# SEXUAL BEHAVIOUR AND REPRODUCTIVE INTENTIONS OF ADOLESCENTS LIVING WITH HIV SEEKING CARE AT MOI TEACHING AND REFERRAL HOSPITAL, ELDORET KENYA

**BY**

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**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE DEGREE OF MASTERS OF MEDICINE IN CHILD HEALTH AND PEDIATRICS, SCHOOL OF MEDICINE, MOI UNIVERSITY.**

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# DECLARATION

Student's declaration

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## DEDICATION

I would like to dedicate this study to my loving mother Anne for her hard-work and resilience to educate me. To my husband Mark for his unending support. To my son Kelvin and daughter Patience for their source of joy and laughter even in tough times. To my siblings for their unlimited support and love. I will always love you and am grateful for everything.

## ACKNOWLEDGEMENT

**I** wish to thank my supervisors Dr.Esther Nabakwe and Dr. Edith Apondi for their guidance and support, Mr. Henry Mwangi for guiding me in statistical work. I would also like to thank the Department of Child Health and Pediatrics for their support, my family for their understanding and social support towards the development of my thesis proposal and lastly my colleagues for their intellectual, social and material support.

## OPERATIONAL DEFINITION

**Sexual and Reproductive health**- the ability to have a responsible, satisfying and safe sex life and the capability to reproduce and the freedom to decide if, when and how often to do so.

**Reproductive intentions**- the goals of an adolescent as concerning sexuality and procreation.

**Sexual behavior**-the engagement in activities that may result in having a child

**Adolescent** –an individual between the ages fifteen to nineteen years (15-19).

## ABBREVIATIONS

| | |
|---|---|
| **ALHIV** | Adolescents living with HIV. |
| **ART** | Anti-retroviral therapy |
| **ARVs** | Anti-retroviral therapy |
| **EMTCT** | Elimination of mother-to-child-transmission |
| **HCW** | Health care workers |
| **HIV** | Human immunodeficiency virus |
| **KDHS** | Kenya Demographic Health Survey |
| **MTCT** | Mother to child transmission |
| **OR** | odds ratio |
| **PLHIV** | People living with HIV |
| **PMTCT** | Prevention of Mother to Child Transmission |
| **RH** | Reproductive health |
| **RHI** | Reproductive health intentions |
| **SRBI** | Sexual reproductive behavior and intentions |
| **SRH** | Sexual Reproductive Health |
| **WHO** | World Health Organization |

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## ABSTRACT.

**Background**: Adolescence is an explorative phase where romantic relationships and sexual interests develop. Adolescents living with HIV (ALHIV) face challenges related to sexual reproductive health (SRH). This study seeks to describe the sexual behavior (SB) and reproductive intentions (RI) of ALHIV seeking care at Moi Teaching and Referral Hospital (MTRH).

**Objectives:** To describe the SB and RI of ALHIV and to determine the factors that influence their SB and R1

**Methods:** A Cross sectional, mixed methods study was conducted at Rafiki Centre of Excellence in Adolescent Health in MTRH. We sampled every alternate adolescent from a total of 450 to a sample size of 272. Socio-demographic data, SB and RI of the adolescents were collected using an interviewer administered questionnaire. Focused group discussions were held to identify factors influencing SB and RI. Descriptive statistics were used for continuous variables and frequency listings for categorical data. Pearson's Chi square test was used to test for statistical significance of the factors that influence and a P value less than 0.05 was statistically significant. Qualitative data was transcribed, coded and categorised using N-vivo version 12.

**Results:** The ratio of male to females was 1:1. A total of 200/272 (73.5%) of ALHIV were in high school; 111/272(55%) were either total or partial orphans. Twenty nine percent of the ALHIV had ever been in a romantic relationship, of whom 40/79 (50.6%) had multiple partners. Those who had ever experienced sexual intercourse were 56 /272(20.6%); mean age of sexual debut at 15.6 years (Standard deviation 2.05). Among the ALHIV who were sexually active, 56.7% (17/30) had not disclosed their HIV status to their partners. Condom use among those sexually active was at 13 (43.3%). RI was at 238/272 (87.5%) although 126/238 (52.9 %) had fears of infecting their children. Up to 218/272 (80%) had no preference of the HIV status of a romantic partner in future. The factor that influenced SB was going to discotheques AOR-4.786, (CI 1.680 – 13.630). From the FGDs, idleness, biological changes on their bodies, drug abuse and alcohol influenced SB negatively, while going to school and family structure influenced SB positively. Fear of infecting their children and hard economic times influenced the RI.

**Conclusions**: ALHIV are engaging in romantic relationships, exploring their sexuality as well as harboring intentions of having children in future. They have a lot of unmet needs for making their SRH safe and healthy.

**Recommendations:** SRH education addressing risky sexual behaviours and methods of prevention of mother to child transmission of HIV to be introduced early among ALHIV.

# CHAPTER ON

## 1.0 INTRODUCTION

### 1.1 Background Information

Globally there are 1.7 million adolescents living with HIV of whom 1.5 million are in Sub-Sahara Africa.(Response, 2018) In Kenya, twenty three percent (23%) of the population are adolescents. About four hundred thousand adolescents live with HIV in Kenya.(NASCOP, 2018) More than ninety percent of these adolescents living with HIV were perinatally infected. HIV affects adolescents physically, emotionally and socially.

Adolescence is defined as the period between ten to nineteen years (10-19) years (UNICEF, 2016) . It is a period of transition from childhood to adulthood characterized by physical, emotional and psychosocial changes. Adolescents are often confronted with the challenge of transition from close relations with parents and the family to friends and later to romantic relationships. The adolescence period is categorized as early adolescence (10–14 years) and late adolescence (15–19 years). Early adolescence is the stage that physical changes commence, usually beginning with a growth spurt and soon followed by the development of secondary sexual characteristics. In late adolescence, the brain continues to develop and reorganize itself and the capacity for analytical and reflective thought matures. As the adolescent matures, peer influence reduces and the adolescent gains individual identity.(Response, 2018)

Reproductive health (RH) is a state of complete physical, mental and social well-being, in all matters relating to the reproductive system, its functions and processes. RH addresses the reproductive processes, functions and system at all stages of life. It implies that one is able to have a responsible, satisfying and safer sex life and has the

capability to reproduce and the freedom to decide if, when and how often to do so. (UNICEF, 2016)(. United Nations population fund (UNFPA) recommends comprehensive sexuality education (CSE) as it enables young people make informed decisions about their sexuality. Sexuality encompasses sex, gender, identities and roles, sexual orientation, criticism, pleasure and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviors, practices and relationships.(Bukar, Benisheikh, & Kaka, 2016)

Reproductive intentions refers to what the adolescent wants and desires in the future including the plan to have a child; whether they understand the impact of having a child, financial, academic, social and emotional implications. Reproductive desires and intentions are often affected by the individuals physical, social, economic and environment including health, education level, political events amongst others. Intentions have been shown to be important in determining an individual's antecedent behavior in the 'Theory of Planned Behavior'.(Ajzen & Klobas, 2013)

Reproductive behavior is the engagement in sexual activities that may result in having a child. Reproductive behavior includes being in relationships of opposite sex. Adolescence as a transition period evolves and results in reproductive behavior many times without much thought of the reproductive intentions.

Many ALHIV do not have enough education on their disease that allows them to live normal lives. However, HIV has been shown not to change sexual desires, and sexual activity, and it only affects fertility in advanced stages (Obare, van der Kwaak, & Birungi, 2012). This therefore results in these adolescents having sexual relationships without the 'desire' or 'intention' to have children. This is likely to result in unwanted and unplanned pregnancies. There is also the risk of MTCT of HIV transmission

when the mother is not on ART in utero, at birth and during breastfeeding.(Chegen, 2017)

Adolescents are engaged in sexual activities as evidenced by reports of early sexual debut in 2014 KDHS. Over one point five million Kenyans aged fifteen to nineteen (15–19) are sexually active. (Demographic, 2014) Those with HIV may risk spreading the virus to the sexual partner or at risk of re-infection as use of condoms is inconsistent. (Adler, Abar, Bennie, Sadeghi, & Bekker, 2017) The sexual act could result in unwanted pregnancy which affects the self-esteem of this adolescent. Some adolescents hide and do not seek healthcare and when the baby is delivered there is high risk of MTCT of HIV during delivery and breastfeeding.

Knowledge about sexual and reproductive health is critical to the adolescent's ability to protect their health and that of their offspring. Sexual and reproductive health (SRH) information and services are important for all adolescents, including those living with HIV, most of who do not lose their desire for sex or their hopes to have children, but whose needs are often not addressed. Adolescents with perinatally acquired HIV may not yet be sexually active but they may have questions related to having sex. People who acquired HIV during adolescence may be sexually active and are now considering the implications of the diagnosis on their sex lives. They may have concerns about how they can have intimate relationships and families in the future and fears related to disclosing their status to sexual partners as well as concerns about HIV transmission.(C. Fair et al., 2013)

The aim of this study is to understand sexual and reproductive behavior and intentions of adolescents living with HIV and the factors that influence the sexual behavior and reproductive intentions.

