

**UTILIZATION OF 'PREVENTION WITH POSITIVES' SERVICES BY
ADOLESCENTS LIVING WITH HIV ATTENDING COMPREHENSIVE
CARE CLINICS IN GARISSA TOWN, KENYA**

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DECLARATION

Declaration by the Candidate

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DEDICATION

I dedicate this work to the adolescents living with HIV.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
ALHIV	Adolescents living with Human immune deficiency virus
ART	Anti retro viral therapy
CCC	Comprehensive Care clinic
HIV	Human immuno deficiency virus
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya demographics health survey
NACC	National AIDs Control Council
NASCOP	National Aids and Sexually Transmitted Illnesses Control Programme
PMTCT	Prevention of mother to child transmission
STI	Sexually transmitted illnesses
PEPFAR	President's Emergency Plan for AIDS Relief
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Adolescent: Any person aged between 10 to 19 years.

‘Prevention with Positives services’ : psychosocial counselling, provision of ART and septrin prophylaxis, family planning, nutrition , screening and treatment of tuberculosis, screening and treatment of sexually transmitted diseases, partner notification, prevention of mother to child transmission, prevention of fungal infections, malaria, vaccination of preventable illnesses, needle – syringe program and opioids substitution

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ABSTRACT

Background: Human immune deficiency virus (HIV) infection is associated with significant morbidity and mortality among adolescents. ‘Prevention with Positives services’ include psychosocial counselling, provision of ART and septrin prophylaxis, family planning, nutrition, screening and treatment of tuberculosis, screening and treatment of sexually transmitted diseases, partner notification, prevention of mother to child transmission, prevention of fungal infections, malaria, vaccination of preventable illnesses, needle – syringe program and opioids substitution which have been shown to reduce HIV associated morbidity and mortality. Assessment of the available services and factors that influence their utilization can assist in guiding policy on improving these services.

Objective: To evaluate the utilization of ‘Prevention with Positives services’ among adolescents living with HIV (ALWHIV) attending Comprehensive Care Clinics in health facilities in Garissa Town.

Methods: A mixed method, health facility based, cross sectional study was used. A census involving adolescents living with HIV aged between 10 to 19 years and key informants at the Comprehensive Care Clinics in Garissa County Referral Hospital, Ifin Sub-County Hospital and Police line Hospital. Interviewer administered Questionnaires to the adolescents were used to assess the ‘Prevention with Positives services’ utilized and what factors influenced their uptake. Focus group discussions with the adolescents were used to assess their knowledge on ART and Family Planning, partner notification, and challenges encountered when accessing preventive services. The key informants gave information on the available services, perceived factors affecting utilization and perception of community about ALWHIV. Descriptive statistics and the corresponding standard deviation were used to summarize continuous variables. All interviews were translated from Somali to English where necessary and thematically analyzed.

Results: We recruited 39 adolescents living with HIV and 5 key informants (3 health care providers, one religious leader, and one village elder). Majority were female 22/39 (56.4%). The Prevention with Positives services available at all the three facilities included ART, Septrin prophylaxis and nutritional services, while screening and treatment for both sexually transmitted infections and tuberculosis and psychological counselling were available only at Garissa County Referral Hospital. Three ALHIV were sexually active but none had disclosed their HIV status to their partners. Utilization of ART and Septrin prophylaxis was 39/39(100%), nutritional services 12/39 (30.7%), screening for tuberculosis 11/30 (36.6%), screening for Sexually Transmitted Infections and psychological counselling 1/30 (3.3%). During the Focus Group Discussions adolescents reported that availability of free ART facilitated utilization of the services while Fear of rejection/ stigma, unfriendly health workers, rigid school rules, religious and cultural beliefs were perceived as barriers to utilization of the services. Key informants reported that barriers included shortage of staff and high levels of stigma at the community level.

Conclusions: None of the health facilities offered all the ‘Prevention with Positives services’ in Garissa town. Utilization of services was low. Free ART enhanced the utilization of the services while Stigma, unfriendly health workers, rigid school rules were barriers identified.

Recommendations: Efforts should be put in place to ensure that Comprehensive Care Clinics offer all the recommended ‘Prevention with Positives services’. There is need to improve adolescents-health care providers’ relationships and have flexible school rules.

CHAPTER ONE: INTRODUCTION

1.1 Background

‘Prevention with Positives services’ curb the spread of Human Immunodeficiency Virus (HIV), as well as preventing re infection among people living with HIV against other strains, transmission of other STIs, and making informed decisions on their health choices such as contraception and pregnancy (CDC, 2014)

The first case of HIV was diagnosed in Kenya in 1984 and since then the prevalence of HIV has been rising. In 1996 the prevalence of HIV was at 10.5% but since the introduction of Anti retro viral treatment (ART) the prevalence of HIV reduced significantly to 4.9% in 2018 according to the National Aids Control Council in Kenya (NACC, 2018). There were about 2.1 million adolescents living with Human Immuno deficiency Virus (ALHIV) worldwide, with 85 to 86% living in sub-Saharan Africa, 60% residing in Eastern and Southern Africa (USAID, 2013). Adolescents account for 29% of all new infections ((NACC), 2014). A third of perinatally infected infants are diagnosed in adolescence, vertical transmission accounted for 56% of 10 to 14 year old adolescents and 7% of 15 to 19 years old adolescents. Sexual transmissions accounted for 84% of 15 to 19 years old adolescents in Kenya (Bernadette N Ng’eno, 2018). There was an increase in AIDS related deaths among adolescents between 2005 and 2013 was a reflection high numbers of vertically HIV-infected children aging into the adolescence. After the extension of ART services, in

sub-Saharan Africa, between 2005 and 2015 large number children living with HIV aged into adolescence every year (Amy L. Slogrove, 2017).

In March 2006, the President's Emergency Plan for AIDS Relief (PEPFAR) supported the provision of ART to 561,000 people living in 15 countries which were highly burdened with HIV. Kenya was among the countries that were supported by the presidential emergency plan to curb the spread of HIV. The support aimed at providing counselling and knowledge on prevention, provision of condoms for the sexually active people, promotion of Prevention of Mother to Child Transmission (PMTCT) services, treatment of Sexually Transmitted Illnesses (STI'S), disclosure of their HIV status to their sexual partners, harm reduction, adherence to ART and involving them in community based care programs. Kenya focused on disclosure of HIV status to sexual partners, partner testing, reduction of transmission to others and prevention of STIs (PEPFAR, 2008) .

World Health Organization (WHO) identified HIV as the leading cause of death among adolescents in sub-Saharan Africa (WHO, 2015) . WHO and Center of Disease Control have recommended a standard package among adolescents living with HIV to improve the quality of lives of the adolescents and reduce their mortality due to HIV associated complications. To effectively do this, WHO and CDC have recommended a standard package of care consisting of psychosocial counselling, provision of ART and Septrin prophylaxis, family planning, nutrition , screening and treatment of

tuberculosis, treatment of sexually transmitted diseases, partner notification, prevention of mother to child transmission, prevention of fungal infections, malaria, vaccination of preventable illnesses, needle – syringe program and opioids substitution (CDC, 2014) (WHO, 2011).

Adolescents living with HIV experience particular challenges especially those with prenatally acquired HIV, who are more likely to be at advanced stages of the disease and may be dealing with opportunistic infections (NASCO, 2014). Those who acquired HIV through horizontal transmission have been noted to have certain risk factors such as early sexual debut, multiple sex partners, substance abuse and poverty (NACC, 2014). Adolescents living with HIV require skills to help them handle particular stressing factors such as coping with their HIV positive status, stigma and discrimination, making safe health choices such as safe sex, treatment adherence, social support, and acquire knowledge on sexual and reproductive rights (Doppenberg, 2011).

In order to increase the utilization of health services by the adolescents, several guidelines and global standards of quality health care services for adolescents have been developed which are aimed at improving the quality of health care services. (WHO 2015).

1.2 Problem Statement

HIV was identified as the leading cause of death among adolescents in sub-Saharan Africa (WHO, 2015). Sexual transmissions account for majority of HIV infections among the adolescents in Kenya (Bernadette N Ng'eno, 2018). The ART coverage in Garissa among children was at 21% and PMTCT coverage at 55%, making it among the lowest counties to utilize these HIV preventive services (NACC, 2016) . It was also noted that the ALHIV in Garissa would be admitted to the wards in advanced stages of HIV and their mortality was high. WHO and Center of Disease Control have recommended a standard package among adolescents living with HIV to improve the quality of lives of the adolescents and reduce their mortality due to HIV associated complications. This prompted the need to carry out the study in order to determine the availability and utilization of PWP among adolescents attending Comprehensive Care Clinics in Garissa.

1.3 Justification

The level of utilization of 'Prevention with Positives services' among the adolescents living with HIV in Garissa Town is unknown. In order to achieve the zero transmission of HIV, zero AIDS related deaths and zero discrimination, adolescents living with HIV have to adhere to the Prevention with Positives package of care. This study aimed at describing the available 'Prevention with Positives services' recommended by WHO for adolescents living with HIV, the rate of uptake and the factors that influenced the utilization of these services among adolescents attending Comprehensive Care Clinics in Garissa Town.it has given a baseline information and

the existing gaps which will help in policy making. If this study was not done it would be difficult to improve on the availability and utilization of PWP.

1.4 Research Question

What is the level of utilization of Prevention with Positive services by HIV positive adolescents attending comprehensive care clinics in Garissa Town?

1.5 Objectives

1.5.1 Broad Objective

To evaluate the utilization of Prevention with Positive services among HIV positive adolescents attending Comprehensive Care Clinics in Garissa Town.

1.5.2 Specific Objectives

1. To describe the available Prevention with Positive services at the Comprehensive Care Clinics in Garissa Town
2. To determine the rate of utilization of Prevention with Positive services by HIV positive adolescents attending Comprehensive Care Clinics in Garissa Town.
3. To assess factors that influence the rate of utilization of Prevention with Positive services by HIV positive adolescents attending Comprehensive Care Clinics in Garissa Town.

CHAPTER TWO: LITERATURE REVIEW

2.1 'PREVENTION WITH POSITIVES' PACKAGE OF CARE

Preventive services are used to limit the spread of HIV and improve the quality of life. They prevent the transmission of HIV to others, prevent re-infection of those living with HIV against other strains of HIV, STIs, and make informed decisions on their health choices such as contraception and pregnancy (CDC, 2014). The 2003 guidelines were expanded to include other risk factors such as poverty , mental illnesses ,substance abuse and unstable housing which have been found in those living with HIV to transmit the virus (CDC, 2014).

Recommended services as per CDC guidelines include individualized, social, morally acceptable methods of preventing HIV transmission and use of HIV prevention and care services. , They also include linkage to care and retention in HIV medical care , provision of antiretroviral treatment (ART) for reducing morbidity and curbing HIV transmission, and approaches to attain sustained high adherence to ART to decrease infectiousness. Reproductive health care for women and men to reduce the risk of horizontal HIV spread when trying conception or accidental pregnancy and pregnancy-related services to reduce the risk of horizontal or vertical transmission throughout pregnancy (CDC, 2014) .

2.2 SERVICE DESCRIPTION AND THE RATE OF UPTAKE OF 'PREVENTION WITH POSITIVE SERVICES'

2.2.1 PSYCHOLOGICAL COUNSELLING

Psychological counselling is a broad range of culturally-sensitive practices that help people improve their well-being, alleviate distress and maladjustment, resolve crises, and increase their ability to function better in their lives. Giving attention to both to normal developmental issues and problems associated with physical, emotional, and mental disorders. To increase the linkage to care and adherence to treatment, the Prevention with Positive care providers have to provide a broader social and structural support for ALHIV. The interventions should be able to address the psychological problems such as limited health knowledge, school drop outs and failure to make sound decisions which would influence their future hence involving themselves in risky behaviors which leads to spread of infections (pediatrics, 2014). With HIV being a highly stigmatized chronic illness counselling is important. Comprehensive package of care which includes individual counselling, group counselling, couple counselling, family counselling and support have been provided to cater for their different needs. There are different psychological interventions which have been implemented but their impact has not been assessed (WHO, 2011). WHO/UNAIDS recommend that at least 6 sessions, each lasting for 1 hour have been shown to have an impact on the adolescents and hence better adherence to medication (UNAIDS, 2007)

2.2.2 ANTI RETRO VIRAL TREATMENT

Anti-retro viral treatment aims at reducing the viral load and restoring their immunity. ART should be initiated soon after confirming the HIV diagnosis irrespective of the CD4 counts, WHO clinical stage, breastfeeding or pregnant state. Pharmacologic drug classes include:

- Nucleoside reverse transcriptase inhibitors (NRTIs) : they competitively inhibit reverse transcriptase from forming viral DNA.
- Non-nucleoside reverse transcriptase inhibitors (NNRTIs): they inhibit the reverse transcriptase enzyme non competitively,
- Protease inhibitors (PIs): inhibit HIV protease .
- Integrase inhibitors (INSTIs)
- Fusion inhibitors (FIs): inhibit glycoprotein 41
- Chemokine receptor antagonists (CCR5 antagonists)
- Entry inhibitors (CD4-directed post-attachment inhibitors)

Use of anti-retro viral treatment is one of the major ways of reducing the transmission of HIV and improvement of the quality of life and survival. ART has led to the survival of adolescents into adult life especially those who acquired the infection vertically. The rate of utilization of ARVs varies, a study done in Zambia showed 94.2% and of these 28% were not adherent on their medication based on a self-reported three day report and some of the factors associated with non-adherence included loss of a parent, poor basic knowledge on HIV, side effects of the medications, signs of depression , medication times , pill burden, forgetting and lack of privacy when take medications (Sumiyo Okawaa, 2018).

