Ndio ☐ La ☐

I. Kujua hali ya virusi vya ukimwi ya mpenzi wako

I.1 Wakati wa kushiriki ngono kwa mara ya kwanza, ulikuwa unajua hali ya virusi vya ukimwi ya mpenzi wako? (chagua moja) Ndio ☐ La ☐

I.2 Kama ndio kwa swali I.1, ulipata kujua hali yake kivipi? (chagua zote zinazofaa)

1.) Mpenzi alinieleza mwenyewe ☐

2.) Nilijulishwa na mtu mwingine ☐

3.) Nilipata kufahamu kwa ajali ☐

4.) Nyinginezo (elezea)

……

I.3 Kama “la” kwa swali I.1, je, unadhani ni muhimu kujua hali ya virusi vya ukimwi ya mpenzi wako? (chagua moja) Ndio ☐ La ☐

I.4 Umewahi kuzungumuziwa na mhudumu wa afya katika kituo hiki kuhusu umuhimu wa kufahamu hali ya virusi vya ukimwi ya mpenzi wako? Ndio ☐ La ☐

J. Utumizi wa mipira ya kondomu

J.1 wakati wa kushiriki ngono kwa mara ya kwanza, ulitumia mpira wa kondomu? (chagua moja) Ndio ☐ La ☐

J.2 Wakati wa kushiriki ngono kwa mara ya mwisho, ulitumia mpira wa kondomu?

(Chagua moja) Ndio ☐ La ☐

J.3 Kama ndio kwa swali J.1, ulipata wapi mipira hii ya kondomu? (chagua zote zinazofaa)

1.) Hospitalini ☐

2.) Nilinunua kwa duka ☐

3.) Nilipatiwa na rafiki ☐

4.) Mpenzi wangu alikuwa nazo ☐

5.) Nyingineyo (elezea)……

J.4 Kama ndio kwa swaliJ.1, nani aliamua mtumie kondomu? (chagua moja)

Mimi mwenyewe ☐ Mpenzi wangu ☐

J.5 Kama ndio kwa swali J.1, sababu gani zilifanya utumie kondomu? (elezea)

……

……

J.6 kama 'la' kwa swali J.1, sababu gani zilifanya usitumie kondomu? (elezea)

……

……

J.7 Umewahi kupatiwa mipira ya kondomu katika kituo hiki cha afya?

Ndio ☐ La ☐

J.8 Kama ndio kwa swali J.8, umewahi kufunzwa njia mwafaka ya kutumia mipira hii ya kondomu na mhudumu wa afya katika kituo hiki?

Ndio ☐ La ☐

K. Njia za Kupanga uzazi:

K.1 Unajua njia za kupanga uzazi? (chagua moja) Ndio ☐ La ☐

K.2 Kama ndio kwa swali K.1, ulipata kujua kuhusu njia za kupanga uzazi kwa njia gani? (chagua zote zinazofaa)

1.) Kupitia kwa wazazi ☐

2.) Kupitia kwa marafiki ☐

3.) Kupitia kwa wahudumu wa afya ☐

4.) Nyinginezo (elezea)……

K.3 Kama ndio kwa swali K.1, orodhesha njia za upangaji wa uzazi unazozifahamu

……
……
……

K.4 Ni njia zipi za upangaji wa uzazi zinazopatikana katika kituo chenyu cha afya? (orodhesha zote)

……
……
……

K.5 Umewahi kupatiwa vifaa au dawa za kupanga uzazi kutoka katika kituo hiki chga afya? Ndio ☐ La ☐

K.6 Umewahi kutumia njia zozote za upangaji wa uzazi? (chagua moja) Ndio ☐ La ☐

K.7 Kama ndio kwa swali la K.5, ni njia zipi ambazo umewahi kutumia na elezea kwa kifupi kwa nini ullichagua njia hizo?

……
……
……..

K.8 Kama hautumii njia zozote za kupanga uzazi ilhali unashiriki katika kitendo cha ngono, unaweza elezea kwa kifupi ni sababu gani zinazokufanya kutotumia njia hizi za kupanga uzazi?