**1.2 Problem Statement.**

Due to availability of anti-retroviral therapy (ART) many children who acquired HIV vertically are surviving into adolescents. About seven hundred (700) adolescents aged between 10 and 19 are newly infected with HIV every day.(UNAIDS, 2019) There are some adolescents who acquired the virus at adolescence, through sexual intercourse mainly or through other means. HIV does not change the sexual desire, behavior and fertility of adolescents unless in advanced stages. HIV however, results in mental and psychological problems including self and external stigma which affects the reproductive intentions because of fear of transmission and fear of shorter life span. The adolescents could be afraid that they may transmit the HIV virus to their young ones as this is the mode through which they contracted the virus.

Age at first sexual intercourse marks the time at which individuals first risk exposure to the HIV virus. Many health care workers are not proactive in discussing the reproductive health challenges of adolescents. In Kenya, between 2013 and 2015, there has been a 17% increase in new HIV infections among young people ages fifteen to twenty four.(Mukui et al., 2016) A number of factors have advanced this alarming rate of infection. These include limited knowledge on sexual behaviour that expose adolescents to HIV such as failure to use condoms during the first sexual intercourse; failure to resist forced sex from partner; having sexual intercourse under influence of alcohol or drugs among others. (Mukui et al., 2016).

Despite policies and guidelines addressing adolescent reproductive health issues in Kenya, health care workers still face significant challenges in addressing SRH issues in this age group. The challenges in providing HIV and SRH services in adolescents include complexities of stigma in adolescents living with HIV, perceived lack of

autonomy to make informed consent, vulnerability to inducements and cultural norms on sexual behaviour.(Baryamutuma & Baingana, 2011)Many adolescents with HIV have a number of questions that they may not feel comfortable to bring up on their own particularly pertaining reproductive behaviour. In Kenya, forty-four (44%) of adolescents age fifteen to nineteen (15-19) had never heard of family planning methods. Twenty- nine point seven percent (29.7%) of married adolescents aged 15-19 had unmet need for family planning and equally there was a high unmet family planning needs among sexually active adolescents.(Demographic, 2014)).There is limited access to information on prevention of HIV transmission, unwanted pregnancy, and treatment of those with HIV by adolescents. This results in unwanted pregnancies, school drop-out, early marriages, abortions and greater dependency on sexual partners. (C. Fair et al., 2013)

There is little data on the reproductive behaviour and intentions of ALHIV .This results in inability of the programs to plan for their reproductive health.

**1.3 Justification.**

Sustainable Development goal (SDGs) number three aims to end the epidemic of AIDS and other neglected tropical diseases by 2030. By understanding the reproductive intentions of adolescents one is able to advice on the best way to ensure vertical transmission does not occur hence reducing chances of transmission of HIV to the newborn.(Response, 2018) It is important to look into reproductive health issues of adolescents because according to KDHS 2014, twenty one (21%) of male youth and adolescents were likely to engage in sexual intercourse before age of fifteen compared to twelve percent (12%) of female counterparts.(Demographic, 2014)

Although there have been reports of sexual activity and pregnancy among adolescents with HIV, little is known about their reproductive intentions. One in every four Kenyan teenage adolescent girls aged between 15-19 years had already began child bearing. (Demographic, 2014). It is important to know the SRH behavior and intentions in this age group so as to help address their concerns. The purpose of this study is to find out the reproductive behavior and intentions of adolescents with HIV. Understanding their procreation intentions could aid in designing reproductive health and secondary prevention programs. This will enable the health care provider initiate early discussion and offer advice on procreation choices, options and consideration to adolescent patients who desire children, including foster parenting and adoptions. There is need to update the existing counselling and support packages to include sexual and reproductive health information and services. This will equip the service providers with a checklist to determine the relevant SRH items to discuss with HIV adolescents. It will also assess the SRH information and service needs of the adolescent and address the needs in a timely manner(Birungi et al., 2011)

This will ensure the goal of elimination of maternal to child transmission (EMTCT) by 2021 is achieved and reduce spread of HIV among adolescents through sexual intercourse.(UNAIDS, 2019)

### 1.4 Research Question.

What is the sexual and reproductive health behavior and intentions of adolescents living with Human Immunodeficiency Virus (HIV) at Moi Teaching and Referral Hospital and what factors affect their sexual and reproductive health?

### 1.5 Objective.

#### 1.5.1 Broad Objective.

To describe the sexual and reproductive behavior and intentions and associated factors of adolescents living with HIV at Moi Teaching Referral Hospital.

#### 1.5.2 Specific Objectives

1. To describe the sexual and reproductive behavior of adolescents living with HIV at Moi Teaching and Referral Hospital.
2. To describe the reproductive intentions of adolescents living with HIV at Moi Teaching and Referral Hospital.
3. To determine the factors that influence sexual and reproductive health intentions and behaviour of adolescents living with HIV at Moi Teaching and Referral Hospital.

# CHAPTER TWO

## 2.0 LITERATURE REVIEW.

### 2.1 Introduction.

Human immunodeficiency virus (HIV) is a blood-borne virus typically transmitted via sexual intercourse, shared intravenous drug paraphernalia, and mother-to-child transmission (MTCT), which can occur during the birth process or during breastfeeding. HIV disease is caused by infection with HIV-1 or HIV-2, which are retroviruses in the Retroviridae family, *Lentivirus* genus. When the virus infects an individual, acute seroconversion manifests as a flu-like illness consisting of fever, malaise and a generalized rash. This is followed by asymptomatic phase which is benign. The asymptomatic phase can last a few months to years depending on host immunity. HIV infection results in opportunistic infections in the early stages and result in severe diseases later for example AIDS- associated dementia, encephalopathy and HIV wasting syndrome.(UNAIDS, 2019) )

Center for Continuing Education in Adolescent Health, Division of Children's Medicine describes the sexual development among adolescents as a time when those aged between 10-13 years have an increased awareness to their sexuality, become attracted to others and may experiment with sex play. By 14-16 years of age, the interest in sex increases and may engage in sexual activities. By age 17-19 years, they develop intimate relationships and move from group to individualized relationship(Hale, Bevilacqua, & Viner, 2015) .  Because of the developmental sexual changes that occur during this period, the adolescents are more vulnerable to HIV infections.

The risk factors for possible exposure to HIV include unprotected sexual intercourse with infected partner, multiple sexual partners, previous or current sexually transmitted disease (STD), sharing of intravenous drug paraphernalia, reception of infected blood products and mother to child transmission at birth or during breastfeeding.(UNICEF, 2016)  According to KDHS 2014 HIV virus transmission in Kenya was mostly through heterosexual intercourse. In addition, by age eighteen nearly half (47%) of women and more than half of men (55%) have had sexual intercourse.  (Demographic, 2014)

**2.2 HIV in Adolescents.**

HIV affects adolescents physically, emotionally and socially. Emotionally, adolescents with HIV face stigma, low self-esteem and self-criticism which makes them have difficulties negotiating the adolescence period. Socially, adolescents with HIV could face social isolation and discrimination from their peers. They also worry about getting into relationships and dating because of fear of disclosing their HIV status to their partners. Some adolescents are orphaned due to HIV and some have lost their property and land due to lack of proper legal systems. Others have strained family support and are under the care of older siblings, grandparents, other relatives or are themselves emancipated minors. This makes the adolescent vulnerable and prone to exploitation, sexual and drug abuse and early sexual debut.(Albright & Fair, 2014)

Physically, HIV and ART have been associated with metabolic complications like dyslipidemia and insulin resistance. This may significantly predispose the adolescent to cardiovascular disease. ARVs (anti-retroviral drugs) side effects include bone abnormalities caused by Tenofovir predisposing the adolescent to risk of bone

fractures and osteoporosis. Anaemia and STIs are common and renal failure can be a complication of HIV associated nephropathy (HIVAN).(Response, 2018) )

Key discussion topics recommended by WHO for adolescents regarding SRH include: routes of transmission of HIV, the risks involved and type of sexual intercourse and sexually transmitted disease transmission. In addition, identification of signs and symptoms whereby the adolescent is encouraged to seek treatment and regular screening for HIV and STIs. The adolescent is also taught on strategies to reduce risk which include reduction of sexual partners, consistent condom use, use of water based lubricants when using condoms, adherence to ART, avoiding risky situations, avoiding substance that impair judgement and good oral hygiene. Another discussion topic is use of contraception and consist of the various types of contraceptives, advantages and disadvantages of each, negotiation for condom use and practical demonstration and role play. In regards to conception, discussion on the impact of having a child, financial, academic, social and emotional implications. It is also important to discuss possibility of having a family, prevention of MTCT, and preconception advice.(UNICEF, 2016)

### 2.4 Sexual and Reproductive Health Behaviour of Adolescents Living with HIV.

The ALHIV mature physiologically and psychologically and become sexually active. Initiation of sexual activity during adolescence among ALHIV predisposes them to risk of pregnancy and STI's including acquiring other strains of HIV and infecting other adolescents which compounds the HIV infection rates.(Ndongmo, Ndongmo, & Michelo, 2017)