When dispensing medication one has to confirm the drug, dose, frequency and route of administration, duration of treatment, the presence or absence of other drugs, the patient's diagnosis, drug history, and taking the patient's confidentiality into account and it should be done by a pharmacist (WHO, 2009). A study done in Pakistan showed pharmacists dispense drugs in 38 seconds with about half the patients not understanding how the medication should be taken at end of their consultation time with the pharmacist (A. Hafeez, 2004). A different study done in England showed dispensing times of about 15 minutes (Luo, 2012)

2.2.3 PREVENTION OF OPPORTUNISTIC INFECTIONS

Opportunistic infections are the predominant causes of morbidity and mortality among HIV-infected patients. Main areas affected are the nervous, gastro-intestinal and respiratory systems, and the skin. The level of immunity determines the occurrence and type of opportunistic infections. In general milder infections, such as herpes zoster and other skin infections, occur early whereas serious life-threatening infections such as CNS toxoplasmosis and cryptococcal meningitis occur later with severely impaired immunity. Some life-threatening infections, such as pneumonia and TB, may occur early as well as later. When TB occurs later it is atypical, more disseminated and more extra pulmonary (INFO, 2015)

A) Septrin prophylaxis

WHO recommends septrin prophylaxis for all stages HIV (WHO, 2011) Clear guidelines on the implementation of septrin prophylaxis were rolled out in 2006. Septrin prophylaxis has been shown to reduce mortality by 43% among children and adolescents with HIV in a Co-trimoxazole as prophylaxis against opportunistic infections in HIV-infected Zambian children (CHAP) trial which also found

protection against malaria, bacterial infections and reduced admissions. (WHO, 2014). Studies have shown that septrin prophylaxis has a high impact on the morbidity and mortality of people living with HIV in resource limited settings in the prevention of pneumocystis pneumonia, malaria, and toxoplasmosis. Septrin is recommended for the prevention and treatment of *Pneumocystis Jirovecii* pneumonia. Single strength septrin has being shown to be equally effective as the double strength septrin (ahmed hassani, 2015).

B) Malaria

Malaria has an increased morbidity among those with immunosuppression and those who live in areas with unstable malaria. HIV patients tend to have treatment failure to anti-malarial and an increase in viral load due to malaria infection (WHO, 2011). HIV infection impairs acquired immunity to malaria in older children and adults in stable endemic areas. Malaria influences the natural history of HIV infection, and HIV infection alters the natural history and severity of malaria (INFO, 2015)

Malaria infection rate is twice as high among the HIV infected individuals. Impaired cellular immunity among those living with HIV increases their susceptibility to malaria. They develop severe malaria especially when their CD4 count is less than 350 cells/mm³. Among the pregnant mothers, malaria causes abortion and increases the HIV transmission, this is because there is an increase expression of CCR5 in the placental macrophages hence increasing the transmission rates. Use of septrin prophylaxis has reduced the incidence of malaria by 50% and use of ART has even reduced it further by 50%. Use of insecticide treated nets has reduced it by 20% (CDC, 2014) .

C) Prevention of fungal infections

Cryptococcus meningitis is one of the commonest fungal infections and causes high mortality rates among patients with HIV in resource limited settings, due to the lack of diagnosing tools. In areas where Cryptococci infection is rampant prophylactic antifungals should be considered. (WHO, 2011)

2.24 SEXUAL AND REPRODUCTIVE HEALTH

A. Disclosure and Partner Notification

Disclosure is a process which allows an individual to know their ailment or allows others to know what illness they have, it can be partial disclosure whereby the individual only knows that they are suffering from a chronic disease without knowing which disease it is, or it can be full disclosure where one knows the disease they have or sometimes disclosure can happen accidentally whereby the individual gets to know their status from a conversation. Disclosure helps to enhance good adherence to medications, improves self-esteem and also prevents the fear of accidental disclosure (NASCO, 2014). Disclosure to the sexual partners and drug injecting groups helps to reduce spread of HIV and helps to increase partners' utilization of testing services and eventually gain access to other preventive services. Most people fear stigmatization and this reduces the chances disclosing (WHO, 2011). A study done in 2012 on disclosure and medication hiding showed that the more the adolescents disclose their status to their friends the lesser the chances of hiding their medication hence leading to better immune status (Sarah K. Calabrese, 2012).

Disclosure of status to others was estimated to be at 18% in a study done in Uganda among ALHIV (Christiana Nostlinger, 2015) while in a study done in Florida showed disclosure rates of up to 80% to sexual partners since it is an offence not to disclose

your status with someone whom they have sexual relations with (Tiffany Chenneville, 2015)

B. Family planning

Family planning methods should be explained to the patients on how they work, common side effects, route of administration, and on the importance of using dual contraception so as to protect against other sexually transmitted illnesses (UNAIDS, 2012). United States President's Emergency Plan for AIDS Relief, which promoted the abstinence be faithful and condom use (ABC) approach with a focus on abstinence-driven public health campaigns (Elaine M Murphy, 2006).

Patients on HAART should not be denied hormonal contraception since there is little effect of hormonal contraception on ART, except those on EFV which may interfere with the drug efficacy (Kavita Nandaa, 2017)

Provision of condoms and lubricants to help in easy accessibility, correct use and consistent use to aid in the prevention of HIV transmission. Transmission is reduced by up to 94% if correctly used. Adolescents generally have less knowledge on preventive measures and most times they are taken advantage of by their partners and end up being over ruled.

The utilization of contraceptive services in Kenya among adolescents aged between 15 years and 19 years is about 5% while there are about 29.7% whose needs have not been met for contraceptives (Hindin, 2009). Contraceptive utilization among the ALHIV was 34% while among the uninfected adolescents was 59% (Jolly Beyeza-Kashesya1, 2011)

Contraceptive services are important for all adolescents living with HIV. The use of two methods is recommended such as a condom and hormonal contraceptives and the clinicians should be conversant with the drug interactions between the ARVs and the hormonal contraceptives for the female adolescents living with HIV (Hagey, 2015)

C) ELIMINATION OF MOTHER TO CHILD TRANSMISSION (EMTCT)

Mother to child transmission accounts for 9% of new infections globally, this transmission usually occurs during pregnancy, labor and delivery and during breast feeding. If no interventions are put in place to curb the transmission of the infection, then one has 15 to 45% chance of getting the virus from the mother. In utero transmission account for 5-10%, 10-20% during labor, and 10-15% during breastfeeding. The components of EMTCT include giving quality preventive services during the ANC visits, reducing the number of women who get infected with HIV / syphilis during pregnancy by promoting a healthy sexual life and controlling HIV among the key populations, protection of human rights and gender equality as well as women empowerment (WHO, 2017).

Use of triple drug therapy is recommended by WHO due to its ability to reduce early infections to 0.5% unlike the previous option A(AZT/3TC/NVP) which could reduce infection by 1.8%. So use of AZT/3TC / LPV/r has had lesser adverse effects in pregnancy which include low birth weights, premature onset of labor, abortions, and birth defects compared to the use of TDF/FTC/LPV/r in the PROMISE (promoting maternal and infant survival everywhere) trial. Prevention of mother to child transmission utilization was found to be at 19.7% in pregnant mothers between the ages of 15 to 19 years without considering their HIV status (mariama mustapha, 2015).

D) SEXUALLY TRANSMITTED INFECTIONS

Ulcerative and infectious forms of STIs increase HIV shedding hence highly infectious. Treatment of these STIs reduces transmission of HIV. The use of anti retroviral therapy has led to having undetectable virus which makes HIV not transmissible and further the use of Tenofovir based regimens in the pre exposure prophylaxis has led to individuals having sex with condoms and hence no transmission of HIV but this has led to the change in dynamics of sexually transmitted illnesses, as much as HIV is not transmitted the other sexually transmitted illnesses have started increasing in prevalence, more so among the high risk groups (Kenneth H Mayer, 2019) (Teodora M. M., 2019) . The use of symptoms such as urethral discharge and chancre to diagnose sexually transmitted diseases have changed and currently majority of the patients commonly present with herpetic lesions showing type 2 herpes simplex (Teodora F. J.-C., 2019)

Screening should be done routinely on adolescents and not only symptoms warranting screening (AAP, 2014).

2.2.5 SCREENING AND TREATMENT OF TUBERCULOSIS

TB is the leading cause of morbidity and mortality among people living with HIV worldwide, with 1.2 million new HIV-infected persons and 390,000 deaths in 2014 (INFO, 2015). It is estimated that risk of TB reactivation is as high as 5% to 16% in HIV Positive individuals compared to their counter parts who are HIV negative whose life time risk is less than 5% (INFO, Guidelines for Prevention and Treatment of Opportunistic infections in adolescents and adults, 2015). A retrospective study done in Ethiopia showed the incidence of TB among ALHIV was 16.32 per 100 person years of observation in the pre ART time. Since the introduction of ART the incidence of TB has reduced to 2.25 per 100 person years of observation, and the

introduction of intermittent preventive treatment (IPT) has reduced the incidence of TB by 94% (D. Jerene, 2017).

Counselling on the risks of acquiring TB, strategies for reducing exposure and clinical manifestations should be done. All HIV positive patients should be screened and treated for TB. (WHO, 2011) Presence of symptoms such as chronic cough, weight loss, drenching night sweats, and history of contact with someone with TB or has been coughing for long also warrant screening for tuberculosis/ Treatment is given accordingly and if positive for tuberculosis then treatment should be initiated with the with holding of ART for the first two weeks (WHO, 2007)

2.2.6 NUTRITION

KDHS showed 5.4% of the adolescents aged between 15 to 19 years had a BMI of less than 17 (Kenya Demographics and Health survey, 2014). Poor nutritional status hastens the disease progression necessitating collaboration between HIV programs and the national food programs. (WHO, 2011). 13% of adolescents on ART had lipodystrophy whose major risk factor is intake of Stavudine, AZT and protease inhibitors (Cecile Cames, 2018) , lipoatrophy is associated with Stavudine and Didanosine while lipohypertrophy is associated with Ritonavir and Stavudine, the prevalence of lipodystrophy is low (Steve Innes, 2018) in the current regimen which is ABC/3TC / DTG for those less than 35kgs and TDF/3TC/DTG for those more than 35 kgs (WHO, 2019) . Protease Inhibitors have higher rates of stunting, low BMI and body fat hence making the adolescents more susceptible to growth deviation (Lígia Cardoso dos Reis, 2015) WHO has a chart which indicates recommended BMI for different ages that is used to classify the ALHIV. Over nutrition should also be addressed (WHO, 2015)

2.3 FACTORS INFLUENCING UTILISATION OF ‘PREVENTION WITH POSITIVES’ SERVICES

2.3.1 Factors facilitating Utilization of ‘Prevention with Positives’ Services among Adolescents Living with HIV

Integration of services makes accessibility to the available Prevention with Positive services easy and increases their utilization. A study done in Rwanda showed that this led to high rates of utilization of Prevention with Positive services which eventually led to viral and immunological responses (Merkel, 2012). Factors such as provision of health insurance, transport fees, household socio economic support, and medication refills improved the utilization of Prevention with Positive services. Other factors included provision of specific space, counselling groups, and empowerment of the adolescents in their own care from the time of disclosure of their status (Merkel, 2012).

A cohort study done in Haiti, followed up adolescents for a ten year period and outcomes were assessed before and after the introduction of a youth friendly HIV clinic, the outcomes included HIV testing, linkage to care, assessment of ART legibility, initiation of treatment, and 12 month retention period. The end results were enrolment in care increased to 87% from 86%, eligibility to ART at 79% from 61%, initiation to treatment at 92% which was initially 85% and retention in care for 12months was 66% and initially was 68%. The factors found to enhance the utilization of services included testing, treatment and laboratory services in one location. Prevention of adolescents from mixing with the adults by providing a dedicated space only for the adolescents reduced stigma and enhanced confidentiality. Trained staff in youth friendly services helped to increase the utilization of services.

Retention in care was influenced by stigma, isolation, lack of psychosocial support and socioeconomic factors such as food and transportation fees were a big problem (Reif, 2012)

A systematic review on studies in adolescents linkage to care from the time of diagnosis, initiation of treatment, and adherence to ART showed that services such as group and individual counselling services, peer support, directly observed therapy, financial incentives and adolescent friendly services appeared to be promising interventions in improving the utilization of Prevention with Positive services (p. macpherson et al, 2015).

A study done in western Kenya showed that integration of HIV services with contraceptive services and youth friendly services such as having adolescent specific clinic days, more comfortable setting for adolescent seeking contraceptive services facilitated the utilization of contraceptive services (Hagey, 2015).

A study done in Uganda on the utilization of prevention of mother to child transmission of HIV found some of the facilitating factors to utilization included as the knowledge of ones status, being mindful of the Prevention with Positive of the un born child, counselling from the Prevention with Positive workers and family support.

2.3.2 Factors hindering utilization of ‘Prevention with Positive’ Services among the Adolescents Living with HIV

Fear of their sexual activity being known to the parents and care providers who would think they are promiscuous was reported as a hindrance to effective utilization of PwP services. , It was challenging for the female adolescents to seek contraceptive care without the male partners thinking that one would see them not being serious

with their relationship, or may be having multiple sexual partners in a study done in Haiti (Hagey, 2015).