……
……
……

L. Magonjwa ya Zinaa

L.1 Unajua magonjwa yoyote ya zinaa? (chagua moja) Ndio ☐ La ☐

L.2 Kama ndio kwa swali L.1, ulipata kujua kuhusu magonjwa ya zinaa kwa njia gani? (chagua zote zinazofaa)

1. Kupitia kwa wazazi/walezi ☐
2. Kupitia kwa walimu ☐
3. Kupitia kwa wahudumu wa afya ☐
4. Kupitia kwa marafiki ☐
5. Nyinginezo (elezea)……
   ……

L.3 Kama ndio kwa swali L.1, orodhesha magonjwa ya zinaa unazozifahamu
……
……

L.4 Umewahi kuchunguzwa au kupimwa magonjwa ya zinaa katika kituo hiki cha afya? Ndio ☐ La ☐

L.5 Umewahi kupata ugonjwa wa zinaa (chagua moja) Ndio ☐ La ☐

L.6 Kama ndio kwa swali L.5, elezea ni ugonjwa gani (magonjwa gani)?
……
……
……

M. Kupunguza tabia zinazohusishwa na ueneaji wa virusi vya ukimwi

M.1 Orodhesha baadhi ya tabia zinazohusishwa na usambazaji na kuenea kwa virusi vya ukimwi
……
……
…….

M.2 Umewahi kushiriki katika baadhi ya tabia zilizo-orodheshwa katika swali la M.1? (chagua moja) Ndio ☐ La ☐

M.3 Kama ndio kwa swali M.2, elezea kwa kifupi sababu zilizokufanya kushiriki katika tabia
hizo……
……

M.4 Ni mafunzo gani mnayopata kuhusu kupunguza tabia zinazohusishwa na usambazajji wa virusi vya ukimwi katika kituo chenu cha afya? (orodhesha zote)
……
……

M.5 Mnapata mafunzo haya kwa njia gani? (chagua zote zinazofaa)

1.) Kupitia kwa mikutano ya vijana ☐

2.) Kupitia ushauri wa mhudumu wa afya ☐

3.) Kupitia mabango ☐

4.) Njia nyinginezo (elezea)……..

M.6 Umewahi kutumia madawa ya kulevya yaliyo orodheshwa hapo chini? (chagua zote zinazofaa)

1.) Pombe ☐
2.) Sigara ☐
3.) Bangi ☐
4.) Nyingineyo (elezea)……..

M.7 Umewahi kujihusisha na tendo la ngono bila kinga wakati umetumia pombe au madawa ya kulevya? Ndio ☐ La ☐

N. Mambo yanayoweza kuadhiri utumizi wa huduma za kuzuia maambukizi ya virusi vya ukimwi

N.1 Umewahi kuzungumuza na rafiki zako kuhusu huduma za kuzuia maambukizi ya virusi vya ukimwi? Ndio ☐ La ☐

N.2 Je, rafiki vzako wanaidhinisha utumizi wa huduma za kuzuia maambukizi ya vya ukimwi?

Ndio ☐ La ☐

N.3 Umewahi kuzungumuza na mzazi/mlezi wako kuhusu huduma za kuzuia maambukizi ya virusi vya Ukimwi? Ndio ☐ La ☐

N.4 Je, mzazi/mlezi wako anaidhinisha utumizi wa huduma za kuzuia maambukizi ya virusi vya ukimwi? Ndio ☐ La ☐

N.5 Je, dini yako inakuruhusu kutumia huduma za kuzuia maambukizi ya virusi vya Ukimwi?