Adolescents are engaging in risky sexual behaviors characterized by being sexually active, inconsistent condom use, and having partners of unknown status. Unprotected sexual intercourse has been identified as one of the risk behaviors associated with increased HIV transmission. Koenig et al in their study reported that a quarter to a third of HIV adolescents were sexually active of whom 28.6% were engaging in unprotected sex (Koenig, Nesheim, & Abramowitz, 2011). Tassiopoulus et al in his study reported 42% were sexually active and 62% of these adolescents reported unprotected sex despite knowledge of their status (Tassiopoulos et al., 2013). In Uganda 76.5 % (165/213) of ALHIV who were sexually active used condoms inconsistently. (Mbalinda, Kiwanuka, Eriksson, Wanyenze, & Kaye, 2015)

Early sexual debut has also been identified as a risk behavior. Tassiopoulus and Koenig reported sexual debut of between 13-15 years of age among the HIV positive adolescents in their study. The mean age of sexual debut was 15.8 years in a study by Mbalinda et al in Uganda and more than a third of ALHIV (213/624) reported to have ever had sex. (Koenig et al., 2011; Mbalinda et al., 2015; Tassiopoulos et al., 2013)

Having multiple sexual partners and not disclosing the HIV status is also a risk behavior that has been identified in several studies. Of those in relationships, 56.3 % (223/396) did not disclose and were not aware of their partners' HIV status in Mbalinda study.(Mbalinda et al., 2015)

Risk behavior reduction is an important aspect in the transmission and acquisition of HIV. Over one point five million Kenyans aged fifteen to nineteen (15–19) are sexually active according to KDHS 2014. On average, among adolescents who had sex before twenty (20) years, the sexual debut was at sixteen point three (16.3) for adolescent girls first and at fifteen point five (15.5) years for adolescent boys. In

addition, one in every five adolescents and youth ages fifteen to twenty four (15-24) reported sexual debut before age fifteen. Twenty- one percent (21%) of men and twelve percent (12%) of women ages twenty to forty nine (20-49) had their sexual debut before fifteen years (15), but by eighteen (18) years, the percentage rises to (55%) fifty-five percent and forty- seven percent (47%) respectively. This shows how much adolescents are engaging in risky sexual behaviors. (Demographic, 2014).

### 2.5 Reproductive Health Intentions of Adolescents Living with HIV.

The intention to have or not to have children is explained in the theory of planned behavior. The more favorable the attitude and subjective norm with respect to having a child, the greater the perceived control, the more likely that a person will form an intention to have a child. (Ajzen & Klobas, 2013). The intention is determined by three kinds of considerations including behavioural beliefs, normative beliefs and control beliefs. Behavioural beliefs are perceived positive or negative consequences of having a child and the subjective values or evaluations of these consequences. Behavioral beliefs lead to formation of a positive or negative attitude towards having a child. Normative beliefs are perceived expectations and behaviors of important referent individuals or groups combined with the person's motivation to comply with the referent in question. The combination leads to the production of a perceived social pressure or subjective norm with respect to having a child. Control beliefs are the perceived presence of factors that can influence a person's ability to have a child. Actual control over having a child is attained when the individual has achieved their goal. Actual behavioral control is thus expected to moderate the effect of intention on behavior. Therefore, perceived control is used in place of actual control under the

assumption that perceptions of control reflect actual control reasonably well.(Ajzen & Klobas, 2013)

Individuals showing more positive intentions have been found to be more likely to take actual steps to have a baby and less likely to seek abortion in the case of unplanned pregnancy. Preferences expressed in adolescence are likely to be influenced by the social norms and family building behavior prevalent at that point. It is unlikely to represent a definite commitment to have that particular number of children.(Vignoli & Rinesi, 2014))

Studies have shown that ALHIV have high reproductive intentions and HIV has not changed these expectations.. According to Birungi et al forty- one percent (41%) of adolescent females were sexually active and have ever been pregnant. This was a mixed methods cross-sectional study done in HIV outpatient clinics in Coast and Rift-Valley provinces of Kenya in 2015. Sixty- nine percent (69%) of those who already had children intend to have more in future. Eighty- six percent (86%) of those who did not have children intend to do so in future. Study concluded that HIV infection has not changed the attitudes towards childbearing significantly. In addition, the desire to have children early in life remains strong in adolescents with HIV. Male respondents, on average, intend to have more children than their female counterparts (3 versus 2; $p<0.01$). (Birungi et al., 2011)

A cross-sectional study by CD Fair and Albright in USA looked at fertility desires of adolescents with perinatally acquired HIV. Eighty eight point six (88.6% )desire to have a child in future and ninety three point five (93.5)% of them actually intend to have a child. Twenty- three percent(23%) of adolescents have had a pregnancy in this study and fourteen point three percent (14.3%) were parents or were pregnant.(C. D. Fair, Varney, & Albright, 2016). Studies in Sub-Sahara Africa among ALHIV

reported high reproductive intentions of more than eighty percent.(Okawa et al., 2018)(Adler et al., 2017; Ndongmo et al., 2017)

Case studies highlight the complex factors that may explain high levels of fertility desires and intentions yet low levels of perinatal HIV transmission (PHT) prevention, while also providing insight into areas for intervention. Reproductive and sexual health education must include discussion of fertility desires and intentions rather than simply focusing on pregnancy and transmission prevention as a means to heighten the effectiveness of harm reduction strategies and support the health functioning of the maturing population of youth with HIV as they enter adulthood.(Steiner, Finocchario-Kessler, & Dariotis, 2013)

### 2.5 Factors Influencing Adolescent's Sexual and Reproductive Health.

There are a number of factors that influence Adolescent's sexual and reproductive health (ASRH), these include biologic changes, family and friends, communities where they live and access to economic and academic activities(UNICEF, 2016)(Ajayi & Okeke, 2019) Because of the number and diverse nature of factors influencing adolescent behaviors, it is unlikely that a single intervention will be found to immediately change sexual risk-taking behaviors in adolescent. In addition, there is mounting evidence that the most effective interventions enhance protective factors of young people and do not simply attempt to reduce risk. (Chegen, 2017)

**(a) Biologic changes.**

Physical, psychological and social changes affect sexual reproductive health (SRH) decision making and behavior. Brain development and changes in hormone levels increase adolescent's predisposition for risk taking. This makes the adolescent explore social experiences and increases their potential to develop new skills. However,

without support adolescents can engage in risky SRH behaviors and in the background of HIV can spread the virus to the partner or the adolescent can be re-infected with another strain of HIV.

**(b) Family and friends.**

Strong social networks and connections are critical component for an adolescent's transition into adulthood. Negative relationships with partners, peers and family members have a bad influence on adolescent sexual and reproductive health. Peer influence can make the adolescent engage in risky or healthy SRH behaviors. Sexual partners may influence SRH decision-making positively or negatively including whether to use a condom or other contraceptive method.

A qualitative study carried out in Zambia in 2010 among ALHIV in clusters of HIV clinics and Community based organizations. It looked at the basic individual and environmental factors that influence adolescents' experience of living with HIV. At the individual level, resilience and internalized stigma were found to shape adolescents' perception of an HIV diagnosis, and their ability to maintain a positive outlook and sustain relationships. Family and peers supported adolescents to adjust to new drug-taking routines, but these people occasionally disclosed adolescents' HIV status inappropriately. (Mburu et al., 2013)

**(c) Communities where young people live.**

SRH outcomes are poorer in urban and disenfranchised neighborhoods. A cross-sectional study held in five different cities looked at prevalence and determinants of adolescent pregnancy in urban disadvantaged settings. This was a population study among adolescents aged 15-19 in Baltimore (456), Johannesburg (496), Ibadan (449), New Delhi (500) and Shanghai (438).Use of respondent driven sampling was used to

recruit male and female adolescents. Current schooling and condom use at first sex decreased the odds of pregnancy among females. Factors associated with higher odds of pregnancy were early sexual debut, being raised by someone other than both parents, alcohol use and binge drinking in the last month, more violence in the community and poor physical environment. (Brahmbhatt et al., 2014)

At the community level, stigma and discrimination in schools were found to negatively influence adolescents' experiences, suggesting that approaches to normalize HIV in schools are needed. This is according to a qualitative study carried out in Zambia among ALHIV. (Mburu et al., 2013)

**(c) Access to economic and academic activities.**

There is a relationship between wealth inequality and negative sexual reproductive health outcomes. Economic vulnerability can increase adolescent's likelihood of engaging in intergenerational relationships. This includes marrying early, engaging in sex for money all which increase the risk of unplanned pregnancies. In South Africa a community-traced cross-sectional study among HIV positive adolescents aged 10-19 looked into risk factors for sex in the shadow of HIV. There were decreased rates of unprotected sexual intercourse if the adolescent received strong parental supervision (OR- 0.54), had free access to school (OR – 0.52) and received adolescent sensitive care when accessing sexual health services (OR- 0.43).(Toska, 2017)