Adolescents who inject drugs rarely access harm reduction services and some of the barriers identified include lack of information and knowledge of these services, age restriction of the services, the belief of not needing the services, fear of law enforcement, stigma, lack of concern, high cost, lack of outreach services, youth friendly services and lack of knowledge of TB and Hepatitis (Krug, 2014). A qualitative study done in Zambia reported that the barriers to disclosure among the HIV positive adolescents were mainly local norms of the society that prevents parents from discussing sexuality with their children, fear of stigma and the perception that the adolescent won't understand the impact of their HIV status on their lives and relationships (Mburu, 2013).

Fear of dismissal by their sexual partners, lack of confidentiality, not finding it necessary to discuss especially if the relationship was short term and onset of a depressive mood on notifying others of their status were some of the factors which hindered disclosure of their status to their sexual partners (Andres F. camacho-Gonzalez, 2016). Disclosure to sexual partners can be difficult because the adolescents cannot know when is the right time to tell their partners of their status, use of condoms sometimes being seen as a scape goat to disclosure of one's status, fear of rejection from peers, and lack of confidentiality (Tiffany Chenneville, 2015) (Clare Greenhalgha, 2015)

Barriers to utilization of PMTCT in a study done in Uganda were stigma, lack of confidence in the clinic, poor Prevention with Positive care workers interactions with patients, long waiting hours, and financial constraints. Other barriers included lack of

supplies in the clinics, inadequate HIV counseling services, lack of perceived need, and need for parental consent as reported by the Prevention with Positive providers (Mariama Mustapha, 2015)

HIV being a chronic illness, psychological counselling is a very important service that the adolescents living with HIV should get. Anxiety and depression are the commonest reported mental Prevention with Positive conditions among the ALHIV (Rachel C. Vreeman¹, 2017) (Amina Abubakar¹, 2016)

CHAPTER THREE: METHODOLOGY

3.1 Study Design

Sequential explanatory cross sectional mixed methods study was used, quantitative data was collected first then later did the qualitative data collection so as to give reasons behind the figures in the quantitative data.

3.2 Study Site

Garissa town is one of the six sub counties in Garissa County, the others are Fafi,Ijara, lagdera, dadaab, balambala . It has an area of 2538.5 square kilometers. Garissa town is 367 kilometers from Nairobi. Garissa town has few tarmac roads, majority of the roads in the area are murram roads which become impassible during the rainy seasons, and an airstrip which makes it more accessible. There are several financial institutions in the area. There are a number of tertiary institutions in the area and basic education centers, though the literacy level is at 8.2%, majority of the girls drop out of school due to early marriages. Majority of the people residing in Garissa are Somali, other Kenyan communities from the neighboring counties also live in the area and mainly engage in businesses and casual labor. Majority of the people living in the area are pastoralists and they also engage in small scale businesses and farming activities along the Tana River banks. Garissa town has the largest population of people living with HIV in the County. Comprehensive care clinics are only within Garissa town and other facilities in the peripheries only offer medication refill services. The comprehensive care clinics in Garissa town follow up adolescents living with HIV.

Garissa county referral hospital is located along the Garissa – Dadaab road, has a bed capacity of 220, and most of the time has more than 90% bed occupancy. It offers both in-patient and outpatient care. In-patient care offered includes maternal and

newborn care, pediatrics, male and female surgical and medical care. Outpatient services include casualty, rehabilitation department as well as the Comprehensive Care Center where there are Voluntary Testing and Counselling services, provision of ART, Nutritional support and treatment of opportunistic infections.

Iftin sub town hospital is located in Iftin location, in Garissa Town. It has a bed capacity of 28 beds. Services offered include Antenatal care, Basic Emergency Obstetrics care, curative inpatient and outpatient services, family planning, Growth Monitoring and Promotion, immunization, integrated Management of Childhood Illnesses (IMCI), PMTCT, TB treatment and diagnosis. The Comprehensive care centers offer Voluntary Testing and counselling services, linkage to care and provision of ART, nutritional support and treatment of other illnesses.

Police Line hospital is located within Garissa town center in the police camp. It offers services to the public and the staff. It has a catchment area of about 10,000. It mainly offers out patient care services including laboratory services, family planning, and growth monitoring and promotion. Other services offered were immunization, Integrated Management of Childhood Illnesses (IMCI), PMTCT, TB treatment and diagnosis. Treatment of HIV/AIDS services include voluntary testing and counselling services, linkage to care and provision of ART, nutritional support and treatment of other illnesses,

3.3 Target Population

The target population were adolescents living with HIV between 10 to 19 years in Garissa Town attending Garissa comprehensive care centers.

3.4 Study Population

The study population were HIV positive adolescents aged 10 to 19 years who were aware of their HIV status in Garissa Town and attending Garissa comprehensive care centers.

The key informants were health care providers, (clinical officers-in charge or the nursing officer's in-charge of the adolescent HIV clinic). One person was interviewed per facility. A religious leader and a village elder were included in the key informant interviews

3.5 Eligibility Criteria

3.5.1 Inclusion criteria

- All HIV positive adolescents aged between 10 to 19 years attending the CCC who are aware of their HIV status.

Administrators of the various Comprehensive care clinics at the various study sites in Garissa town and a religious leader and a village elder.

3.5.2 Exclusion criteria

The adolescents who were very ill and who could have been too weak to be interviewed or otherwise in need of emergency care were excluded from the study.

3.6 Study Period

The study period was from September 2017 to September 2018.

3.7 Sample Size

Due to the few number of adolescents living with HIV in the area, a census was done to include all HIV positive adolescents.

The persons in charge for the various facilities were interviewed as the key informants. They were purposively sampled based on their knowledge and experience in the place, so as to give a clear description of the services offered to adolescents in the Prevention with Positives package of care, and give information on which are services commonly utilized and their perceived factors influencing utilization of these services.

A religious leader and a village elder were purposively sampled as a key informants to give the religious and cultural views respectively on adolescents living with HIV. They were chosen from the village where majority of the adolescents resided. They were interviewed because of their ability to give information on their perception on HIV and adolescents living with HIV. the religious and cultural stand on safe sex practices among ALHIV and how they related with ALHIV in the community.

3.8 Data Collection Methods

The questionnaires were piloted at the Uasin Gishu district hospital and it didn't require any changes to be made after piloting it. Once permission was obtained from the various health facilities in which the study was carried out, the research assistants were chosen based on their experience with the adolescents attending the clinics, they had all worked at the centers for a minimum of 5 years and been involved in previous researches conducted by NASCOP and non-governmental organizations supporting people with HIV. The principal investigator chose three research assistants, who

received a one day training that focused on participant handling skills such as interviewing skills, content and meaning of questions, correct recording of responses and orientation to study objectives and procedures. They were also provided with information on ethical issues such as the need to observe confidentiality and obtain consent from participants prior to administering study tools. The participants were recruited at the comprehensive care clinics in the various stations, once consent and assent were obtained, questionnaires were administered.

3.8.1 Quantitative data collection tool

Questionnaires administered by the trained research assistants were used for data collection. The questionnaires collected the sociodemographic data of the participants which included the sex, age, marital status and the orphan status, information on the Prevention with Positive services they had been using, and what factors influenced their utilization of Prevention with Positive services, such as religion and culture

3.8.2 Qualitative data collection tools

3.8.2.1.1 Focus group discussion There were focus groups each consisting of 10 to 14 year old adolescent boys / girls and 15 to 19 year old boys/girls. The boys and the girls were separated in the different age groups. Each group contained at least 6 participants. Three focus group discussions were held separately with each comprising 8 girls (10 to 14 years), 7 boys (10 to 14 years) and 6 girls (15 to 19 years)

Days for the interviews were identified, consent was obtained by the principal investigator and the research assistants. An interview guide which was developed from the quantitative data analysis was used formulate the questions in the qualitative aspect with a view of explaining the responses that had been obtained in the quantitative arm - the importance of ART, problems encountered with the use of

ART, knowledge on the methods of family planning, usage of partner notification services, secondary prevention measures and the challenges they faced during the clinic days. The discussions were audio recorded, the discussions were moderated by the principal investigator and notes taken by the research assistants. The discussion lasted for 45 minutes to an hour

3.8.2.2 Key informant interviews

Key informant interviews were held for the health care providers who were in charge of the clinics. They were chosen based on their availability and convenience. The sessions were audio recorded as well as short notes taken. The guide assessed the available Prevention with Positive services, which one was commonly used, the interventions they had done to improve the utilization of Prevention with Positive services, and what were the factors influencing the utilization of Prevention with Positive services. The sessions lasted for 45 minutes.

Religious leader and the village elder were also interviewed on their perception of ALHIV, their take on adolescents accessing family planning methods and their relations with the ALHIV in the community. The interviews were audio recorded and notes were written as the sessions were going on. The sessions lasted for about 45 minutes each.

THE FLOW CHART ON RECRUITMENT PROCESS FOR STUDY

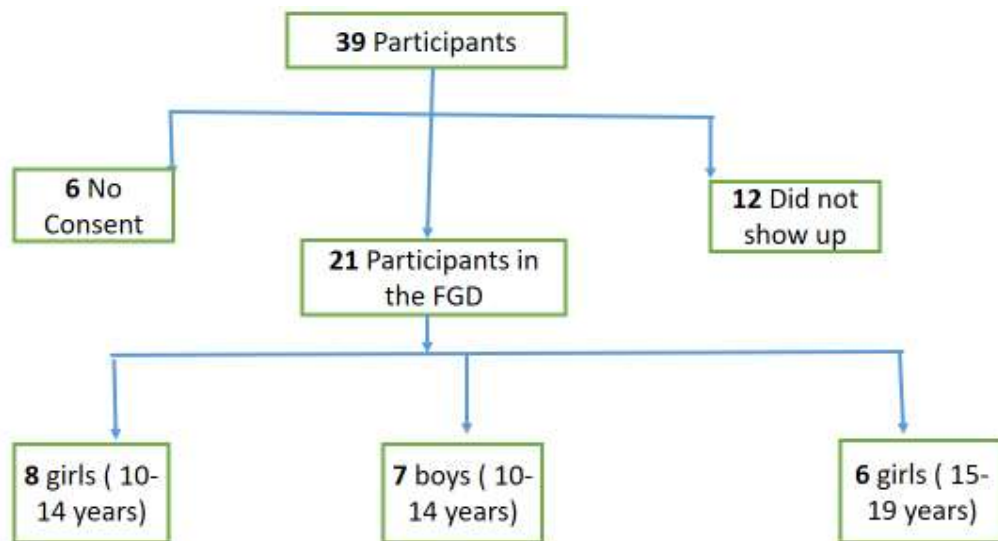


Figure 1: Recruitment process

3.9 Study Procedure

The researcher used the electronic data base which had the various centers to get the adolescents who were linked to the units for care. The electronic data base which had the contact details and areas of residence of the adolescents. Anonymous numbers were given to the adolescents who were going to be recruited to the study. Phone calls were made to all the participants and home visits were made by the research assistants. All the interviews were carried out face to face. Assent was obtained from the adolescents who were less than 18 years and consent from their parents and guardians. Those who were 18 years and above gave their consent to be in the study. Questionnaires were researcher administered. They were informed of the focus group discussion during the interview. Transport was reimbursed for the participants. Arrangements were made for those who were willing to participate in the focus group discussions depending on when the activity was to take place. They consented and assent forms were also signed. The discussions were audio recorded. Back up audio

recorders were available during the sessions. The sessions were led by trilingual Kenyans who were fluent in English, Swahili and Somali. Participants were allowed to use which ever language they preferred.

The administrators were purposively sampled in the various facilities and must have worked in the area for at least 6 months for them to be recruited to the study. The religious leader and the village elder were purposively sampled based on where majority of the adolescents were living. These were people who had lived in the area most of their lives and had a lot of experience in the cultural and religious knowledge of the community living in that particular village. They are very resourceful to the community and they offer guidance.

3.10 Data Management and Analysis

The principal investigator ensured that all forms were properly filled with serial numbers and data entered into the computer.

Data was backed up by saving it in different folders in the computer and also on a removable flash disk and encrypted data used when sharing the information via an email.

Data processing commenced in the field by ensuring that all the information on the questionnaire was properly collected, recorded and checked for completeness of data and internal consistency at the end of each day. Each completed questionnaire was assigned a number bearing the name of the person who conducted the interview. This was done in order to seek clarification from the interviewers in case of any missing information.

3.10.1 Quantitative Data

Descriptive statistics including the mean and the corresponding standard deviation was used to summarize continuous variables such as age. Categorical variables were summarized using frequencies and the corresponding percentages. Data analysis was done using STATA version 13 SE

3.10.2 Qualitative Data

Verbatim transcription of the information recorded on the an audio recorder . The principal investigator read the transcripts and listened to the recorded information to achieve familiarization, short phrases or ideas which arose from the texts were categorized and themes developed using NVIVO were then indexed by making out quotes and comparisons were done. Quotes were lifted from the original text and interpretation was done.

3.10.3 Quality Control

Quality issues were addressed through the following measures to ensure that the data generated was complete, reliable, and accurate and that they can be replicated using the same methods

Checking for completeness and accuracy of completed data collection forms was done at the end of each day of data collection and gaps identified such as missing gender or site of service delivery was addressed with the respective research assistant.