Ndio ☐ La ☐

N.6 Je, jamii yako inakuruhusu kutumia huduma za kuzuia maambukizi ya virusi vya Ukimwi? Ndio ☐ La ☐

N.7 Je, unashiriki katika ajira yoyote? Ndio ☐ La ☐

SHUKRANI KWA KUSHIRIKI KATIKA UTAFITI HUU

Appendix 3: Consent Form

Study Title: Uptake of Prevention with Positive services among HIV positive adolescents attending Comprehensive Care Clinics in Kakamega County

Introduction: My name is Dr. Malangachi, Roselyne. I am a post-graduate student in the department of Child Health and Paediatrics at Moi University. As part of my post-graduate studies, I am required to carry out a research project. My research study is aimed at establishing the level of uptake of prevention with positive services among HIV positive adolescents attending Comprehensive Care Clinics in Kakamega County.

Study Procedure: If you agree to participate in this study, or allow your dependant to participate in this study, questions will be asked surrounding your/their sexual behaviours and HIV/AIDS using an interviewer-administered questionnaire during the routine clinical visit or during the support group meetings. Routine clinical follow up will progress as usual without interference by the study

Benefits of the study: There is no direct benefit to the participants but the study will contribute to evidence-base to inform policy makers on strengths and weaknesses in the care of the adolescents. No payments will be made for participating in the study.

Harm of the study: There may be discomfort to discuss private sexual behaviours related to HIV/AIDS.

Some questions may be "very private". You are allowed to skip these questions or withdraw from the study with no consequences.

Confidentiality: All information obtained from you or your dependant will be kept strictly confidential and used only for research purposes. Your name will not appear on the data collection tools. All papers and computer records will be kept under lock and key and security codes respectively. The questionnaires will be filled in a room/place deemed private by the researchers after being identified prior to the study with assistance from the staff in the facility. Your responses will not be shared with your guardian/parent.

Rights to refuse or withdraw from study: Participation is entirely voluntary. You, or your dependant is free to withdraw from the study at any point

In case of any question regarding the study, you can contact Dr. Malangachi Roselyne on mobile phone 0722-971501

Contact persons:

NAME:	TITLE:	CONTACT
Dr. Malangachi Roselyne	Principal Investigator	Tel: 0722-971501 Email: rozzymalangachi@gmail.com
Prof. Samuel Ayaya	Supervisor	Tel: 0725-851558 Email: Samuel.ayaya@gmail.com
Prof. Constance Tenge	Supervisor	Tel: 0722-686634 Email: cntenge@yahoo.co.uk
Dr. Alice Kaaria	Supervisor	Tel: 0722695724 Emal: kaariaalice@gmail.com

Having read and been explained to the above:

I Mr. / Mrs. /

Miss……

(Participant/ guardian) to (name of dependant) ……

With knowledge that this study is voluntary, do hereby give my consent/ consent for my dependant to participate in the study.
I understand that I can withdraw or my dependant can withdraw from the study without any penalty or harm.
Participant's signature…….. Date ……..
Guardian/parent signature…… Date ……..
Principal investigator's signature …… Date …….

Appendix 4: Fomu ya Makubaliano ya Kushiriki Katika Utafiti Huu:

Kichwa cha Utafiti: Utumizi wa huduma za kuzuia maambukizi ya Virusi Vya Ukimwi kati ya vijana wanooishi na Virusi Vya Ukimwi wanaoenda katika kliniki ya waadhiriwa wa virusi vya Ukimwi katika Kaunti ya Kakamega

Utangulizi: Kwa majina ni daktari Malangachi Roselyne. Mimi ni mwanafunzi katika chuo kikuu cha Moi. Nasomea taaluma ya udaktari wa watoto. Katika masomo yangu, nahitajika kufanya utafiti. Utafiti wangu unahusu kutambua jinsi vijana wanavyotumia huduma za kuzuia maambukizi ya virusi vya ukimwi

Utaratibu wa utafiti: Iwapo wewe au mtegemezi wako atakubali kushiriki katika utafiti huu, utapewa karatasi iliyo na maswali kuhusu tabia za ngono zinasohusiana na maambukizi ya virusi vya ukimwi. Maswali haya yatapewa wakati wa kliniki au mikutano ya vijana

Faida ya kushiriki: Hakuna malipo yoyote kwa kushiriki katika utafiti huu. Walakini, matokeo ya utafiti huu yatatumiwa na washika dau kuimarish huduma kwa vijana wanaoishi na virusi vya ukimwi.