According to WHO the protective factors against early sexual debut in adolescence include being literate, high education aspirations, females in school, refusal skills for unsafe sex, presence of father at home is protective for females, living with both parents. Risk factors that predispose to early sexual debut include early puberty, male, older age, repeated a grade for males, drop out of school, permissive attitudes towards sex, attends discos or clubs, use of alcohol and cigarettes, watches X- rated movies,

discussing RH issues with friends, peers, belonging to a polygamous family, childhood urban residence, family instability for females, being employed for males(Response, 2018)

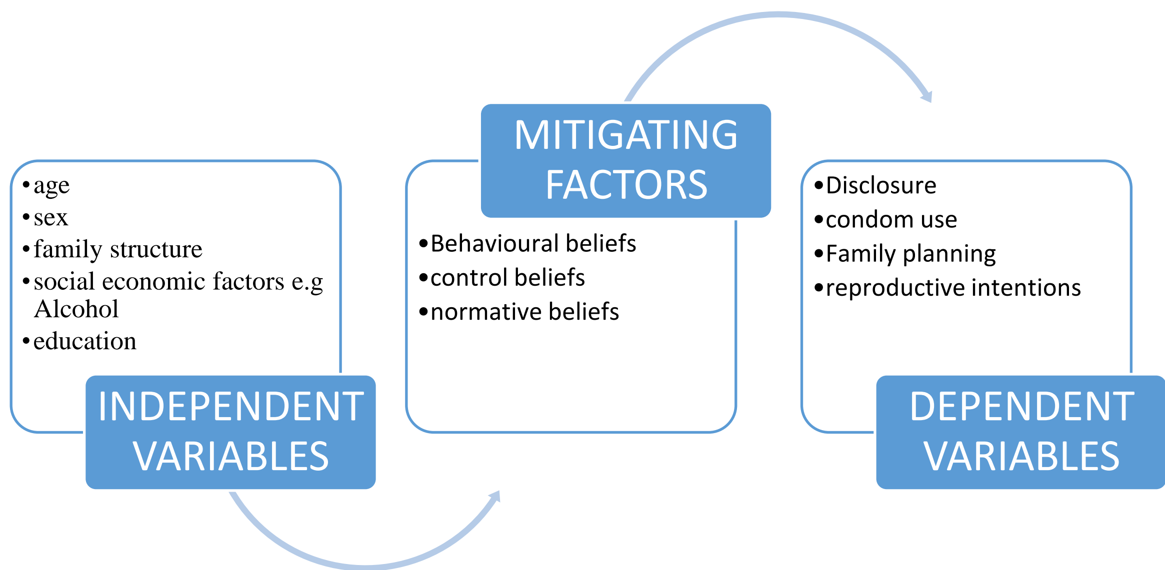
**Alcohol consumption and substance abuse**

Alcohol consumption and substance abuse have been associated with increased risk of HIV transmission/acquisition. Studies have demonstrated increased risk of HIV transmission while under the influence of alcohol or other substances because of decreased use of protection (C. Fair et al., 2013; Gultie, Genet, & Sebsibie, 2015). Landolt et al. in their study reported that ALHIV may be curious and engage in sexual activity while under the influence of substances(Kancheva Landolt, Lakhonphon, & Ananworanich, 2011) . A survey by CDC among high school students reported that 22% of the 34% sexually active adolescents had used drugs or alcohol before the last sexual intercourse(Kaushik, Pineda, & Kest, 2016) . KAIS 2012 reported 5/100 children 10-14 years had ever drank alcohol and 1/100 had ever tried drugs (Waruiru et al., 2014).Alcohol and substance abuse may be used as a coping mechanism by ALHIV or to fit in with peers(Malee et al., 2011) .

In their study among street-connected children in Western Kenya, Winston E. et al reported that 66.7% of the females who turned HIV positive engaged in transactional sex, 91.7% engaged in drug use and 50% reported a prior STI(Winston et al., n.d.). A policy brief by the African Population and Health Research Center (2009), following a study done in secondary schools in Nairobi Kenya reported that about 50% of boys and 10% of girls were sexually active. Some of the characteristics described of the sexually active adolescents included: older adolescents, those in co-educational (mixed boys and girls) schools, those in day schools as compared to those in boarding schools those living with non-relatives such as friends as compared to those living

with parents and 90% of the boys who did not belong to any religion were found to be sexually active.(Mason-JonesAJ, 2016) .

**Conceptual framework**.



# CHAPTER THREE

## 3.0METHODOLOGY

### 3.1 Study Design

Cross-sectional mixed methods was used. Sequential Explanatory Design, a type of mixed method where the quantitative data is collected first followed by qualitative data was used. The purpose is to use the qualitative results to further explain and interpret the findings from the quantitative phase. Quantitative data is also used to get themes to discuss during the FGDs.

### 3.2 Study Site

The study site was in Moi Teaching and Referral Hospital at Rafiki Center of Excellence in Adolescent Health. This clinic was launched in December 2016. Rafiki clinic serves adolescents and youth aged ten to twenty-four years. It currently serves 1024 adolescents living with HIV. The male to female ratio is 1:1. All ALHIV are on ARVs. Ninety eight percent (98%) of these adolescents had perinatal infection and have transitioned from the pediatric HIV clinic. They get 1-3 monthly clinic follow ups depending on their clinical status. The clinic provides the HIV care package which includes sexual and reproductive health services. The clinic offers family planning services to adolescents

There are also adolescents without HIV who are taught life skills and how to negotiate the adolescent period safely. There is a section that serves the street children. This clinic has a laboratory, a pharmacy, nurses and clinicians. The adolescents' clinical needs are attended to in one place and this avoids the inconvenience of adolescents moving from one place to another within the hospital.

### 3.3 Target Population

Adolescents living with HIV on follow-up at Moi Teaching and Referral Hospital- Rafiki Center of excellence in adolescent health.

### 3.4 Study Population

Adolescents aged 15-19 with HIV at Moi Teaching and Referral Hospital- Rafiki Center of excellence in adolescent health.

### 3.5 Sample Size

The sample size calculation was based on the primary purpose of this study which is to describe the reproductive intentions of ALHIV. According to a study by Birungi et al in 2011, assessing reproductive needs of adolescents with HIV in Rift Valley and Coast provinces, 77% of participants intend to have children in future. Based on this study using Fischer's formula;

$$N = \frac{Z_{\alpha}{}^{2}pq}{d^2}$$

z =1.96 for 95% confidence interval

p = is 77% (the proportion of ALHIV who intend to have children in future according to Birungi et al in 2011)

q =1-p

d = is 0.05, the precision or margin error.

$= 1.96*1.96*0.77(1-0.77)/0.05^2$

=272 adolescents.

At MTRH Rafiki Clinic, there were 223 females and 224 males on follow-up, totaling up to 450 adolescents who are fifteen years and above (February-June 2017).

**3.6 Sampling Method.**

Systematic sampling was done for the interviewer administered questionnaire. The $K^{th}$ was calculated using the sample size and total number of adolescents aged 15 to 19.

450/272 = 1.65. Rounded off to 2.Therefore every alternate adolescent was sampled.

For the FGDs, purposive sampling from the adolescents who had participated in the interviewer guided questionnaires was used. We did one FGD for males, one for females and one for both genders, each group had ten (10) participants. This means that fifteen (15) males and fifteen (15) females participated in the FGDs.

**3.7 Eligibility Criteria**

**3.7.1 Inclusion Criteria.**

All adolescents aged 15-19 who consented and assented to take part in the study.

**3.7.2 Exclusion Criteria**

Adolescents with any disability that would impair communication. The disabilities included those ALHIV with mental retardation and hearing or learning disabilities

**3.8 Study period**

The study was conducted between November 2018 and November 2019.

**3.9 Study Procedure**

**3.9.1Pilot Study**

The pilot study was carried out at the HIV clinic in Huruma sub-county hospital, Eldoret and the number of participant to take part was 10% of sample size, which was 27 participants .This, provided an opportunity to train the research assistant as well as checking the consistency of the questionnaire and whether the questions were well understood by the adolescents.

The Study principal investigator (PI) sensitized the staff at Rafiki Clinic about the study. The PI recruited two research assistants one who is an adolescent peer educator aged 18-24 years, attending clinic at Rafiki Clinic, trained on basics on HIV and data collection methods and a qualified nurse at Rafiki Clinic. One peer educator was chosen due to the sensitivity of this group and his ability to get in-depth information that adolescents may shy from if asked by an adult due to their familiarization with this cohort. The nurse is the one who usually asks the questions on reproductive health during their clinic visits and this means the adolescents would not be shy to answer questions. The peer educator and nurse were available at Rafiki Clinic for routine care during the study period. The PI trained them on the study protocol and took them through study ethics and confidentiality.

One Research Assistant was stationed at the outreach desk at Rafiki Clinic which is the first stop for the clients. He identified the potential study participants, and approached them for participation. They were informed that they will be told more about the study upon ending the clinic visit before they exit. The other research assistant was stationed at the pharmacy where they followed up on the conversation initiated at the outreach desk. If the adolescent was willing to participate, he/she was taken to the counselling room where consent on recruitment took place. The Research assistants then administered the questionnaires (Appendix I and II) to those who accepted to participate. The two RAs were continuous communication on the potential participants for good coordination. Recruitment took place every day Monday to Saturday until the sample size was achieved. The first participant was the first patient to arrive at the clinic and who met the inclusion criteria.