Support supervision of the research assistant was done on randomly selected site in sessions to observe the conduct of the sessions. Debriefing meetings were held with all RAs to address problems and clarify issues that could hamper collection of good data with RAs to ensure quality data collection.

3.9.4 Ethical Consideration

Approval for scientific and ethical issues was sought from the IREC (Moi University/ Moi Teaching and Referral Hospital), Health Director and the Medical Superintendents in the various health facilities. The researcher placed priority on maintaining the privacy, confidentiality and anonymity of the study participants. During both the qualitative and quantitative phases of the study, the researcher respected the privacy and confidentiality of their respondents through the informed consent process. All respondents read an informed consent form that explained the basic nature of the study and sought the permission of the respondent to be interviewed. All documents with participant information were stored in a lockable cabinet and all electronic data was kept on a password protected computer. Serial numbers were used for anonymity of the participants.

CHAPTER FOUR: RESULTS

A total of 39 adolescents participated in the study. Table 1 shows the sociodemographic characteristics of the adolescents. The mean age of the participants was 16.3 years. There were 21 (53.8%) adolescents aged 17 to 19 years, 22(56.4%) female, 33(84.6%) were living with either or both parents, 36 (92.3%) were students, 23(59%) had secondary level of education, and 3 were sexually active but none had disclosed their HIV status to their partners.

TABLE 1: SOCIODEMOGRAPHICS CHARACTERISTICS OF THE ADOLESCENTS

Characteristics		N=39 (%) or Mean (SD)
Age(years), Mean (SD)		16.3 (SD 2.41)
	10-13	6 (15.4%)
	14-16	12 (30.8%)
	17-19	21 (53.8%)
Gender	Female	22 (56.4%)
	Male	17 (44.7%)
Educational level	Primary	16 (41.0%)
	Secondary	23 (59.0%)
Occupation, n (%)	Student	36 (92.3%)
	School dropout	3 (7.7%)
Persons living with the respondent n (%)	Parents	33 (84.6%)
	Relatives	6 (15.4%)
Those who have sexual partners n, (%)		3 (7.7%)
Disclosure to sexual partner n, (%)		0

There were 5 key informants. 4/5 (80%) were Muslims and 4 /5 (80%) had tertiary level of education.

Table 2: Demographic characteristics of the key informants.

CHARACTERISTICS		N=5 (Mean age=44.4) SD=6.02
AGE (years)	35-45	3
	46-56	2
RELIGION	Muslims	4 (80%)
	Christians	1 (20%)
LEVEL OF EDUCATION	Tertiary	4 (80%)
	Primary	1 (20%)

4.1 DESCRIPTION OF THE AVAILABLE PREVENTION WITH POSITIVE SERVICES

The pharmacy technician dispensed the medications to the patients. Septrin and ART prescribed are issued to the patients. The technicians told the patients how many tablets were to be taken and how frequent the medication would be used. Dispensing of medications was done daily except for Iftin Sub County Hospital, where HIV patients are only seen on every Wednesday of the week.

Nutritionists were available at Garissa Town and Referral Hospital and Iftin Sub county hospital. Patients were weighed and heights taken, the Body Mass Index was calculated and interventions warranted if one had a BMI less than 18. Supplemental feeds were given to the adolescents, blended flour from USAID donation was given to the patients who were identified as malnourished. The assessment was done in the nutritionists' room and patients were educated on balanced meals with foods that were acceptable to them and easily available.

Tuberculosis screening was done by the clinician attending to the patients, the clinician inquired if had symptoms of chronic cough, drenching night sweats, weight loss and history of contact with someone with a chronic cough. The clinician requested for a chest x ray and sputum for gene expert. The results were sent back to the clinician after a day or two. When the results were back, the patient was informed .So if positive the ART was withheld for a two week period and base line liver function tests were done. It was only offered at GCRH only.

Family planning services were offered at the facilities. The methods offered at the CCC are injectable contraceptives (Depo-Provera), oral contraceptives and condoms. Most adolescents did not take up any of the methods. The boys sometimes opted for the condoms. Insertion of intra uterine devices was usually done at Mother and child Prevention with Positive clinic (MCH) which was in the main hospital building. Family planning counselling was done by the nurse in the unit in a private room, a session took about 15 minutes to 20 minutes, and was available on all week days. The patient was given information on the side effects of each method and they made their own choices on which method suited them best.

Counselling services were done in a private room. There was one counsellor, the counselling sessions took an average of 15 to 20 minutes each. The number of counselling sessions varied, majority got 2 sessions. Adolescents were counseled on adherence, partner notification for those who were sexually active and psychosocial counselling. This service was only offered at GCRH.

Sexually transmitted diseases were usually picked from the symptoms the patients presented with. Physical examinations and lab tests were done to confirm the diagnosis. The clinical officer seeing the patients had to take the samples to the

laboratory - puss swabs and blood samples - then results were brought back to the clinic and treatment given accordingly. This was only done at GCRH, other facilities referred to GCRH when a patient needed it.

Table 3: Description of the available Prevention with Positive Services

Services	GCRH	IFTIN SUB county Hospital	Police line hospital
ART and septrin	Pharmaceutical technicians dispense ART and septrin on all weekdays How many tablets to be taken and the frequency	Dispensing of ART and septrin is only on Wednesdays by a pharmaceutical technician. How many tablets to be taken and the frequency	Pharmaceutical technicians dispense ART and septrin on all weekdays How many tablets to be taken and the frequency
Nutrition	Weights and heights were measured, BMI of less than 18 was consider malnourished and blended flour from USAID donation were given to the participants.	Weights and heights were measured, BMI of less than 18 was consider malnourished and blended flour from USAID donation were given to the participants.	Weights and heights were measured, BMI of less than 18 was consider malnourished and blended flour from USAID donation were given to the participants.
Psychological counselling	Done in a private room by a counselor, sessions last for about 20 minutes Available on all weekdays	Referred patients to GCRH	Referred patients to GCRH
Screening and treatment for tuberculosis	Symptoms such as chronic cough , weight loss , night sweats and contact with someone with TB. If symptoms are present sputum for genexpert and cxr were done. if was positive for tuberculosis anti TBs were offered to the participants.	Referred patients to GCRH	Referred patients to GCRH
Screening for sexually transmitted illnesses	‘Syndromic pattern’ was used to screen and that would warrant treatment after testing.	Referred patients to GCRH	Referred patients to GCRH

TABLE 4: RATE OF UTILIZATION OF HEALTH SERVICES PER FACILITY

Table 4 shows the rate of utilization of the available services in each of the three facilities. ART,septrin and nutritional services were available in all the three facilities while psychological counselling, screening and treatment of TB and STIs were available in GCRH only.

SERVICE AVAILABLE	Garissa CRH CCC UTILIZATION N=30 ,	Iftin CCC UTILIZATION N=6 , %	Police line CCC UTILIZATION N=3
ART	30 (100%)	6 (100%)	3 (100%)
SEPTRIN	30 (100%)	6 (100%)	3 (100%)
TB TREATMENT	11(37%)	0	0
NUTRITION	8 (27%)	2 (33%)	2 (67%)
COUNSELLIN G	1 (3%)	0	0
STI s treatment	1 (3%)	0	0

Focus Group Discussion

Theme 1: Knowledge on importance of art

Majority of the adolescents had good knowledge on the importance of ART. Most of them said that the medication gave them strength to fight the HIV infection and they associated sickness with non-adherence to medications.

“It helps to fight those viruses that are in the body and you become strong” (16 year old female)

“It also kills the virus that is in our body” (13 year old male)

Theme 2.Challenges encountered in adherence to medication

Most adolescents did not want to disclose their status hence making them feel uneasy when taking medications in the presence of their peers or relatives. Side effects of the anti-retro viral medications was the other challenge they reported.

Stigma

“When your relatives who don’t know your status find you taking your drugs and they ask you what the drugs are for. You find it difficult on what to tell them, I used to fear at first and it brought me problems. When you miss to take the drugs, you start becoming sick, you feel like you are not like the rest “ 15 years old female

Side effects of medications

“I used to have diarrhea because of the drugs” 13 years old male

Theme3: Challenges encountered when attending Comprehensive care clinics

Most adolescents reported fear of being seen within the vicinity of the Comprehensive Care Centers which they thought people would automatically know their HIV status.

This made majority of them to opt to have their parents or guardians to pick for them their medications. The others reported that getting permission from schools and madrasa was difficult because the teachers think they want to miss school since they look healthy. Unfriendly health workers also make it hard for these adolescents to attend the clinic.

1. Stigma

“You can also fear to say where you are going to. When you come here, you might meet with people who know you. So when you go in there (clinic), they will know your status. They start talking about you”. 14 year old, male

2. Strict school rules

“When I am going to the hospital, I am asked by the sheikh; “Where are you going to?” So I just have to stay put and not go. At times I send my grandmother”. 13 year female

“At times when I want to come, the sheikh asks me; “Where do you want to go to? So I just stay and plan for another day” 12 year old, female

“Most times it’s my mum who comes to get my drugs because am usually in school”.
11 years old male

When i ask for permission from the teacher he does not allow me” 12 year old male

3. Unfriendly health workers

“The doctors should treat us well so that we will have a good life. Some of them quarrel you. They may not even listen to what you say. You start fearing that you may find the same doctor again”. (14 year old male).

“You may find that when you are coming to the clinic, the vehicle that you have boarded is going very slowly and you get to the hospital when the doctor is through and has gone. You have to come back again another day, pay a lot of money for matatu to reach the hospital” (17 year old female)

Theme 4 Disclosure of HIV status to sexual partners

They all declined to disclose their HIV status due to fear of loss of friends and stigma.

Fear of rejection and loss of friends

“Your relationship will end there.” (16 year old female)

“She will tell others” (14 year old male)

“It’s hard, because you cannot trust them fully” (17 year old female)

“My friends and everyone else will hate me.” (14 year old male)

Stigma

“For example your friend knows your status and then you come later on and disagree and then he/she will start talking badly about you saying; “So all along I have been walking with a sick person”. Such things. I mean they talk badly until you say to yourself that it was better if you had died.” (16 year old female)

“She will start hating you and may tell other people that you have HIV.” (15 year old male)

Theme 5: knowledge on family planning

The adolescents knew the methods of contraception but majority preferred abstinence. They understood the risk of re infection and also infecting others when one does not use condoms.

“Avoiding peer pressure. You know your peers can force you to do something and when you don’t do it, they tell you that you are not a person, you are not a woman, you are still a kid, and you are not mature. So the best thing is to avoid peer pressure. “(16 year old adolescent)

“The easiest way to avoid early pregnancies is not involving yourself in sex anyhow. You wait until when you get married because you know when you are taking drugs and then you involve yourself in sex without any plan, the virus will increase and you will infect others.” (15 year old adolescent)

“You avoid sexual intercourse”. (15 year old adolescent)

“Using condoms”(16 year old adolescent)

KEY INFORMANT INTERVIEWS

THEME 1: Interventions to improve uptake of ‘Prevention with Positives services’

Health education to the community aimed at making them understand HIV, to reduce stigma on HIV patients and also make them take more HIV tests.

Health Education

“... We have been giving talks to the community through the local radio channels concerning de- stigmatization of HIV, we hope our community can eventually stop stigmatizing HIV patients and more can take up HIV testing”. GCRH in charge

Improving patient-staff relationship

“..We are planning to have more trainings so that the care providers can have adequate skills needed to take care of the patients. We have requested the County for more nurses and clinical officers. We are hopeful they will recruit them soon enough.

GCRH in charge

THEME 2: PERCEIVED BARRIERS TO UTILIZATION OF SERVICES

Facility leaders reported that the main barriers to the utilization of Prevention with Positive services were stigma and shortage of staff. There was one psychological counselor taking care of all HIV positive patients and was based at GCRH. The adolescents who were on follow up at the other facilities were not getting counselling services.

Stigma

“Stigma is our major problem the community around think that if you work for HIV patients then it means you are also be infected with HIV” Iftin sub Town in charge

Poverty

“Most of our patients come from poor backgrounds and even transport money is hard for them to get. The other problem is the schools and madrassa don’t allow these children to come for their clinic days” GCRH in charge

Shortage of staff

“...we have few staff at the CCC, we have requested the County for more nurses and clinical officers. We are hopeful they will recruit them soon enough”. GCRH in charge

THEME 3: PERCEPTION OF HIV

HIV is considered a curse from God and it is believed to be a disease of homosexuals and adulterous people.

Punishment from God

“People were informed that HIV was a homosexuals’ disease at first. It was considered a curse from God.” (Religious leader)

“It is important that everyone should be careful with people who have HIV. Our religion (Islam) has forbidden adultery and this disease is spread by adulterous people” (Village elder)

I believe that a person with HIV/Aids committed two sins. First, he/she committed adultery which is a big sin in the eyes of Allah with harsh consequences/ punishment from God both in this world and the hereafter. Secondly, he/she got a disease with no medicine” (Religious leader)

Stigma

“It depends on the individual, but I don’t associate with them, some people may continue with their friendship. In my view, I will not continue with his friendship. They are cursed people. You should avoid them as much as possible” village elder

THEME 4: Family planning services

The community leaders did not advocate for contraception among the adolescents and some of the care givers in the facilities discouraged contraception for the adolescents, saying they are meant to advocate for abstinence.