Madhara ya kushiriki: Unaweza pata utata kidogo kwa maswali yatakayouliza kuhusu mambo ya tabia za ngono. Iwapo utapata maswali yanayoleta utata, unaruhusiwa kutojibu maswali haya na unaweza kujiondoa katika utafiti huu bila madhara yoyote.

Siri: Mambo ya utafiti huu yatatunzwa kwa siri na kutumika katika utafiti tu. Utambulisho wako hautawekwa bayana katika makaratasi yoyote. Makaratasi yote yatawekwa katika kabati lililofungwa na kifunguu kuwa na mtafiti mkuu. Tarakilishi itatumika kuimarisha siri. Maswali ya dodoso yatajibiwa katika chumba ambacho kitakuwa kimetafutwa na mtafiti kwa usaidizi wa wahudumu wa afya kitachoshughulukia mambo ya siri. Majibu yako hayatapatiwa kwa mzazi/mlezi wako.

Uhuru: Kushiriki katika utafiti huu ni kwa hiari. Unaruhusiwa kutoka katika utafiti wakati wowote bila madhara yoyote.

Iwapo una swali lolote kuhusu utafiti huu, unaweza kuwasiliana na Daktari Malangachi Roselyne kupitia numbari ya simu ya rununu 0722-971501

Pia, waweza kuwasiliana na wafuatao:

JINA	CHEO	KUWASILIANA
Dr. Malangachi Roselyne	Mtafiti mkuu	Nambari ya simu: 0722-971501 Barua pepe: rozzymalangachi@gmail.com
Prof. Samuel Ayaya	Msimamizi	Nambari ya simu: 0725-851558 Barua pepe: samuel.ayaya@gmail.com
Prof. Constance Tenge	Msimamizi	Nambari ya simu: 0722-686634 Barua pepe: cntenge@yahoo.co.uk
Dr. Alice Kaaria	Msimamizi	Nambari ya simu: 0722-695724 Barua pepe: kaariaalice@gmail.com

Baada ya kusoma na kuelezwa kwa kina mambo yanayohusiana na utafiti huu;

Mimi…… (mshiriki au mlezi wa mshiriki) au mlezi wa……..(jina la mshiriki) natoa idhini yangu kushiriki katika utafiti huu. Nafahamu kuwa naweza kusitisha ushiriki wangu katika utafiti huu wakati wowote bila madhara yoyote.

Sahihi ya mshiriki…….. Tarehe……..

Sahihi ya mlezi/mzazi …… Tarehe ……..

Sahihi ya mtafiti mkuu ……. ..….... Tarehe …….

Appendix 5: Assent Form: (For the participants aged less than eighteen years)

Study Title:

Uptake of prevention with positive services among HIV positive adolescents attending comprehensive care clinics in Kakamega County

Introduction:

My name is Dr. Malangachi, Roselyne. I am a post-graduate student in the department of Child Health and Paediatrics at Moi University. As part of my post-graduate studies, I am required to carry out a research project. My research study is aimed at establishing the level of uptake of prevention with positive services among HIV positive adolescents attending Comprehensive Care Clinics in Kakamega County.

Study Procedure:

If you agree to participate in this study you will be asked questions surrounding your sexual behaviour and HIV/AIDS using a interviewer-administered questionnaire during the routine clinical visit or during the support group meetings. Routine clinical follow up will progress as usual without interference by the study

Benefits of the study:

There is no direct benefit to the participants but the study will contribute to evidence-base, to inform policy makers on strengths and weaknesses in the care of the adolescents. No payments will be made for participating in the study.

Harm of the study:

There may be some discomfort associated with some questions pertaining to your private sexual bahaviours related to HIV/AIDS. Some questions may be "very private". You are allowed to skip these questions or withdraw from the study with no consequences.