When collection of data using the interviewer administered questionnaire was completed, the FGDs were held. Those eligible were asked if they were willing to

participate and their contact information taken. They were called for the FGD once the sample size for FGD was achieved.

**3.10 Data Collection.**

A pretested questionnaire was used to collect data. The questionnaire consisted of demographic data (age, sex, level of education, employment status), social data ( orphan status, whom they live with, relationship status and intentions, experience with alcohol and other drug use, parents level of education, polygamy in father, economic status of parents, alcohol and drug use in parents), clinical data (date of enrolment, ART regimen, latest viral load), sexual intentions and behavior (sexual debut, current sexual activity and intentions, sexual abuse), reproductive intentions and behavior ( intentions be in a marriage, intention/experience with disclosure to friend/partner, intention /experience to marry an HIV negative partner, intention to have children, ever had children/abortions, intention and experience with FP use), STIs ( experience and intentions to use condoms

Source of information on SRH looked at teachers, parents, siblings, media and health care workers as a source and which one is considered to be more credible.

Factors that influence SRH that were assessed included poverty, polygamous family, level of education, contraceptive and condom use, use of alcohol, cigarettes or other drugs and fear of spread of HIV to the newborn.

Qualitative data was obtained from the notes and recordings during the focused group discussion.

### 3.11 Focus Group Discussions

Three focus group discussions were held, one males alone and one for females alone and another with both males and females, to discuss the factors that influence the reproductive health needs of ALHIV. These were done at Rafiki Clinic Conference Room and the dates were set by the principal investigator once a quorum of ten was achieved. Each session took 45 minutes to an hour. Guide questions (appendix III) were used to direct and moderate the discussion with the principal investigator being the moderator and the research assistants scribing the responses. Audio recording was done for every session.

Data was processed and analyzed for content.

Feedback was communicated to the participants and stakeholders of Rafiki adolescent clinic.

### 3.12. Data Management.

#### 3.12.1 Data Entry

Data entry was done using Epi info.

#### 3.12.2Data cleaning

Completeness and consistencies were checked regularly and as need arose.

#### 3.13.3 Data analysis

The results were presented in form of frequencies and percentages. Quantitative data was analyzed using STATA version 13.  Bivariate analyses (Pearson's chi-square test and Fisher Exact Test was used to test for statistical significance. $p<0.05$ was statistically significant. Multi-variate logistic regression analysis was done to assess for independent associations.

Qualitative data from open ended questions and FGDs were transcribed in word and analyzed for themes and content using N-vivo software version 12.

### 3.13.4 Data storage

Participant's data from questionnaires was stored under lock and key accessible to only the Principal investigator and her assistant. Information in the computer was password protected to prevent un- authorized access. Data was backed up in a remote disk and flash drive to safeguard against any data loss.

### 3.13 Ethical Consideration

Approval to carry out the study was sought from the Institutional Research and Ethics Committee (IREC) and the CEO of Moi Teaching and Referral Hospital. Waiver of parental consent was sought from IREC as the topic of reproductive health is sensitive and the adolescents may be shy to talk about sexuality when their parents are in the vicinity. In addition, the adolescents usually come to the Rafiki clinic on their own. It was therefore an added expense to request them to come with their parents so that the parents can sign consent then go back to their homes. Waiver of parental consent applied to those below eighteen years. There are some adolescents who are emancipated minors meaning they act as adults as they live alone and have children of their own or are taking care of their younger siblings. Waiver of consent was also sought for these minors. Adolescents eighteen and above gave their own written consent. The adolescents aged fifteen to seventeen gave their own written assent.

The study participants were sensitized about the study. No incentives were used to convince the study population to assent to participate in the study. The data collection tool did not contain the names of the participants. Confidentiality was maintained throughout the study. Medical attention was given as necessary irrespective of their consenting to participate in the study. The raw data collected was stored in a locked cabinet throughout the study period while the data in the computer was in a password protected file. The results shall be presented in the university thesis defense and will

also be availed for reference at the College of Science Resource Centre. The results of this study shall also be availed for publication in a reputable journal for access and use by the scientific and general population in the improvement of patient management.

# CHAPTER FOUR

## FINDINGS

## 4.0 INTRODUCTION

A total of 272 adolescents participated in this study. The male to female ratio was 1:1.

## 4.1 SOCIO-DEMOGRAPHICS CHARACTERISTICS

Seventy three percent (73%) of the adolescents were in high school. About 8% were not in school. A minority of adolescents were employed 7 (2.57%). Those employed were earning between 32 dollars to 200 dollars monthly. This is as shown in table 1.

**Table 1: Socio-demographic characteristics of adolescents (n=272)**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Sex | Male | 128 | 47.06 |
| | Female | 144 | 52.94 |
| Level of education | None/primary | 44 | 16.18 |
| | Secondary | 200 | 73.53 |
| | College/university | 28 | 10.29 |
| | Currently employed | 7 | 2.57 |
| Daily meals | Once/twice | 18 | 6.62 |
| | Three times | 180 | 66.18 |
| | More than three times | 74 | 27.21 |
| Missed meals | Never | 243 | 89.34 |
| | Weekly | 21 | 7.72 |
| | Daily | 8 | 2.94 |

**Table 2: Parent socio-demographics**

Fifty six percent (56.25%) of all the adolescents were orphans, with 25% being total orphans. Close to 90% of both the fathers and the mothers had high school education and above. Only 37% of the adolescents were living with both parents.

**Table 2: Characteristics of parents of study participants**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Status of parent N=272 | Both alive | 119 | 43.75 |
| | Both deceased | 68 | 25.00 |
| | Father deceased | 43 | 15.81 |
| | Mother deceased | 42 | 15.44 |
| Father marital status (n=160) | Monogamous living with my mother | 96 | 60.00 |
| | Monogamous living with other woman | 23 | 14.38 |
| | Polygamous | 32 | 20.00 |
| | Widower | 9 | 5.63 |
| Father education level (n=160) | None/Primary | 21 | 13 |
| | Secondary | 51 | 31.88 |
| | College/university | 88 | 55.00 |
| Mother education level (n=162) | None/Primary | 35 | 21.6 |
| | Secondary | 77 | 46.39 |
| | College/university | 54 | 32.53 |
| Whom the child lives with N=272 | Both parents | 101 | 37.13 |
| | Mother | 50 | 18.38 |
| | Father | 32 | 11.76 |
| | Others | 89 | 32.73 |

### 4.2 Experience of romantic relationships among the ALHIV

Twenty nine percent (n=79) of the study participants reported having ever experienced romantic relationships, with 33 (42.3%) reporting having dated two partners or more. The proportion of those who had ever dated was similar for males and females. Out of the 79 who had ever dated, 65 (82%) were currently in a relationship and their partners ages ranged from 15 to 26 years. About 18% (n=12) of participants currently dating had more than one partner.

Out of the 65 participant currently in a relationship, 66% did not know the HIV status of their partner while one quarter were in discordant relationships and about a half (53.8%) had not shared their HIV status with their partners (Table 3).

The main cited reasons for not sharing their HIV status were “not ready”, and ‘’afraid of losing their partners’’. Other reasons given were; ‘’embarrassed’’, and ‘’the relationship is not serious’’. Majority of the ALHIV had no preference to the HIV status of their partners

**Table 3: Experience of romantic relationships**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| **Ever been in a relationship (n=272)** | **Yes** | **79** | **29.04** |
| | **No** | **193** | **70.96** |
| Currently in a relationship (n =79) | Yes | 65 | 82.27 |
| | No | 14 | 17.72 |
| Number of partners (n=79) | 1 partner | 39 | 49.4% |
| | 2 partners | 20 | 25.3% |
| | >2 partners | 20 | 25.3% |
| Partner HIV status (n=65) | Negative | 16 | 24.62 |
| | Positive | 6 | 9.23 |
| | Don't know | 43 | 66.15 |
| Relationship period (n=65) | <1 month | 11 | 16.92 |
| | 1 – 6 months | 20 | 30.77 |
| | 6 – 12 months | 9 | 13.85 |
| | >12 months | 25 | 38.46 |
| Current relationship (n=65) | Casual | 32 | 49.23 |
| | Serious | 33 | 50.77 |
| Shared HIV status (n=65) | No | 35 | 53.85 |
| | Yes | 30 | 46.15 |
| Is HIV reason why never dated (n=193) | No | 178 | 92.23 |
| | Yes | 15 | 7.77 |
| Ever been rejected from a relationship because of HIV status (n=79) | No | 56 | 70.9 |
| | Yes | 23 | 8.49 29.1 |
| Social activities (n=272) | Goes to clubs/parties | 52 | 19.12 |
| | Drink alcohol | 12 | 4.41 |
| | Smoke cigarettes | 4 | 1.47 |
| | Use other drugs | 4 | 1.47 |

**4:3 Sexual behavior**

Twenty point five nine percent (56/272) of adolescents reported that they had ever had sex. A majority (23%) of those who have ever had sexual intercourse had their sexual debut at 14 years (mean of 15.6, range 12-19 years). Of the 56 who have ever had sex, 53.6% (30) were sexually active at the time of the study and one third had more than one current sexual partner. About half of those who have ever been sexually active had not disclosed their HIV status to their sexual partners and almost the same number (60%) didn't know the HIV status of their sexual partners. A third of those who were currently sexually active(9/30) said they had fears about having sex due to their HIV status including fear of infecting their partners, fear of getting pregnant and fear of sex affecting their health. Only 4 (13.3%) participants said their HIV status affects sexual satisfaction. Among adolescents who were sexually active (n= 30) (Table 4) .