“The religion and the culture in our area doesn’t allow family planning being suggested to the adolescents, we are meant to encourage abstinence which we know it does not work especially for the boys who want to try out if they are ‘men enough’. There was a boy who once told me he sold his life for twenty shillings because they pay the sex workers twenty bob, that is how he acquired the illness. They have a lot of stigma on condom use”. (Iftin Sub County Hospital in charge)

CHAPTER FIVE: DISCUSSION

5.1. SERVICES AVAILABLE AT THE COMPREHENSIVE CARE CLINICS.

Adolescents living with HIV should be offered a complete Prevention with Positives package of care to improve their quality of life as recommended by WHO and CDC (CDC, 2014) (WHO, 2016) . The study participants had access to some of the services in the package, which included anti retro viral therapy, septrin prophylaxis, nutrition, screening and treatment of tuberculosis, screening and treatment of sexually transmitted illnesses, and psychological counselling.

5.1.1 ART and Septrin

Anti-retro viral treatment and septrin prophylaxis were available at the three facilities. The clinician's prescription was taken to the pharmacy for dispensing of medications, where the pharmacists issues drugs according to the prescription. They were only told of how many tablets to be taken and the frequency of medications. The participants did not get adequate information as recommended when dispensing medications, WHO recommends that when the health care providers are dispensing the drugs they should get the patients' medical history, counsel them on the possible side effects and drug- drug interactions. (WHO, 2009) Our findings were similar to a study done by Hafeez et al in Pakistan in ten different health facilities on practices of dispensing medications where they found that the patients took a short time for them to be issued drugs, and half the patients did not understand how the medications were to be used (A. Hafeez, 2004), although this study was not set out to look at the outcomes of poor

dispensing practices it was noted that the WHO guidelines on drug dispensing were not adhered to, citing the high number of patients overwhelmed the care provider . Contrary to our findings, a study done in the United States of America by Payne et al on impact of dispensing services in a community pharmacy where 200 patients records were analyzed, which showed if adequate time and information is given to the patients they have better adherence to the medications with less losses on adverse events (Kaleb Payne, 2019)

5.1.2 Psychological counselling

GCRH was the only site with psychological counselling services, the adolescents got few sessions, and the ‘golden hour’ was not attained. This was attributed to the large number of patients being attended to by the one care giver. This was similar to a cohort study done in Ethiopia among migrant adolescents in Addis Ababa over a three month period, in the pre-intervention period patients got inadequate counselling sessions, this was associated with poor adherence to secondary preventive services and after intervening by offering adequate sessions there was a notable improvement on their knowledge and utilization of preventive service (Nrupa Jani, 2016). Sumiyo et al assessed psychological wellbeing of late adolescents living with HIV and how this impacted on their adherence to ART. Addressing their mental health problems such as depression helps in improving their adherence to ART (Sumiyo Okawa, 2018).

5.1.3 Nutrition

The participants had their weights measured and those with a BMI of less than 18 were categorized as malnourished, and food security was not assessed. WHO recommends assessment of the anthropometric measurements and evaluation of food security during clinic visits for ALHIV? The care givers should use the recommended BMI chart for the different ages. Over nutrition should also be addressed (WHO, 2015). This was similar to a study done in Pakistan by Fatima et al which assessed nutritional status of adolescent girls, they also considered a BMI of less than 18.5 to be a cut off for malnutrition, and this study had few health care providers against the large number of participants (Fatima Hassan, 2017). Our findings differed from what Ligia et al who did a study in Brazil on 115 ALHIV where anthropometric measurements were taken in all adolescents and WHO guidelines on nutritional assessment were adhered, the study aimed at finding out the effects of protease inhibitors on the body composition, more so fat redistribution among adolescent on protease inhibitors. They found that protease inhibitors affected their growth but not fat distribution. (Lígia Cardoso dos Reis, 2015)

5.1.4 Screening and treatment of sexually transmitted diseases

Syndromic pattern was used to screen for STDs, having a chancre or vaginal or penile discharge warranted one to be tested for sexually transmitted diseases. Screening should be done routinely on adolescents and not only symptoms warranting screening, both syndromic and non syndromic patterns warrant screening (AAP, 2014). Similar to a study done in Kericho by Kipruto et al which found out that majority of the health

care providers were using syndromic patterns to screen for sexually transmitted diseases (Kipruto Chesang, 2017). On the contrary use of syndromic patterns to screen for sexually transmitted diseases has been shown to miss out up to 70% the cases in a study done in Cape Town, South Africa where the prevalence of HIV was higher compared to Garissa. Regions with higher prevalence of HIV also had higher prevalence of other STDs (Barnabas SL, 2018).

5.1.5 Screening and treatment of tuberculosis

The participants were screened for tuberculosis based on the WHO guidelines. The clinicians inquired whether the patients had symptoms of chronic cough, night sweats, weight loss or contact with someone with a chronic cough. WHO recommends that all HIV positive patients should be screened and treated for TB (WHO, 2011) Presence of symptoms such as chronic cough, weight loss, drenching night sweats, and history of contact with someone with TB or has been coughing for long. This warrants screening for tuberculosis and treatment given accordingly and if positive for tuberculosis then treatment should be initiated and you with holding ART for the first two weeks (WHO, 2007).

5.2 RATE OF UTILIZATION OF ‘PREVENTION WITH POSITIVES SERVICES’

5.2.1 ART and SEPTRIN

ART and Septrin were utilized by all the participants. This was similar to studies done in Uganda and Zambia which showed almost 100% utilization of anti-retro viral treatment (Sumiyo Okawa, 2018) (Laura Gauer Bermudez, 2016) , this is because of

the existing guidelines currently on HIV treatment which recommend testing and treatment with ART irrespective of the CD4 counts. A study done in 2012 showed ART utilization rate as low as 22% among HIV infected youth (Richardson Mafigiri, 2012), the low rate of utilization was because the guidelines for initiation of ART were determined by the patients CD4 counts at that time.

5.2.2 Psychological counselling

Psychological counselling utilization among the participants was low, Despite there being evidence on mental health needs among the adolescents there are no statistics showing the rate of utilization of mental health services in people living with HIV globally (Morenike O Folayan, 2014). Counseling improves adherence to ART, hence improving the overall condition of the adolescents living with HIV (Sumiyo Okawa, 2018). Similar to Medline and PubMed reviews done by Vreeman showed that little is being done to address the mental health conditions among adolescents, and recommended Prevention with Positive care givers to be proactive in addressing these issues (Rachel C. Vreeman¹, 2017).

5.2.3 Disclosure of status to sexual partners

None of them reported to have notified any of their partners, reasoning being they feared rejection and stigma from the community. Similar to other studies done in African countries, disclosure of HIV status to sexual partners was low. A study in Uganda showed disclosure of status was low at 18% among ALHIV and 10% in a study in Zambia and that the female were more likely to disclose their status

compared to the male counterparts due lack of confidentiality and fear of rejection (Christiana Nostlinger, 2015) (Donna R. McCarraher, 2018). Contrary to a study done in Florida which showed disclosure of status to sexual partners rates to be as high as 80%, this is due to the fact that it is considered an offence not to disclose one's status to someone with whom they have sexual relations with (Tiffany Chenneville, 2015). Majority of the participants were above 20 years, though they had recruited 18 to 24 years.

5.2.4 Family planning

Majority of the participants reported that the use of family planning methods was discouraged by the culture and religion and hence was noted to be negatively influencing their utilization. Most preferred abstinence so as to avoid debating on condom use with their sexual partners. Although using Abstinence as a method of family planning has been shown to increase teenage pregnancies due to its high failure rates, hence discouraged in some countries where they recommend sex education to be included in the school curriculums in high schools to equip the adolescents with adequate knowledge to avoid risky behaviors and unplanned pregnancies (Kathrin F. Stanger-Hall, 2011)

5.2.5 Sexually Transmitted Illnesses Screening and Treatment

Utilization of screening and treatment of sexually transmitted diseases was very low. This was a health care provider dependent service, for the participants to get screened the order had to come from the care provider. The health care providers relied on a syndromic pattern to screen for STIs. Similar to a study done in Kericho which

showed that health care providers majorly used syndromic pattern to diagnose STIs (Kipruto Chesang, 2017) . Depending solely on syndromic pattern to screen for STIs has been discouraged because one ends up missing more than 70% of the patients (Barnabas SL, 2018). Screening should be done routinely on adolescents and not rely on symptoms to warrant screening, both syndromic and non-syndromic patterns warrant screening (AAP, 2014) . Other studies have shown better utilization of around 30% of the adolescents screened for STIs, (Kristi egamarel, 2018). In areas where the prevalence of HIV is high,they tend to have higher a prevalence of other STIs as well(Chris Kenyon1, 2017) , since the prevalence of HIV is low in Garissa town could possibly result in the low prevalence of STIs among the participant, although this should not be used as a reason for not screening for STIs as often as it is ought to be screened.

5.3. FACTORS AFFECTING UTILIZATION OF ‘PREVENTION WITH POSITIVES SERVICES’

5.3.1 Barriers to utilization of ‘Prevention with Positives services’

The utilization of Prevention with Positive services depends on the availability of the service within the facilities offering care to the adolescents living with HIV in Garissa Town. Most utilized services included antiretroviral treatment and septrin prophylaxis which go hand in hand since the introduction of testing and treating policy of management of HIV infected persons.The services offered to the adolescents were based on the needs of individual, the health care provider would be the one to send

them to the next room for a particular care. The services recommended in the package of care in Prevention with Positives were not all offered to the adolescents during their clinic visits, this was due to lack of skilled personnel to offer the services in the various centers. Retention in care was influenced by individual factors such as school schedules and daily routines, adverse effects of the antiretroviral drugs, lack of transport, community factors such as stigma, fear of rejection by friends and community members, and being seen as an outcast. Facility factors such as relationship with health care providers, medications which may not be available or sometimes the health care provider who may be absent, hence forcing the adolescents to come on a different date were some of the barriers reported. These were similarly reported in other studies (Amina Abubakar¹, 2016) (Jerome T. Galea¹, 2018).

Improved uptake and adherence to ART is influenced by having adequate knowledge on the benefits of medication. Participants knew the benefits of ART and attributed it to a healthy life and reduced chances of getting sick. Side effects of medications and difficulties taking medications when away from home due to lack of privacy were stated as barriers to utilization of ART, this is similar to what was found in a Zambian study (Sumiyo Okawaa, 2018) (Blessings N. Kaunda-Khangamwa, 2020) (Amina Abubakar¹, 2016).

Few adolescents reported to have utilized counselling services and only GCRH had a counselor. Similarly, vreeman et al found that despite the Sub Saharan region having

majority of the adolescents living with HIV, there is little done to address their mental health and this has been attributed to resource constraints (Rachel C. Vreeman¹, 2017).

Disclosure of HIV status to partners was among the poorest services utilized by the participants, with all of them reporting fear of rejection and high levels of stigma within the community. These findings were similar to a study done in western Kenya and Uganda (Christiana Nostlinger, 2015) (Clara Greenhalgh, 2015) (Amina Abubakar¹, 2016). Disclosure rates were reported to be low in a study done in Zambia due to fear of rejection (Donna R. McCarraher, 2018)

Abstinence was generally preferred by the participants due to their cultural and religious beliefs which don't encourage use of condoms, similar to a Zambian study which also reported religious beliefs discourage sex before marriage and considering it a sin (Donna R. McCarraher, 2018)

A study done in Florida showed higher levels of disclosure of more than 80% which was contrary to our findings and this was due to the laws governing the area, which made it a crime not to disclose your status to sexual partners (Andres F. camacho-Gonzalez, 2016).

Premarital sex and considering HIV a disease of the cursed ones as reported by the participants in our study was similar in a study done in Morocco where participants

were of an Islamic background who felt that pre-marital sex in adolescents is a crime that the government should severely punish the minors for indulging in and considering being religious as a way of preventing sex before marriage and illnesses related to promiscuity such as HIV (Hicham El Kazdough, 2019). In contrast to an American study where majority of the participants were sexually active and advocated for normalizing HIV just like other illnesses where some reported positive feedback when they disclosed their HIV status to their sexual partners, this study had participants from 15 to 30 years and the cultural background was different from our African cultural practices (Cynthia Fair, 2012) Poor knowledge on the basic transmission of HIV among the population is similar to what the findings by Kenya demographics survey that people living in Garissa Town where the comprehensive knowledge of HIV transmission was about 40% for both genders. One of the key informants reported HIV is airborne and can be transmitted easily hence the reason why people living with HIV should be considered outcasts. High stigma levels on the use of condoms was also reported saying that protection comes from God and not the plastic thing that people wear ((NACC), 2014)

Courtesy stigma was reported by one of the key informants in the HIV CCC where the community believes that for one to handle and take care of HIV patients one must be having the HIV infection, this is similar to a study done in western Kenya by Nyandiko et al assessing stigma on HIV patients and their care givers and they found

stigma and misconceptions of the community affected adherence to medication and their mental health as well (Winstone M. Nyandiko, 2017)

5.3.2 Facilitating factors of utilization of ‘Prevention with Positives services’

Free anti retro viral treatment was the only facilitating factor which arose from the discussion with the adolescents. Similar to a study done in Rwanda showed that this led to high rates of utilization of Prevention with Positive services which eventually led to viral and immunological responses after provision of health insurance, transport fees, household socio economic support, and medication refills improved the utilization of Prevention with Positive services (Merkel, 2012)

5.4 STUDY LIMITATIONS

The adolescent boys in the older age group that is 15 to 19 years old did not availing themselves for the focus group discussion.