Confidentiality:

All information obtained from you will be kept strictly confidential and used only for research purposes. Your name will not appear on the data collection tools. All papers and computer records will be kept under lock and key and security codes respectively. The questionnaires will be filled in a room/place deemed private by the researchers after being identified prior to the study with assistance from the staff in the facility. Your responses will not be shared by your guardian/parent.

Rights to refuse or withdraw from study:

Participation is entirely voluntary. You are free to withdraw from the study at any point

In case of any question regarding the study, you can contact Dr. Malangachi Roselyne on mobile phone 0722-971501

Contact persons:

NAME:	TITLE:	CONTACT
Dr. Malangachi Roselyne	Principal Investigator	Tel: 0722-971501 Email: rozzymalangachi@gmail.com
Prof. Samuel Ayaya	Supervisor	Tel: 0725-851558 Email: Samuel.ayaya@gmail.com
Prof. Constance Tenge	Supervisor	Tel: 0722-686634 Email: cntenge@yahoo.co.uk
Dr. Alice Kaaria	Supervisor	Tel: 0722-695724 Email: kaariaalice@gmail.com

Having read and been explained to the above:
I ……..
with knowledge that this study is voluntary, do hereby give my assent to participate in the study.
I understand that I can withdraw from the study at any time without any penalty or harm.
Participant's signature…….. Date …….
Principal investigator's signature …… Date …….

Appendix 6: Fomu ya Makubaliano ya Kushiriki Katika Utafiti Huu kwa Washiriki Walio Chini ya Umri Wa Miaka Kumi Na Nane:

Kichwa cha utafiti:

Utumizi wa huduma za kuzuia maambukizi ya Virusi Vya Ukimwi kati ya vijana wanaoishi na Virusi Vya Vkimwi wanaoenda katika kliniki ya waadhiriwa wa Virusi Vya Ukimwi katika Kaunti ya Kakamega

Utangulizi:

Kwa majina ni daktari Malangachi Roselyne. Mimi ni mwanafunzi katika chuo kikuu cha Moi. Nasomea taaluma ya udaktari wa watoto. Katika masomo yangu, nahitajika kufanya utafiti. Utafiti wangu unahusu kutambua jinsi vijana wanavyotumia huduma za kuzuia maambukizi ya virusi vya ukimwi

Utaratibu wa utafiti:

Iwapo utakubali kushiriki katika utafiti huu, utapewa karatasi iliyo na mawali kuhusu tabia za ngono zinasohusiana na maambukizi ya virusi vya ukimwi. Maswali haya utapewa utakapokuja kwenye kliniki au mikutano ya vijana

Faida ya kushiriki:

Hakuna malipo yoyote yatakayotolewa kwa kushiriki katika utafiti huu. Walakini, matokeo ya utafiti huu yatatumiwa na washika dau kuimarish huduma kwa vijana wanaoishi na Virusi Vya Ukimwi.

Madhara ya kushiriki:

Unaweza pata utata kidogo kwa maswali yatakayouliza kuhusu mambo ya tabia za ngono zinasohusishwa na usambazaji wa virusi vya ukimwi. Iwapo utapata maswali yanayoleta utata, unaruhusiwa kutojibu maswali haya na unaweza kujiondoa katika utafiti huu bila madhara yoyote.

Siri:

Mambo ya utafiti huu yatatunzwa kwa siri na kutumika katika utafiti tu. Utambulisho wako hautawekwa bayana katika makaratasi yoyote. Makaratasi yote yatawekwa katika kabati lililofungwa na kifunguu kuwekwa na mtafiti mkuu. Tarakilishi itatumika kuimarisha siri. Maswali ya dodoso yatajibiwa katika chumba ambacho kitakuwa kimetafutwa na mtafiti kwa usaidizi wa wahudumu wa afya kitachoshughulukia mambo ya siri. Majibu yako hayatapatiwa kwa mzazi/mlezi wako.

Uhuru:

Kushiriki katika utafiti huu ni kwa hiari. Unaruhusiwa kutoka katika utafiti wakati wowote bila madhara yoyote.