**Table 4: Sexual Behaviour =**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Ever had sex (n=272) | No | 216 | 79.41 |
| | Yes | 56 | 20.59 |
| Circumstance under first sexual intercourse (n=56) | Planned sex | 31 | 55.36 |
| | Unplanned sex | 25 | 44.64 |
| Sexually active Currently (n=56) | No | 26 | 46.42 |
| | Yes | 30 | 53.57 |
| Sexual partner awareness of respondents HIV status (n=30) | No | 17 | 56.67 |
| | Yes | 13 | 43.33 |
| Respondent aware of sexual partner HIV status (n=30) | No | 18 | 60.00 |
| | Yes | 12 | 40.00 |
| fears of sexual intercourse due to respondents HIV status (n=30) | No | 21 | 70.00 |
| | Yes | 9 | 30.00 |
| HIV status and effect on sexual satisfaction (n=30) | No | 26 | 86.67 |
| | Yes | 4 | 13.33 |
| Reason for not being sexually active (n=216) | No | 197 | 91.2 |
| | Yes | 19 | 8.8 |

**4.4: Contraceptive and condom use among the ever sexually active adolescents**

Condom use among adolescents who were sexually active was at 43.3%.

66.7% of ALHIV reported use of a contraceptive and use of 3 monthly injectable methods was the most favorite at 71.4%. Some of the reasons cited for not using FP were; "I am still a student" (3), "I have no information about family planning"(2) and fear of using FP (1)(Table 5 and Figure 1)

**Table 5: Contraceptive use N=**

| Variable | Category | Frequency | Percentage. (%) |
|---|---|---|---|
| **Use of a modern family planning method. N=30** | **YES** | **20** | **66.7** |
| | **NO** | **10** | **30.0** |

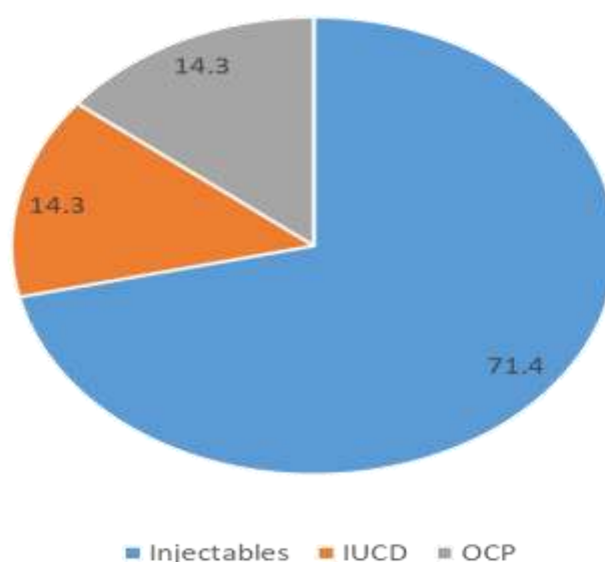



**Figure 1: Methods of FP**

**4.4 Reproductive health intentions**

About a half of the respondents intend to be in a serious relationship in future. Eighty percent (80%) of adolescents had no preference of the HIV status of a romantic partner. Majority (87.5%) of adolescents wished to have children in future. Most of them would like to have two children. More females than males intend to have children in future and is statistically significant (p=0.01). Half (74) of the female respondents have fear of infecting their children, while most males (60%) had no fears of having a child living with HIV.

**Table 6: Reproductive health intentions of the adolescents**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Respondents intention to be in a serious relationship in future (n=193) | No | 96 | 49.74 |
| | Yes | 97 | 50.26 |
| Preference to the HIV status of a special partner (n=272) | No | 219 | 80.81 |
| | Yes HIV negative | 23 | 8.49 |
| | Yes HIV positive | 29 | 10.70 |
| | | **Females** | **Males** |
| Respondents' intention to have children in future. | No | 11(7.6) | 23(18.0) |
| | Yes | 133(92.4) | 105(82.0) |
| Respondents fears of siring an HIV infected child | No | 70(48.6) | 76(59.4) |
| | Yes | 74(51.4) | 52(40.6) |

NOTE: N of 193 in those who intend to be in a relationship in future is because we excluded those who were already in a romantic relationship.

**4.5 Sexual Violence among ALHIV.**

Thirty nine percent (22/56) of those who had ever had sex reported having ever been forced to have sex. Sixty eight percent (15/22) were females while 60% had been violated by more than one person. On those occasions of sexual violence among the females, two thirds reported that nothing was done to avoid pregnancy.

**Table 7: Sexual violence (n=272)**

| Variable | Category | Frequency | Percentage |
|---|---|---|---|
| Respondent forced to have sexual intercourse against will (n=272) | No | 250 | 91.91 |
| | Yes | 22 | 8.09 |
| Number of people who have forced respondent to have sex against their will (n=22) | 1 | 9 | 40.91 |
| | 2 | 10 | 45.45 |
| | >2 | 3 | 13.64 |
| Anything done to avoid a pregnancy on these occasions (n=22) | No | 15 | 68.18 |
| | Yes | 7 | 31.82 |
| Respondent ever given you money or gifts in exchange for sexual intercourse (n=56) | No | 261 | 95.96 |
| | Yes | 11 | 4.04 |

### 4.6: Factors associated with sexual behaviour

Having ever gone to a discotheque (44.2% vs 9.1%, p<0.001) and alcohol intake (58.3% vs 13.8%, p=0.001) was associated with ever having had sex on univariate analysis.

**Table 8: Univariate Analysis: Factors associated with SB**

| | | Ever had sex | | |
|---|---|---|---|---|
| **Variable** | **Category** | **No** | **Yes** | **p-value** |
| Currently in school | No | 17 | 4 | 0.754f |
| | Yes | 212 | 39 | |
| Poverty | No | 217 | 37 | 0.046f |
| | Yes | 12 | 6 | |
| Father polygamous | No | 113 | 15 | 0.151f |
| | Yes | 23 | 9 | |
| Father education level | None/primary | 18 | 3 | >0.99f |
| | Secondary/Tertiary | 118 | 21 | |
| Mother education level | None/primary | 31 | 4 | 0.383c |
| | Secondary/Tertiary | 108 | 23 | |
| Both parent deceased | No | 170 | 34 | 0.502c |
| | Yes | 59 | 9 | |
| Live with | Parent | 152 | 31 | 0.463c |
| | Others | 77 | 12 | |
| Going to discotheques | No | 200 | 20 | <0.001c |
| | Yes | 29 | 23 | |
| Taking alcohol | No | 224 | 36 | 0.001f |
| | Yes | 5 | 7 | |
| Sex | Male | 108 | 20 | 0.938c |
| | Female | 121 | 23 | |
| Employed | No | 222 | 43 | - |
| | Yes | 7 | 0 | |

**4.7: Multivariate analysis. Factors associated with sexual behaviour**

After controlling for other variables, going to discotheques remained significantly associated with sexual behavior. The odds of having sex increased by 4.7 folds among those going to discotheques compared to those who didn't go.

**Table 9: Multivariate analysis. Factors associated with sexual behaviour**

| | | Ever had sex | | |
|---|---|---|---|---|
| **Variable** | **Category** | **AOR** | **p-value** | **95% CI** |
| Poverty | No | 1 | | |
| | Yes | 0.597 | 0.504 | 0.132 – 2.706 |
| Going to discotheques | No | 1 | | |
| | Yes | 4.786 | 0.003 | 1.680 – 13.630 |
| Taking alcohol | No | 1 | | |
| | Yes | 2.849 | 0.239 | 0.499 – 16.267 |

**4.8. Results From Focused Group Discussions.**

**4.8.1 Theme 1: Sources of Reproductive Health information.**

Adolescents obtained information on sexual reproductive health from teachers at school, their mothers, siblings, books, television and posters at Rafiki adolescent clinic.

School

One respondent said, *"We usually have meetings in school where our teachers talk to us about good behavior, not to engage in sex while in school as it will interfere with our studies."(*FGD 1, 18 year old female)

*"School is the most useful because the teachers keep telling us during our meetings. They tell us to avoid sex while in school because we may make someone pregnant and to avoid playing with girls and concentrate on our studies*."(FGD 3, 17 year old male)

Parents

*"my mother tells me about menses and not to engage in sexual intercourse."*(FGD2, 16 year old female).

Siblings

*"My sister is the most useful because she is older than me and tells me what I should do to avoid getting STIs. We are very close and she teaches me a lot about responsible behavior"*. (FGD 2, 19 year old female).