Possibility of social desirability bias when inquiring on sexual practices and contraceptives use due to the religious and cultural beliefs in the community was the other limitation, this was overcome by the asking the questions in a generalized

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

1. The three facilities offered some of the recommended Prevention with Positive services.
2. Utilization of the available Prevention with positive services was low.
3. Free ART enhanced the utilization of Prevention with positive services
4. Stigma, unfriendly health workers, rigid school rules were some of the barriers to utilization of PwP services

6.2 Recommendations

Comprehensive Care Clinics should offer all the recommended Prevention with positive services at all visits. More efforts should be put to improve adolescents-health care providers' relationships and enhancing flexible school rules to accommodate the clinic days for the adolescents.

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APPENDICES

Appendix 1: Consent Form (>=18yrs)

DETERMINANTS OF HIV SERVICE UTILIZATION BY HIV POSITIVE ADOLESCENTS IN GARISSA SUB-TOWN, KENYA

Client Code..... Age

Prevention with Positive FacilityName of Interviewer

Dear Respondent,

This research study is being carried out to assess the utilization of Prevention with Positive services by HIV positive adolescents in Garissa Town, Kenya

The study intends to identify HIV services available for the youth in the area and their utilization. The study is further identifying any factors associated with the utilization of these services by the youth in the Town. Information emerging from this study shall be used in planning and designing intervention to encourage the affected youth to utilize these HIV services in the area. Based on the above information am kindly requesting for your participation in this research by giving information needed. You are free to withdraw from the study at any time. However, am urging you to take part to the end in order to make this study a success. There shall be no material gain to you from this research besides the research report that will be made available at the town officer for Prevention with Positive's office. The study intends to engage you purely through answering the questionnaire. There shall be no any physical harm transferred to you considering role in this study shall remain purely the answering of questions.

If you are a parent or a guardian to a participant does your child know their HIV status?

For any further clarifications concerning this study, you are free to contact the researcher, Dr Hafsa Abdi Tel.0720070618. If you have concerns about human rights, ethics and welfare issues you may contact the Institutional Research and Ethics

Committee(IREC) University Ethics Review Committee, P.O. Box 3-30100, Eldoret Kenya, Tel+254 787723677 Email: irec@mtrh.or.ke

I hereby confirm to have read/been told what the study entails. I have understood the objectives and as the eventual participation in this study, it is by choice and not coercion. I have also understood that I am free to withdraw from the study any time I feel like and that my withdrawal will not affect my right to access to information and Prevention with Positive services in the Sub-Town Prevention with Positive Facilities.

Yes, I will be in this research study. **No, I don't want to do this.**

Individual Participant's Signature

Date

Appendix 2: Fomu Ya Idhini (> = Miaka18)

**VIGEZO KWA MATUMIZI YA HUDUMA ZA VIRUSI VYA UKIMWI
MIONGONI MWA VIJANA WALIOATHIRIKA HUKO KATA NDOGO YA
GARISSA, INCHINI KENYA.**

Kanuni ya Mteja Umri

.....

Kituo cha Afya Jina la mhoji

Ndugu kujibu,

Utafiti huu unaendeshwa na Dk Hafsa Abdi, mwanafunzi wa Chuo Kikuu cha Moi kutafuta Shahada ya Uzamili katika Tiba. utafiti ni tathmini ya vigezo ya huduma HIV matumizi na vijana wanaoishi na Virusi vya Ukimwi katika Kata Ndogo ya Garissa Inchini Kenya

Utafiti huu unatarajia kutambua jinsi huduma za Virusi vya Ukimwi zinapatikana kwa vijana katika eneo hili na matumizi yao. Utafiti wazaidi kutambua mambo yoyote yanayohusiana na matumizi ya huduma hizo kwa vijana katika kata hii ndogo. Taarifa zitakazo jitokeza kutokana na utafiti huu zitatumika katika kupanga na kubuni ili kuingilia katika kuhamasisha vijana walioathirika kwa kutumia huduma hizi Ukimwi katika eneo hili. Kulingana na taarifa hii naomba kwa ushiriki wako katika utafiti huu kwa kutoa taarifa zinazohitajika. Wewe uko huru kujiondoa kutoka kwenye utafiti huu wakati wowote. Hata hivyo, ni kukutaka wewe kuchukua sehemu ya mwisho ili kufanya utafiti huu mafanikio. Hakutakuwa na faida au vifaa kwako wewe kutokana na utafiti huu, badala ripoti ya utafiti zitatolewa katika ofisi ya afisa wa kata hii ndogo kwa ajili ya afya. Utafiti unakusudia kushiriki kwako rena kujibu maswali.

Hakutakuwa na madhara ya kimwili au kemikali ambayo yatahamishwa na wewe. Kuzingatia jukumu lako katika utafiti huu itakaa rena kujibu maswali.

Kwa ufafanuzi wowote zaidi kuhusu utafiti huu, wewe uko huru kuwasiliana mtafiti, Dk Hafsa Abdi Simu.0720070618. Kama una wasiwasi juu ya haki za binadamu, maadili na masuala ya ustawi wa unaweza kuwasiliana na Taasisi za utafiti na Kamati ya Maadili (IREC), Chuo Kikuu Maadili Kamati ya Uchunguzi, S.L. Posta 3-30100, Eldoret Kenya, Simu + 254 787723677 pepe: irec@mtrh.or.ke

Mimi nadhibitisha kuwa nimesoma / nimeambiwa ni nini utafiti huu unahusu. Nimeelewa malengo na kwamba kushiriki ni kwa hiari yangu wala si kwa kulazimishwa. Mimi pia nimeelewa kwamba niko huru kujiondoa kutoka kwenye utafiti huu wakati wowote Najisikia kama kwamba kujiondoa kwangu itakuwa si kuathiri haki yangu ya kupata habari na huduma za afya katika kata hii ndogo.

Ndiyo, mimi itakuwa katika utafiti huu.

Hapana, mimi sitaki

kufanya hivyo.

Sahihi ya Mshiriki Binafsi

Tarehe

Appendix 3: Consent/Assent Form (<18yrs)

DETERMINANTS OF HIV SERVICE UTILIZATION BY HIV POSITIVE ADOLESCENTS IN GARISSA SUB-TOWN, KENYA

Client Code..... Age

Prevention with Positive FacilityName of Interviewer
.....**Dear Respondent,**

This research study is being carried out to asses the utilization of Prevention with Positive services by HIV positive adolescents in Garissa Town, KENYA

The study intends to identify HIV services available for the youth in the area and their utilization. The study is further identifying any factors associated with the utilization of these services by the youth in the Sub Town. Information emerging from this study shall be used in planning and designing intervention to encourage the affected youth to utilize these HIV services in the area. Based on the above information am kindly requesting for your participation in this research by giving information needed. You are free to withdraw from the study at any time. However, am urging you to take part to the end in order to make this study a success. There shall be no material gain to you from this research besides the research report that will be made available at the town officer for Prevention with Positive's office. The study intends to engage you purely through answering the questionnaire. There shall be no any physical or chemical harm transferred to you considering role in this study shall remain purely the answering of questions.

For any further clarifications concerning this study, you are free to contact the researcher, Dr Hafsa Abdi Tel.0720070618. If you have concerns about human rights, ethics and welfare issues you may contact the Institutional Research and Ethics Committee(IREC) University Ethics Review Committee, P.O. Box 3-30100, Eldoret Kenya, Tel+254 787723677 Email: irec@mtrh.or.ke

I hereby confirm to have read/been told what the study entails. I have understood the objectives and as the eventual participation in this study, it is by choice and not coercion. I have also understood that I am free to withdraw from the study any time I feel like and that my withdrawal will not affect my right to access to information and Prevention with Positive services in the Sub-Town Prevention with Positive Facilities.

Yes, I will be in this research study.

No, I don't want to

do this.

Individual Participant's Signature

Date

Parent/Guardian/Relative/Caretaker

Date

Appendix 4:Fomu Ya Idhini/Lililopo (> = Miaka18)

**VIGEZO KWA MATUMIZI YA HUDUMA ZA VIRUSI VYA UKIMWI
MIONGONI MWA VIJANA WALIOATHIRIKA HUKO KATA NDOGO YA
GARISSA, INCHINI KENYA.**

Kanuni ya Mteja.....

Umri.....

Kituo cha Afya.....

Ndugu kujibu,

Utafiti huu unaendeshwa na Dk Hafsa Abdi, mwanafunzi wa Chuo Kikuu cha Moi kutafuta Shahada ya Uzamili katika Tiba. utafiti ni tathmini ya vigezo ya huduma HIV matumizi na vijana wanaoishi na Virusi vya Ukimwi katika Kata Ndogo ya Garissa Inchini Kenya

Utafiti huu unatarajia kutambua jinsi huduma za Virusi vya Ukimwi zinapatikana kwa vijana katika eneo hili na matumizi yao. Utafiti wazaidi kutambua mambo yoyote yanayohusiana na matumizi ya huduma hizo kwa vijana katika kata hii ndogo. Taarifa zitakazo jitokeza kutokana na utafiti huu zitatumika katika kupanga na kubuni ili kuingilia katika kuhamasisha vijana walioathirika kwa kutumia huduma hizi Ukimwi katika eneo hili. Kulingana na taarifa hii naomba kwa ushiriki wako katika utafiti huu kwa kutoa taarifa zinazohitajika. Wewe uko huru kujiondoa kutoka kwenye utafiti huu wakati wowote. Hata hivyo, ni kukutaka wewe kuchukua sehemu ya mwisho ili kufanya utafiti huu mafanikio. Hakutakuwa na faida au vifaa kwako wewe kutokana na utafiti huu, badala ripoti ya utafiti zitatolewa katika ofisi ya afisa wa kata hii ndogo kwa ajili ya afya. Utafiti unakusudia kushiriki kwako rena kujibu maswali.

Hakutakuwa na madhara ya kimwili au kemikali ambayo yatahamishwa na wewe. Kuzingatia jukumu lako katika utafiti huu itakaa rena kujibu maswali.

Kwa ufafanuzi wowote zaidi kuhusu utafiti huu, wewe uko huru kuwasiliana mtafiti, Dk Hafsa Abdi Simu.0720070618. Kama una wasiwasi juu ya haki za binadamu, maadili na masuala ya ustawi wa unaweza kuwasiliana na Taasisi za utafiti na Kamati ya Maadili (IREC), Chuo Kikuu Maadili Kamati ya Uchunguzi, S.L. Posta 3-30100, Eldoret Kenya, Simu + 254 787723677 pepe: irec@mtrh.or.ke Mimi nadhibitisha kuwa nimesoma / nimeambiwa ni nini utafiti huu unahusu. Nimeelewa malengo na kwamba kushiriki ni kwa hiari yangu wala si kwa kulazimishwa. Mimi pia nimeelewa kwamba niko huru kujiondoa kutoka kwenye utafiti huu wakati wowote Najisikia kama kwamba kujiondoa kwangu itakuwa si kuathiri haki yangu ya kupata habari na huduma za afya katika kata hii ndogo.

Ndiyo, mimi itakuwa katika utafiti huu.

Hapana, mimi sitaki

kufanya hivyo.

Sahihi ya Mshiriki Binafsi

Tarehe

Mzazi/Mlezi/Jamaa/

Tarehe

Appendix 5: Questionnaire

Q1.0	DEMOGRAPHIC DATA		
Q1.1	State your sex	1=Male [] 2=Female []	
Q1.2	State your age in years (Date of birth)	
Q1.3	What is your highest Level of education attained? Please Tick appropriate	1=None [] 2= primary [] 3= secondary [] 4= Tertiary []	
Q1.4	What is your marital status?	1=Married [] 2=Single [] 3=Divorced [] 4=Separated [] 5=Widowed [] 6=Cohabiting [] 7=Not applicable()	
Q1.5	What is your current employment status?	1= Unemployed [] 2= Student [] 3= Formal employment [] 4=Self-employed [] 5=Other (specify).....	
Q1.6	Who do you stay with?	1=Parents [] 2=Relatives [] 3=Siblings [] 4=On my own [] 5=Other (Specify)	
Q2.0	PREVENTION WITH POSITIVE SERVICES AVAILABLE FOR THE ADOLESCENCE		
Q2.1	When is the 1 st time you tested for HIV?	1=Last 6 months 2=Last one year 3=Last 2 years 4=More than 2 years ago 5=No response	
Q2.2	Where did you go for the test?	1=Public hospital/Clinic 2=Private clinic/doctor 3=Private hospital 4=Private laboratory 5=Mission hospital/clinic 6= VCT setup 7= others (self test kit)	
Q2.3	Did you go for test voluntarily?	1=Yes 2=No	If (Yes) skip Q2.4
Q2.4	If no, who made you visit the center?	1=Spouse 2=Parents 3=Siblings	