Iwapo una swali lolote kuhusu utafiti huu, unaweza kuwasiliana na Daktari Malangachi Roselyne kupitia numbari ya simu ya rununu 0722-971501

Pia, waweza kuwasiliana na wafuatao:

JINA	CHEO	KUWASILIANA
Dr. Malangachi Roselyne	Mtafiti mkuu	Nambari ya simu: 0722-971501 Barua pepe: rozzymalangachi@gmail.com
Prof. Samuel Ayaya	Msimamizi	Nambari ya simu: 0725-851558 Barua pepe: samuel.ayaya@gmail.com
Prof. Constance Tenge	Msimamizi	Nambari ya simu: 0722-686634 Barua pepe: ctenge@yahoo.co.uk
Dr. Alice Kaaria	Msimamizi	Nambari ya sismu: 0722-695724 Barua pepe: kaariaalice@gmail.com

Baada ya kusoma na kuelezwa kwa kina mambo yanayohusiana na utafiti huu;
Mimi……
……..natoa idhini yangu kushiriki katika utafiti huu. Nafahamu kuwa naweza kusitisha kushiriki kwangu katika utafiti huu wakati wowote bila madhara yoyote.
Sahihi ya mshiriki…….. Tarehe……..
Sahihi ya mtafiti mkuu ……..….. Tarehe …….

Appendix 7: Study Eligibility Screening Tool on Knowledge of Hiv Status by adolescent:

Serial number…….

Facility……..