### 4.8.2 Theme 2: Sexual behaviour of ALHIV.

**Adolescents' perception of the right time to engage in sexual intercourse.**

The general feeling of most adolescents is that one can delay sexual behavior but some feel any time is right to engage in sexual behavior. Some adolescents think the right time to engage in sexual intercourse is after twenty five years of age when one has completed school and is ready for marriage. One respondent said, *"You can have a boyfriend/girlfriend anytime but the right age to have sex is twenty five years. This is because at 25 you are ready to get married and that is the right age to have sex."*(FGD2, 15 year old female)

Some feel eighteen years is the right time to engage in sexual intercourse. As one adolescent pointed out saying, *"It is okay to have a boyfriend or girlfriend earlier but to engage in sex it is better at 18 years. We have students in our school who have children so it is okay at 18."(FGD 2,17 year old female) Sixteen years was pointed out by some adolescents as one responded, "It is okay to have sex at 16 because it makes me happy with my boyfriend."* (FGD2,18 year old female) Most male respondents feel you can have sexual intercourse but one should be careful not to make his girlfriend pregnant. One said, *"Yes having a girl friend is okay. After all I*

*have friends who have children and are in school. Though it is better not to make her pregnant but you can have fun."(*FGD 3, 17 year old male)

**Factors influencing sexual behaviour**

Spending time with romantic partner

Adolescents engage in activities such as swimming, travelling or walking when alone with their partners. Some feel one should not spend time alone with their partner at all because it can make one engage in sexual behavior leading to pregnancy.

One male respondent answered, *"Share happy moments like swimming, walking around, going for trips.*"(FGD 3 17 year old male*)*

While a female responded*, "It is not good to be alone with your partner at this age as it can bring problems if you engage in sexual activities. My friend who got pregnant, delayed school for one year in class seven. She use to spend time with her lover alone."*(FGD1, 16 year old female)

Idleness

Idleness influenced the sexual behaviour of ALHIV as it makes them engage in sexual activities.

"*Kupiga maroundi kwa mtaa"(roaming around in the estate.)" when roaming around you find you are really idle and you need something to do. If nothing comes up then having sex is possible."(FGD 3, 18 year old Male)*

Discotheques.

Visiting discos effect on SRH behaviour.

*"When you dance in the disco you find yourself really happy and sometimes makes you look for somebody. It can lead to sleeping with that person if you are just the two of you alone". (FGD 3, 18 year old male)*

Perception of effect of Drug Abuse on SRH behaviour

Adolescents know different drugs of abuse for example alcohol, marijuana (bhanq), cigarettes, cocaine. They agree that drugs have an impact on their SRH, by impairing judgement, making one have sexual urge leading to rape and drugs can make one commit suicide. Some of the responses include; one who said*, "yes it can affect because 'unajisahau'(judgement is impaired.) cocaine makes you have sexual urge". (FGD 1, 19 years female)* Another responded*, "Yes. Bhanq makes you crazy about girls." (FGD 1, 18 years male).* And *"Yes drugs like drinking alcohol can make you do things that are not needed like raping."(FGD1, 16 years male).*

Effect of Family Background on SRH behaviour

Adolescents have varied views on how the type of family one comes from can affect SRH. Some think the family one comes from has no effect on SRH and others feel coming from a single parent family affects their SRH negatively and positively. One adolescent responded, *"the family I come from has no effect on my SRH. The feelings happen to everyone irrespective of where you come from." (FGD 2, 15 years female)* Another said, *"It depends. I am from a single family and living with mother alone so she allows me to use contraceptives because she understands. A single father will not accept contraceptives in most cases."(FGD2, 16 years female).*

Impact of physical development on SRH behaviour

Most adolescents feel biologic changes has an effect on SRH in that there is a change emotionally and physically in their bodies. There are feelings of excitement and interaction with the opposite sex is different. One respondent said*, "the biologic changes has an effect on SRH in that when you see the changes in your body you now start playing different games; even walking is different; you feel you have arrived; can also affect your sexual behavior". (FGD2, female)* Others feel the biologic changes have no effect on SRH as one said, *"biologic changes are stages everyone has to pass through and has no effect on SRH". (FGD 2, 17 years female)*

### 4.8.3 Theme 3: Adolescent Knowledge on contraception .

**Contraception methods.**

Majority of adolescents know different methods of contraception. Some of the methods mentioned include abstinence, avoiding lovers, being principled, use of condoms, and use of contraception. One respondent said, *"avoid lovers can't die if you don't have one*."(FGD1, 18 year old female*)*Another respondent said,*, "use ABC approach- abstain, be faithful to one faithful partner or C use family planning*.(FGD 2, 16 year old female) Another one said, *"Use family planning. I think there are many like oral pills, injectables and the one put under the arm."*(FGD 3,19 year old female)

**Myths about contraception**

However, some felt that family planning methods are not suitable for adolescents to use and that contraceptives are for girls only. One adolescent said, *"I think family planning is for girls only because she is the one who will get pregnant*."(FGD3, 16 year old male) Contrary to this, some think that contraceptives are for both gender but do not know the type of contraception males can use. *As one put it, "family planning*

*should involve both boys and girls though I do not know what boys can use."*(FGD 3, 18 year old female)

Some of the myths adolescents have about contraceptives include; contraceptives can lead to barrenness, can stop your menses, can lead to miscarriages and can block the fallopian tubes. One female respondent said, *"I have a neighbor who has had many miscarriages and has no children and my mother told me that she used injectables when she was young and that has affected her womb and now she has many miscarriages. So I think contraception are not good."*(FGD 1, 17 year old female)

**4.8.4 Theme 4. Adolescent's Knowledge on Sexual Abuse.**

Most adolescents do not understand what sexual abuse means. A minority understand sexual abuse as being forced to have sexual intercourse or someone touching part of your body without consent. One adolescent shared their experience and reported*, "I was being carried by a bodaboda (motorcycle) and he started asking me to have sex with him. I refused and when I reached my home he sped and passed it. I had to jump off when it slowed down a little. I did not report to anyone."*(FGD1, 15 year old female) Some have heard about rape but not sexual abuse. Some of the responses given include definition of sex abuse as bestiality, fornication and prostitution. One adolescent said, *"I have ever heard of rape but not sexual abuse. I know in case you are raped you should go to hospital.*"(FGD 3, 17 year old male)

Adolescents understand what a person can do to get help when raped. *One respondent replied, "You should report to guardian, police and health officer."*(FGD1,16 year old male )

### 4.8.5 Theme 5: Adolescent’s Reproductive Intentions.

**Romantic relationships intentions.**

Most adolescents have intentions of being in a romantic relationship. Some feel the right time to be in a romantic relationship is after completion of school while some think one should get into a relationship when ready for marriage. A few feel fourteen years is the right time to be in a romantic relationship.

“*After I finish school. If I get a girlfriend now I will not be able to concentrate in my school work as I will be thinking about her all the time.”(FGD1, 16 year old male)*

*Another added, “It is okay to have a girlfriend/ boyfriend but it is wrong to have a lover”. (FGD 1, 15 year old female).*

Another added*, “Boyfriend is a boy who helps you. For example can show you mathematics. A lover will destroy you, and has consequences because you think about him,mmmh. Above 14 years is right time to have a lover. Boyfriend anytime.”(FGD 1, 16 year old female)*

**Reproductive intentions.**

Many adolescents would like to have children in future. Most of them would like between two to three children. The number of children adolescents would like to have ranges from none to a maximum of twelve. One respondent said*, “I want two. I fear the economy is hard and I may not take care of them well if I have less money.”(*FGD 3,19 year old male) A few would not like any children in future and one of the reason sited was fear of spreading HIV to the infant*. One female respondent said. “I want none because of fear of HIV.”*(FGD 2, 15 year old female) Another reasons given for

no children in future was that some adolescents do not want to think about the future now.

**Adolescent perception of PMTCT.**

Adolescents have enough knowledge on prevention of mother to child transmission (PMTCT) of HIV. Some of the methods mentioned include, adherence to medication, giving birth in hospital, attending ANC, exclusive breastfeeding and screening blood before transfusion. One respondent said, *"Attending antenatal clinic early and breastfeeding only and avoid other foods for six months."*(FGD 3,16 year old male )

# CHAPTER FIVE

## 5.0 DISCUSSION

### 5.1 Sexual and Reproductive Health Behaviors of Adolescents Living With HIV.

Adolescence is an exploratory phase of life where romantic relationships are developed. These relationships may start in early adolescence but are majorly an experience of the older adolescents. Some of these relationships result in future marriage and or sexual experience and or pregnancy and parenthood. The adolescents living with HIV (ALHIV) may experience difficulties with this, especially those with perinatal HIV acquisition as was the major population in our study. We found that one third of the study population had ever experienced a romantic relationship and that a fifth had ever engaged in sex. This demonstrates that ALHIV aspire to lead normal lives, including engaging in dating and relationships. Galano et al in a qualitative study among ALHIV in Brazil found similar findings although he qualified that this feeling 'normal' was dependent on the secrecy of their HIV status (Galano et al., 2016). A mixed method study in Zambia by Ndongmo among ALHIV aged 15-19 carried out in a tertiary hospital found dating rates that were similar to our study at forty percent.(Ndongmo et al., 2017). In contrast, in a study by Birungi et al among ALHIV ages fifteen to nineteen, sixty six percent of the ALHIV had ever been in a romantic relationship (Birungi et al., 2011). It is likely that the difference in our findings from the Birungi study is because of the difference in the schooling between the two populations. In Birungi study, majority of the adolescents were out of school due to lack of fees and materials for schooling. Schooling has been found to be protective from adolescent engagement in early romantic relationship.(Mmari & Sabherwal, 2013)

Majority of our study population did not feel that their HIV status was an impediment to their future romantic relationships, signifying the success of support with self-acceptance and resilience. At the point of the study, the clinic had regular small group and large group activities where these issues were discussed, majority being led by peer mentors who had been trained and who had themselves had some dating experience.