Q3.2	If yes (Q3.1) which are the services you utilize?	1= Psychosocial counseling 2= Disclosure to sexual partner 3=septrin prophylaxis 4= family planning 5= Testing and treatment of STIs 6=TB testing and treatment 7=Nutritional Services 8=diagnosis and treatment of fungal infections such as cryptococcal meningitis 9=treatment of malaria 10=administration of vaccines for preventable diseases such as hepatitis B 11= syringes and opiod substitutes 12= prevention of mother to child transmission 13= clean water and sanitation 14. counseling on career choice 15. counseling on drug abuse 16. counseling on sexuality 17= other (specify).....	
Q3.4	Do you have sexual partner?	1=Yes 2=No	
Q3.5	If yes do they know your HIV status?	1=Yes 2=No	
Q3.6	Do any of your sexual partners ever go for HIV testing to know their status?	1=Yes 2=No	If (No) skip Q3.7
Q3.7	If yes (Q3.6) Has any of your sexual partners ever tested positive for HIV?	1=Yes 2=No	If (No) skip Q3.8
Q3.8	If yes (Q3.7) does he/she also utilize any of the HIV services being offered at the CCC?	1=Yes 2=No	
Q3.9	Do you have a child? has he/she been tested for HIV?	1=Yes 2=No 1=YES 2=NO	If (No) skip Q3.10
Q3.10	If yes (Q3.9) do you ensure that he/she is utilizing the prescribed HIV services?	1=Yes 2=No	

Q4.0	FACTORS AFFECTING UTILIZATION OF PREVENTION WITH POSITIVE SERVICES BY THE ADOLESCENTS	
Q4.1	Do you think HIV services are readily available for utilization by the adolescents?	1=Yes 2=No
Q4.2	If yes in (4.1) Do you think that most youth utilize the HIV services available?	1= YES 2=NO
Q4.3	If no(4.1), why do you think these youth don't utilize these HIV services	1=Arrogance 2=Stigma 3=Cultural Interference 4=Attitude of Prevention with Positive Workers 5=Religion 6=ignorance 7=Others (Specify).....
4.4	Do you think culture influences utilization of Prevention with Positive services	1=YES 2=NO
Q4.5	If(4.4) is yes, How does Culture influence the utilization of the following services?	
Q4.5 .1	<i>Seek treatment at a Prevention with Positive center?</i>	1=allows 2=rejects
Q4.5 .2	<i>Get tested for HIV?</i>	1=allows 2=rejects
Q4.5 .3	<i>Utilize family planning services offered at the YFC?</i>	1=allows 2=rejects
Q4.5 .4	<i>Receive Prevention with Positive education from Prevention with Positive workers?</i>	1=allows 2=rejects
	<i>Others. Specify.....</i>	
Q4.6	How does Religion influence utilization of the following services?	
Q4.6 .1	<i>Seek treatment at a Prevention with Positive center?</i>	1=allows 2=rejects
Q4.6 .2	<i>Get tested for HIV?</i>	1=allows 2=rejects
Q4.6 .3	<i>Utilize family planning services offered at the YFC?</i>	1=allows 2=rejects
Q4.6 .4	<i>Receive Prevention with Positive education from Prevention with Positive workers?</i>	1=allows 2=rejects
	<i>Others. Specify.....</i>	

Appendix 6: Mteja Dodoso

Kanuni ya Mhojiwa

Jina la Mhoji

Tarehe.....

Q1.0	TAKWIMU ZA UKAAZI		
Q1.1	Hali ya jinsia yako	Kiume [] Kike []	
Q1.2	Hali ya umri wako katika miaka	
Q1.3	Ni nini kiwango cha juu cha elimu yulichokipata? Tafadhali Jibu sahihi	1 = Hakuna [] 2 = Msingi [] 3 = Sekondari [] 4 = Msingi []	
Q1.4	Ni nini hali yako ya ndoa?	1 = Ndoa [] 2 = Pekee [] 3 = Waliotalikiana [] 4 = Kinachotenganishwa [] 5 = Mjane [] 6 = Kinyumba []	
Q1.5	Ni nini hali yako sasa ya ajira?	1 = Bado Ajira [] 2 = Mwanafunzi [] 3 = Ajira Rasmi [] 4 = Kujiajiri [] 5 = Nyingine (Taja)	Ruka ikiwa <Miaka 18
Q1.6	Je unakaa na nani?	1 = Wazazi [] 2 = Jamaa [] 3 = Ndugu [] 4 = Pekee Yako [] 5 = Nyingine (Taja)	

Q2.0	Huduma Za UKIMWI Kwa VIJANA Zinapatikana		
Q2.1	Ni lini mara yako ya kwanza kupima viini vya Ukimwi?	1 = Mwisho wa miezi 6 2 = Mwisho wa mwaka mmoja 3 = Mwisho Miaka 2 4 = Zaidi ya miaka 2 iliyopita 5 = Hakuna jibu	
Q2.2	Je ulienda wapi Kupimwa?	1 = Hospitali ya Umma / kliniki 2 = Kliniki ya Kibinafsi / daktari 3 = Hospitali ya Kibinafsi 4 = Maabara Binafsi 5 = Hospitali ya Ujumbe / Kliniki 6 = Kituo cha Kuanzisha cha Kupima Ukimwi	
Q2.3	Je, ulienda kupimwa kwa hiari yako?	1 = Ndiyo 2 = Hapana	Kama (Ndiyo) ruka Q2.4
Q2.4	Kama hapana, Ni nani ambaye alifanya uzuru Kituoni?	1 = Mke 2 = Wazazi 3 = Ndugu 4 = Friends 5 = Wengine (taja).....	
Q2.5	Ni Lini Ulitambua ya kwamba una viini vya Ukimwi?	1 = Mwisho wa miezi 6 2 = Mwisho wa mwaka mmoja 3 = Mwisho Miaka 2 4 = Zaidi ya miaka 2 iliyopita 5 = Hakuna jibu	

Q2.6	Ni Jinsi gani ulikuja kujua kuhusu Kliniki cha Huduma za Kina (CCC)?	1 = Marafiki 2 = Magazeti na redio 3 = Wafanyakazi wa afya 4 = Mimi mwenyewe 5 = Nyingine (Taja)	
Q2.7	Nini huduma zinazotolewa katika Kliniki cha Huduma za Kina (CCC)?	1 = Mtoa upimaji na ushauri nasaha (PITC) 2 = Kupima Viini vya Ukimwi na huduma za matunzo 3 = Upiamji 4 = Elimu ya afya ya ngono na uzazi 5 = Upimaji na matibabu ya magonjwa ya zinaa 6 = Upimaji wa TB na tiba 7 = Huduma za Lishe Bora 8 = Nyingine (Taja)	Kuendelea kwa Q3.1
Q3.0	Matumizi ya kutambuliwa ya Huduma za Ukimwi kwa Vijana		
Q3.1	Je, unatumia/ unapanga kutumia huduma zozote za CCC?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q3.2
Q3.2	Kama una mpenzi, je, yeye anajua hali yako ya sasa viini vya Ukimwi?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q3.5
Q3.5	Kama ndiyo (Q3.4) yeye pia hutumia huduma zozote za	1 = Ndiyo 2 = Hapana	

	Ukimwi??		
Q3.6	Je, kuna yeyote kati ya ndugu zako ambao washawahi kuenda kupimwa viini vya Ukimwi?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q3.7
Q3.7	Kama ndiyo (Q3.6) Je kuna yeyote kati ya hao ndugu amabo washawahi kupatikana na viini vya Ukimwi?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q3.8
Q3.8	Kama ndiyo (Q3.7) je, anatumia huduma zozote zinazotolewa katika Kliniki cha Huduma za Kina (CCC)?	1 = Ndiyo 2 = Hapana	
Q3.9	Kama una mtoto, je amewahi pimwa viini vya Ukimi?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q3.10
Q3.10	Kama ndiyo (Q3.9) umeweza kuhakikisha kwamba yeye ameanza kutumua huduma zinazotolewa za Ukiwmi?	1 = Ndiyo 2 = Hapana	
Q4.0	Mambo yanayoathiri matumizi ya huduma za Ukimwi kwa Vijana		
Q4.1	Je, unafikiri huduma za Ukimwi kwa vijana zinapatikana kwa urahisi kwa?	1 = Ndiyo 2 = Hapana	Kama (Hapana) ruka Q4.2
Q4.2	Kama ndiyo (Q4.1) unadhani vijana hawa hutumia huduma hizi za Ukimwi kwa ufanisi?	1 = Ndiyo 2 = Hapana	Kama (ndiyo) ruka Q4.3
Q4.3	Kama Hapana (Q4.2), kwa nini unafikiri vijana hawa hawazitumii kwa ufanisi huduma hizi za Ukimwi?	1 = Kiburi 2 = Unyanyapaa 3 = Utamaduni Kuingilia 4 = Mtazamo wa Wafanyakazi wa Afya 5 = Dini	

		6 = Nyingine (Taja)	
		
		
Q4.4	Ni Jinsi gani Utamaduni hushawishi matumizi yako ya huduma za Ukimwi?		
<i>Q4.4.</i> <i>1</i>	<i>Kutafuta matibabu katika kituo cha afya?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.4.</i> <i>2</i>	<i>Kupima Viini vya Ukimwi?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.4.</i> <i>3</i>	<i>Kutumia huduma zinazotolewa za uzazi?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.4.</i> <i>4</i>	<i>Kupokea elimu ya afya kutoka kwa wafanyakazi wa afya?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
Q4.5	Jinsi gani Dini hushawishi matumizi yako ya huduma za Ukimwi?		
<i>Q4.5.</i> <i>1</i>	<i>Kutafuta matibabu katika kituo cha afya?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.5.</i> <i>2</i>	<i>Kupima Viini vya Ukimwi?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.5.</i> <i>3</i>	<i>Kutumia huduma zinazotolewa za uzazi?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	
<i>Q4.5.</i> <i>4</i>	<i>Kupokea elimu ya afya kutoka kwa wafanyakazi wa afya?</i>	<i>1 = Ndiyo</i> <i>2 = Hapana</i>	

Appendix 7: Consent To Participate In Focus Group Discussion

You have been chosen to participate in a focus group discussion, and the purpose of the group is to try and understand why some adolescents do not utilize the Prevention with Positive services recommended for them. The information learned in the focus group will be used to improve the quality of services for the adolescent.

You can choose whether or not to participate in the focus group and stop at any time. Although the focus group will be tape recorded, your responses will remain anonymous and no names will be mentioned in the report.

There are no right or wrong answers to the focus group questions. We want to hear many different viewpoints and would like to hear from everyone. We hope you can be honest even when your responses may not be in agreement with the rest of the group. In respect for each other, we ask that only one individual speak at a time in the group and that responses made by all participants be kept confidential.

I understand this information and agree to participate fully under the conditions stated above:

Signed: _____ Date: _____

Appendix 8: Focus Group Discussion Guide

1. Participants hospital number:.....
2. Gender:.....
3. Age of the participant.....
4. Participants address:.....
5. What is the importance of antiretroviral therapy?.....
.....
.....
6. What problems do adolescents encounter when using antiretroviral treatment?
.....
.....
.....
.....
7. Do adolescents encounter any difficulties attending the HIV clinic as per the schedule?.....
.....
.....
.....
8. Adolescents can get unwanted or unplanned pregnancies if they are involved in sexual activities What do you think can be done to avoid these unwanted pregnancies?.....
.....
.....

9. What are some of the methods of contraception adolescents know?.....

.....
.....

10. HIV infected persons can get re-infected or infect others if they don't protect themselves during sexual intercourse. What are some of the protective measures that adolescents use to prevent themselves from being re-infected or infecting others?.....

.....
.....
.....
.....
.....
.....

11. What are some of the difficulties adolescents face when coming to the clinic to access Prevention with Positive service?.....

.....
.....

12. Do you have any other information you would want to share with us?.....

.....
.....
.....

Thank you for taking part of the discussion.

Appendix 9: Key Informants Interview

INTERVIEWER’S GUIDE

1. What are the available Prevention with Positive services for the HIV positive adolescents in your facility?.....

.....
.....
.....

2. Which one(s) of the Prevention with Positive services do the adolescents commonly use?.....

.....
.....

3. Is there any intervention done to improve the utilization of Prevention with Positive services by the adolescents?.....

.....
.....

4. What are some of the facilitating factors in the utilization of Prevention with Positive services by the adolescents?.....

.....
.....
.....
.....

5. Which factors do you think reduce the utilization of Prevention with Positive services by the adolescents?.....

.....

.....

.....

.....

6. Is there anything else you would like to add to the discussion?.....

.....

.....