Age in years……

Gender……

1. For how long have you been attending this clinic?

   ……

2. Why do you attend this clinic? (Briefly explain)

   ……

   ……

3. Do you know what HIV/AIDS is? (Briefly explain)

   ……

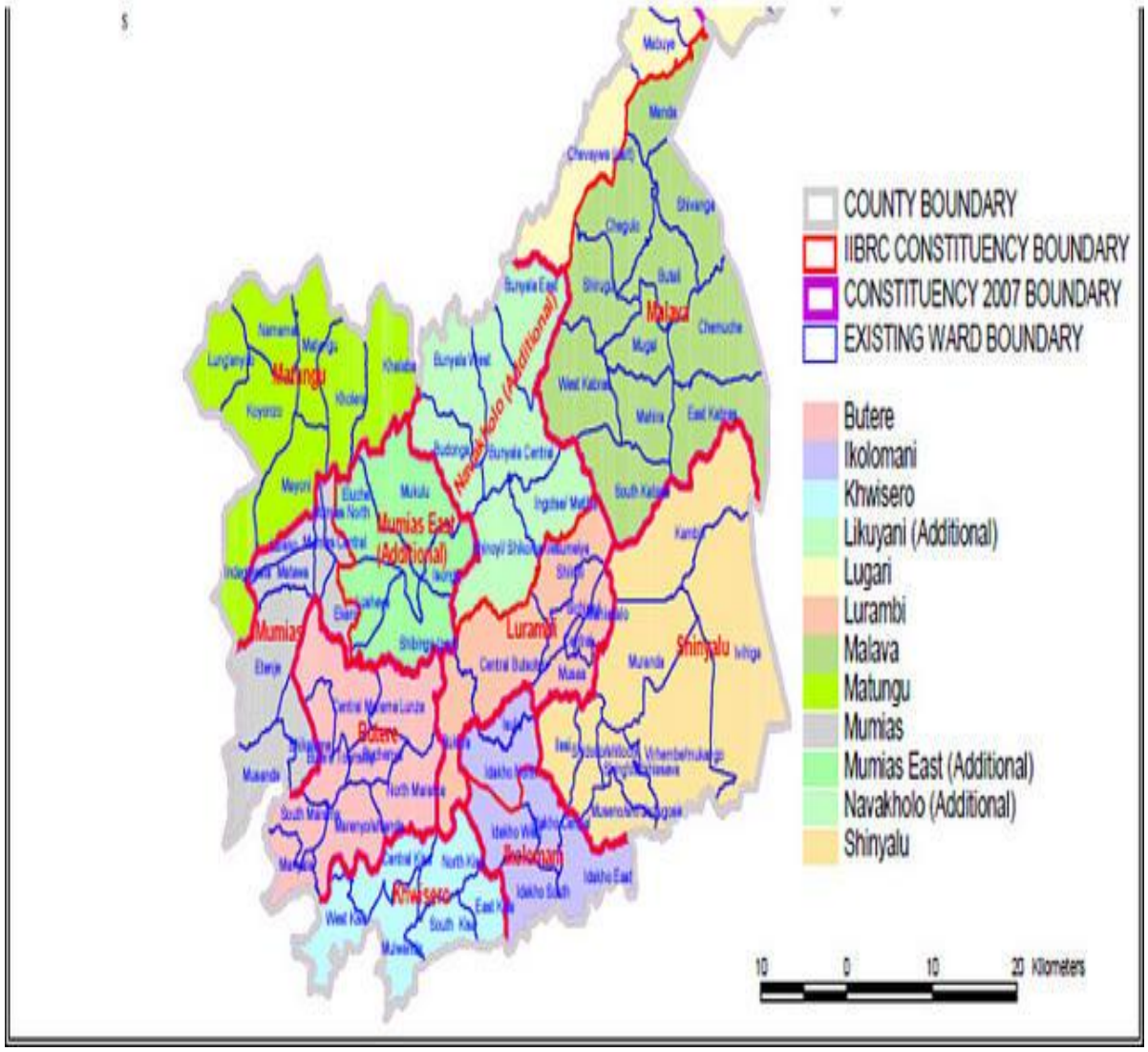
   ……

   ……

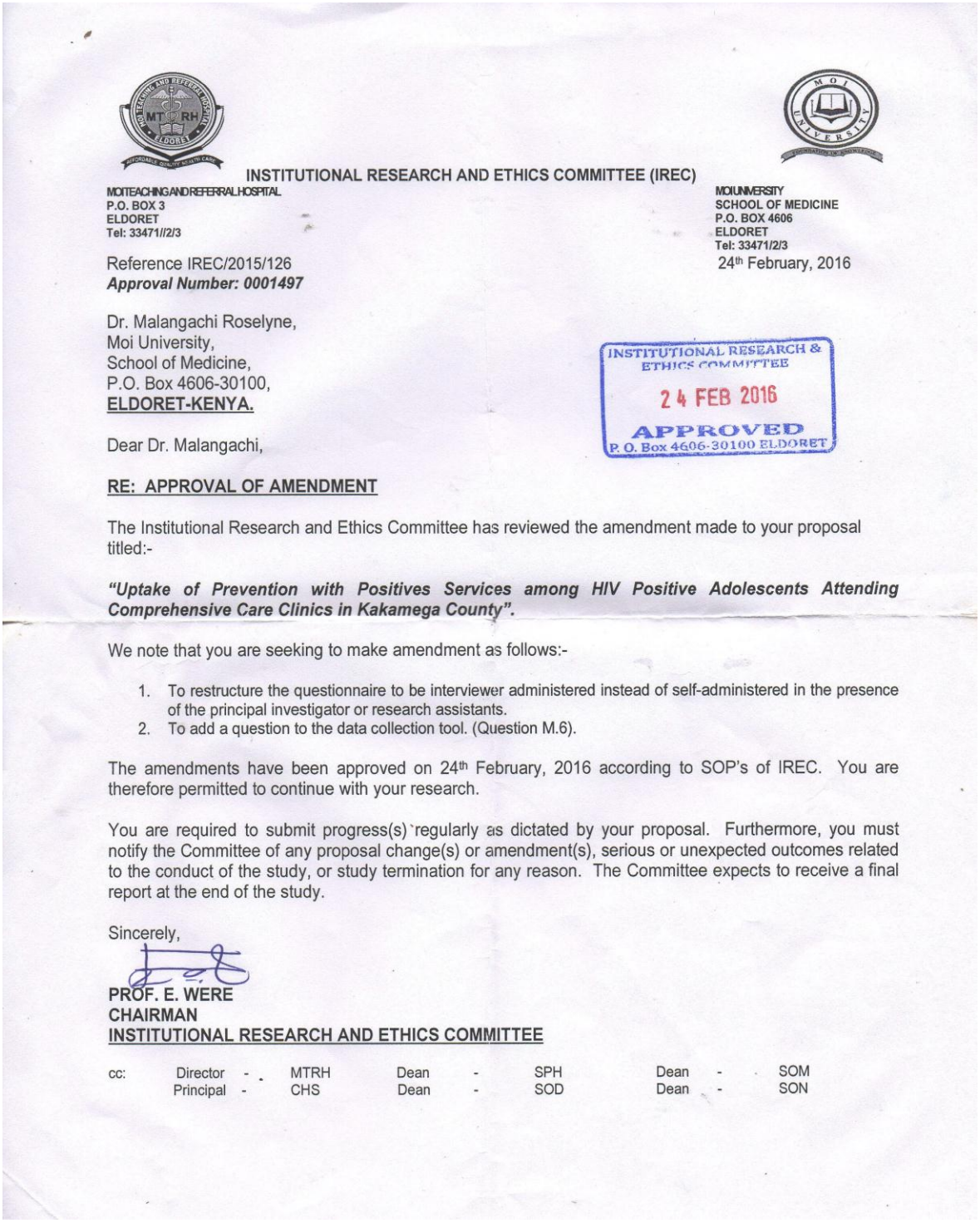
4. Do you know your HIV status? …….