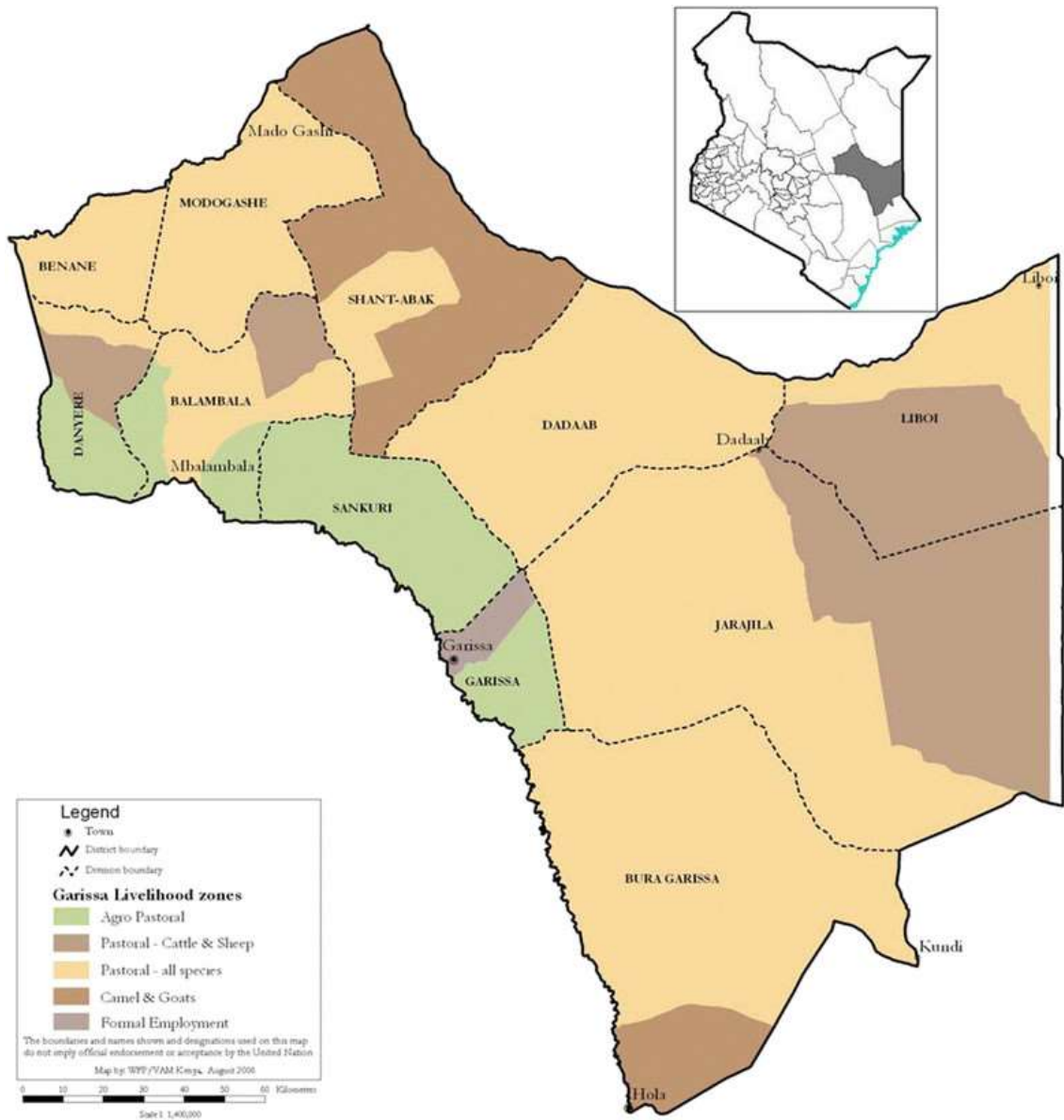
.....

Thank you

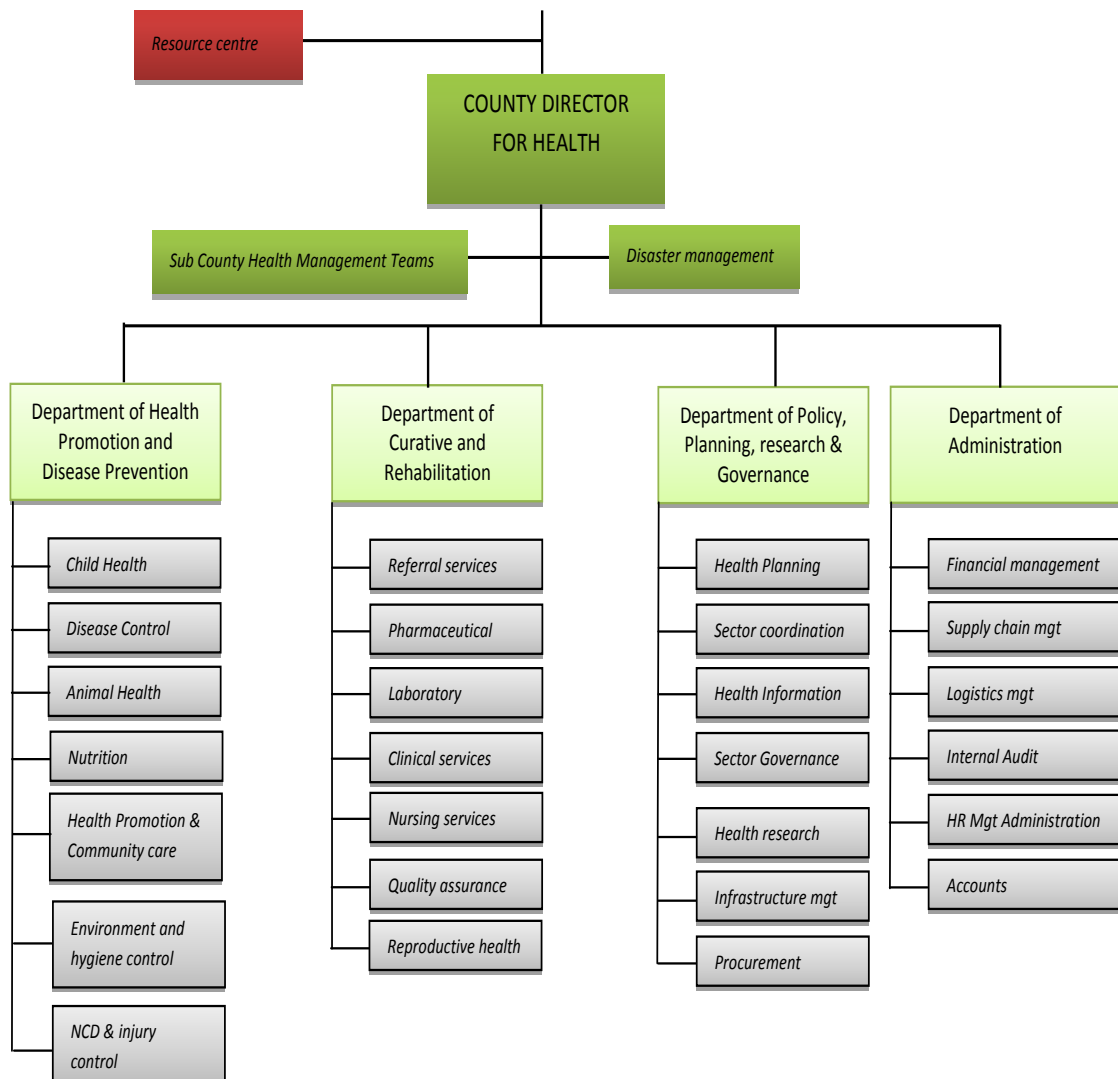
Appendix 10: Key informant guide – religious leader and the village elder

1. Perception on HIV
2. Perception on ALHIV
3. To curb the spread of HIV safe sex methods such as use of condoms have been proposed for adolescents who are sexually active, what is your take on this
4. Contraception use among ALHIV to prevent unwanted pregnancies
5. Relations with the ALHIV
6. Anything else you would like to add to the discussion.

Appendix 11: Map of Garissa Town



Appendix 12: Set up of the town ministry of prevention with positive.



STAFFING AT THE HIV COMPREHENSIVE CARE CENTERS IN GARISSA TOWN

CARDRE	GCRH COMPREHENSIVE VE CARE CENTER	IFTIN SUB TOWN COMPREHENSIVE VE CARE CENTER	POLICE LINE COMPREHENSIVE VE CARE CENTER
PSYCHOLOGICAL COUNSELLORS	1	0	0
NUTRITIONISTS	1	1	0
MEDICAL RECORDS OFFICER	1	0	0
NURSES	2	1	0
CLINICAL OFFICERS	1	0	0
PHARMACY TECHNICIANS	1	1	1
CHW	1	1	1
TOTAL	8	4	2

Appendix 13: Time Frame

TIME	SEPTEMBER 2015-	DECEMBER 2015	JAN 2016-OCT 2016	NOV -MAY2017	SEPT2017-DEC2017	JAN2018 -APRIL2018	APRIL -JUNE2018	JUNE-AUG 2018	AUG-SEPT 2018
ACTIVITY									
Proposal Concept Development									
Proposal Writing									
Proposal submission to IREC for approval									
Preparation for Data Collection									
Data Collection									
Data Analysis									
Thesis Writing									
Thesis Defense									

Appendix 14: Budget

<u>Item</u>	<u>Unit</u>	<u>Cost</u>	<u>Number Required</u>	<u>Total Cost (Ksh)</u>
	<u>(KSh)</u>			
Stationery(Pens, Paper)	200		20	4,000
Questionnaires	-		-	15,000
Flash Drive 8 GB	2000		1	2,000
Laptop	30,000		1	30,000
Internet(Modem and monthly internet)	3000		6	18,000
Biostatistician	30,000		1	30,000
Research Assistant	30,000		3	90,000
Transportation	12000		3	36000
Miscellaneous				30000
Total				255,000

Appendix 15: IREC Approvals



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

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)



COLLEGE OF HEALTH SCIENCES
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET
Tel: 33471/2/3
22nd December, 2020

Reference IREC/2017/05
Approval Number: 0001890

Dr. Hafsaroon Dabar Abdi,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Dr. Hafsaroon,

RE: APPROVAL OF AMENDMENT

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

"Utilization of Prevention with Positives Services by HIV Positive Adolescents Attending Comprehensive Care Clinics in Garissa Town, Kenya".


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

1. To change the title to above from "Uptake of Health Services among HIV Positive Adolescents in Garissa County, Kenya".

The amendment has been approved on 22nd December, 2020 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,


DR. S. NYABERA
DEPUTY-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE



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



MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 334711/2/3



MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

Reference: IREC/2017/05
Approval Number: 0001890

8th June, 2017

Dr. Hafsaroon Dabar Abdi,
Moi University
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.



Dear Dr. Hafsaroon,

RE: FORMAL APPROVAL

The Institutional Research and Ethics Committee has reviewed your research proposal titled:-

"Utilization of Health Services by HIV Positive Adolescents in Garissa County, Kenya".

Your proposal has been granted a Formal Approval Number: **FAN: IREC 1890** on 8th June, 2017. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 7th June, 2018. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(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,

DR. S. NYABERA
DEPUTY-CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc	CEO	-	MTRH	Dean	-	SOP	Dean	-	SOM
	Principal	-	CHS	Dean	-	SON	Dean	-	SOD

Appendix 16: County Government of Garissa Approvals

COUNTY GOVERNMENT OF GARISSA



MINISTRY OF HEALTH

Telegrams: "MEDGSA", Garissa.
Telephone: (046) 2284/2247.

GARISSA COUNTY REFERRAL HOSPITAL
P O Box 29-70100
GARISSA-KENYA

When replying please quote
RE: GSA/GCRH/PTs/GEN/VOL.3 (807)

24th October, 2017

Dr. Hafsarron Dabar Abdi
Moi University
School of Medicine
P.O. Box 4606 – 30100
ELDORET – KENYA

Dear Dr. Hafsaroon,

RE: FORMAL APPROVAL

Reference to your letter dated on 8th June, 2017 Ref No. **IREC/2017/05**.

Garissa County Referral Hospital has approved you to proceed with your study: "Utilization of Health Services by HIV Positive Adolescents in Garissa County, Kenya".

You may proceed with the data collection for your study.

With Regards.




Salah Dagane
Chief Executive Officer
Garissa County Referral Hospital

COUNTY GOVERNMENT OF GARISSA



MINISTRY OF HEALTH

FAX: 046-2103254
 Telephone: 0202449558 / 0202449858
 Call Phone: 0703566964
 Email: issashid@hotmail.com

Medical Superintendent
 Ifin Sub County Hospital
 P. O. Box 256 - 70100
 GARISSA.

When replying please quote

22nd OCTOBER 2017

REF: MEDSUP/ISCH/2018/ VOL.1 (114)

DR. HAFSARON DABAR ABDI
 MOI UNIVERSITY
 SCHOOL OF MEDICINE
 P. O. BOX 4606 – 30100
ELDORET

Dear *Hafsaron*

RE: APPROVAL LETTER

In reference to your letter referenced **IRE/2017/05** and dated 8th June 2018, the Hospital Administration has approved you to proceed with your study titled " utilization of health services by HIV positive Adolescents in Garissa County, Kenya".

You may proceed with data collection for your study.

Yours,


Dr. Issa shide
 MEDICAL SUPER INTENDENT
 IFTIN SUB COUNTY HOSPITAL



COUNTY GOVERNMENT OF GARISSA



**MINISTRY OF HEALTH
OFFICE OF THE CHIEF OFFICER**

Tel: 0721113180
Fax: 046 - 2103254 /2103166
E-mail: jsnino.rage@gmail.com

Medical Headquarters
Garissa County
P O Box 40-70100
GARISSA-KENYA

When replying please quote
Ref No. CGG/COH/HLT/VOL. III (323)

27th November 2018

TO:
DR. HAFSAROON DABAR ABDI
MOI UNIVERSITY
SCHOOL OF MEDICINE
P O Box 4606 – 30100
ELDORET – KENYA

Dear Dr. Hafsaroon

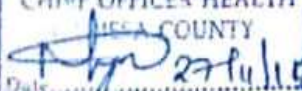
RE: AUTHORIZATION

Approval has been granted for you to conduct the research on *Utilization of Health Services by HIV Positive Adolescents in Garissa County, Kenya* in accordance with the formal research approval FAN: IREC 1890 on 8th June 2017 by institutional research and ethics committee.

For any information or data required, kindly liase with Mr. Abdi Shale Abdi
Tel No. 0720756720 or Noor Sheikh Tel No. 0721264844.

Any assistance accorded to her will be highly appreciated.

Thank you.

CHIEF OFFICER HEALTH
GARISSA COUNTY

Date: 27/11/18

Isnino Rage
COUNTY CHIEF OFFICER OF HEALTH