   (Specify)……..

Appendix 8: Map of Kakamega County:



Appendix 9: IREC Approval



INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471/2/3

MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference IREC/2015/126
Approval Number: 0001497

24th February, 2016

Dr. Malangachi Roselyne,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
24 FEB 2016
APPROVED
P. O. Box 4606-30100 ELDORET

Dear Dr. Malangachi,

RE: APPROVAL OF AMENDMENT

The Institutional Research and Ethics Committee has reviewed the amendment made to your proposal titled:-

"Uptake of Prevention with Positives Services among HIV Positive Adolescents Attending Comprehensive Care Clinics in Kakamega County".

We note that you are seeking to make amendment as follows:-

1. To restructure the questionnaire to be interviewer administered instead of self-administered in the presence of the principal investigator or research assistants.
2. To add a question to the data collection tool. (Question M.6).

The amendments have been approved on 24th February, 2016 according to SOP's of IREC. You are therefore permitted to continue with your research.

You are required to submit progress(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change(s) or amendment(s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Sincerely,

PROF. E. WERE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc: Director - MTRH Dean - SPH Dean - SOM
Principal - CHS Dean - SOD Dean - SON

Appendix 10: Kakamega County Approval

REPUBLIC OF KENYA

Telegrams: "PROVMED", KAKAMEGA
Telephone: 056 31125
Fax: 056 31125
E-mail: pdmswestern@gmail.com
When replying please quote

KAKAMEGA COUNTY
P O BOX 2309
KAKAMEGA
G.P.O. 50100

Ref : CGK/MOH/ST./VOL.2/20/176

Date: 13th November 2015

COUNTY GOVERNMENT OF KAKAMEGA
OFFICE OF THE CHIEF OFFICER OF HEALTH

The SCMOH
Malava
Ikolomani
Lugari
Butere
Matungu
Med. Supt. CGH
MO i/c St. Mary's Mumias
RCO i/c Matete Health Centre

RE: PERMISSION TO CONDUCT RESEARCH STUDY
DR. ROSELYNE MALANGACHI

The above named is a Postgraduate student pursuing MMED in Paediatrics at Moi University. She would like to carry out a research in seven comprehensive care clinics within your facilities.

Kindly accord her all the necessary support.

Copies of the Ethical Approach and research protocol are attached.

Thank you

Dr. David Oluoch
AG. CHIEF OFFICER
HEALTH SERVICES