Initiating sex before the age of fifteen years (early sexual debut) increases the prospect for multiple sex partnering. (Folayan, Harrison, Odetoyinbo, & Brown, 2014). Our study found a mean sexual debut of fifteen point six years, and an overall sexual experience rate of twenty percent. This is close to the sexual experience of general adolescent population in Kenya, where one in five (1:5) adolescents had experienced sexual intercourse before fifteen years, further demonstrating the 'normalcy 'of this population with regard to sexual experiences.(Demographic, 2014) Our findings of early sexual debut were similar to studies in Uganda and Zimbabwe among ALHIV.(Mbalinda, Kiwanuka, Eriksson, Wanyenze, & Kaye, 2015) (Sandy, Vhembo, & Molotsi, 2019). Our findings were lower than rates of sexual intercourse in Tassiopoulus et al study where 42% were sexually active and 62% had unprotected sex despite knowledge of their status due to differences in cultural backgrounds of study participants. (Tassiopoulos et al., 2013). The average age of sexual debut of this population implies that discussions on safe sex and prevention with positives should start before fifteen years, in order to prevent spread of HIV to sexual partners and prevent unwanted pregnancies in this population as the rate of MTCT of HIV is high among ALHIV.(Response, 2018)

We found fairly impressive rates of condom use at 43% likely due to the intense condom campaign at Rafiki center. Our findings were similar to a study by Okawa et

al where 44.4% used condoms during the first sexual intercourse (Okawa et al., 2018). This is due to the similar age group of study participants as ours. Our findings were higher than KDHS 2014 where condom use among girls and boys 15-19 was at 26% and 32% respectively because of programs targeting adolescents who are sexually active encouraging condom use. (Demographic, 2014) Our findings were lower than the 62% condom use noted among similar adolescents' population in Zambia. (Ndongmo et al., 2017). Our study did not however explore the consistency and proper use of the condoms. The ALHIV must be supported to participate in prevention with positive measures as they pose a risk of being major drivers of new HIV infections among their age sets. In our study, majority of the sexual partners were of the same age group or just slightly older (for the girls).Besides condom use, the rate of modern family planning (FP) methods was very low in this study population. Some of the reasons cited for not using FP were; schooling, lack of information about FP and fear of using FP. This finding may be due to the fact that FP services were relatively new at this clinic, and because there were still many gray arrears to FP service provision among adolescents in Kenya. At the time of the study the reproductive health bill required that parents' consent for FP among adolescents, and many health care workers and the adolescents themselves shield off the subject due to cultural barriers.(Republic of Kenya, 2019)

We found low rates (46.2%) of disclosure of HIV status to partners (including sexual partners). Our study population largely acquired HIV perinataly, and had to be disclosed to their HIV status. The main reason for not sharing their HIV status was that they felt not ready to do so while some were afraid of losing their partners. Lack of disclosure of HIV status to a partner (sexual or not) can result in discomfort, stress, depression and end of relationships. (Response, 2018) It therefore needs careful

consideration and skill. The Kenya HIV bill requires that a person living with HIV must disclose their status to a sexual partner, failure to which the person shall be liable to a fine not exceeding 500,000 or to imprisonment for a term not exceeding seven years, or to both. (Rombo & Njue, 2012) Disclosure to sexual partner is also a key component of prevention with positives. (Di Risio, Ballantyne, Read, & Bendayan, 2011). Within the AMPATH program, as was the case in many low and middle income countries (LMIC), disclosure of HIV status to children often delayed way into adolescence. In a study in Kenya by Vreeman et al, only 33% of 10- to 11-year olds and 56% of 13- to 14-year olds reported knowing their HIV status (Vreeman et al., 2014) These adolescents then have to deal with knowing and accepting their own HIV status, while at the same time having to disclose their status to their partners. Toska et al in South Africa (35%) and Mbalinda in Uganda (43.5%) found about the same rates of disclosure to sexual partners. Similar to our study, Toska et al reported that the adolescents feared rejection, stigma and public exposure(Mbalinda et al., 2015) (Toska, 2017). In contrast Sandy et al in Zimbabwe among ALHIV, found that disclosure rate to romantic partners was 24% due to difference in cultural backgrounds with our study participants.(Sandy, Vhembo, & Molotsi, 2019) For the adolescent population, disclosure to romantic partner is not usually done because of the exploratory nature of their relationships, most of which do not last long enough to create an atmospheres that is supporting of disclosure. Yet, these relationships often end up in sexual exposure. It therefore creates a situation where condom use, and use of pre exposure prophylaxis (PrEP) should be supported for those not living with HIV.

Not all the adolescents who ever had sex in this population had consented or assented to the sex as a tenth of ALHIV (68% girls) had been sexually abused. Exposure to

child sexual abuse increases the likelihood of high-risk behaviors including substance abuse, low self-esteem, having multiple sexual partners, and engaging in unprotected sexual intercourse.(Richter et al., 2014) our findings are lower than in the general population as the prevalence of sexual violence among adolescents ranges between fifteen to forty percent in sub-Saharan Africa.(Folayan et al., 2014), while in Kenya thirty two percent of girls and eighteen percent of boys experienced sexual violence before eighteen years of age.(Omolo, 2014). Sexual abuse rates were lower than in a study by Birungi where fifteen percent of respondents reported sexual abuse.(Birungi et al., 2011). Our rates of sexual abuse were lower because from FGDs ALHIV do not understand what sexual abuse entails but have ever heard of rape therefore only those who had experienced penetrative sexual violence reported sexual abuse while the rest who may have experienced other forms of sexual violence, answered no to the question. However, ALHIV know that when somebody is sexually abused they should report to a guardian, hospital and police. This shows that adolescents have been victims of sexual abuse but reporting of these incidences is low, therefore there is need for sensitization of sexual abuse among this population

### 5.2 Adolescent reproductive Health Intentions.

ALHIV are interested in romantic relationships which is a normal developmental milestone in late adolescents. A majority of adolescents in our study have no preference of the HIV status of a romantic partner in future. This is because of awareness and availability of PrEP and condoms that ensures adolescents lead a normal reproductive life and can have romantic relationships without fear of transmitting HIV to the partner. This was in contrast to findings in a qualitative study in India where all the adolescents of similar age group as ours expressed desire to

have romantic relationship with the non-infected HIV peers.(Vranda, Subbakrishna, Ramakrishna, & Veena, 2018) .This could be because of difference in cultural background of study participants. Also in contrast to a study by Birungi where 34% preferred an HIV-positive partner (Birungi et al., 2011), because of efforts by programs to reduce HIV stigma and availability of ART that increases the life expectancy of ALHIV.

With the increased life expectancy of HIV-infected persons in the era of ART, studies have shown that ALHIV have childbearing intentions. We found that majority of ALHIV wish to have children in future. Most of them would like two children. Though this expectation may change as the adolescent matures into adulthood and begins to comprehend life differently. This is similar to a studies by Okawa et al and Adler where a majority of ALHIV desired to have children respectively.(Okawa et al., 2018),(Adler et al., 2017) This is attributed to similar study settings as ours. This was higher than a study in Zambia by Ndongmo et al where 68.9 % of ALHIV expressed intention to have children (Ndongmo, Ndongmo, & Michelo, 2017); due to different cultural backgrounds of study participants. From FGDs, adolescents are afraid of HIV and hard economic times. ALHIV understood the various methods of PMTCT which included attending ANC, exclusive breastfeeding and use of ARV’s. This shows that ALHIV have reproductive intentions though some of them are afraid of spreading HIV to their offspring and this may affect their reproductive intentions in future.

## 5.3 Factors Influencing Adolescent Sexual and Reproductive Health.

### 5.3.1 Healthcare workers, school and parents.

Healthcare workers, school and parents were reported by adolescents to be sources of information that has an impact on their SRH. Teachers and parents encourage adolescents not to engage in sexual intercourse. Healthcare workers at Rafiki talk about SRH to adolescents when they come for regular follow-up and during support groups. Similar to a study in Tanzania where communication with teachers about HIV and sex was associated with delayed sexual initiation among adolescents ..(Wamoyi & Wight, 2014). Also similar to a study by Okawa in Zambia which concluded that ALHIV prefer to talk to their friends, mothers, and health care workers.(Okawa et al., 2018)In contrast, a qualitative study in India concluded that ALHIV discuss with their friends and peers only issues concerning SRH, due to different study methodology.(Vranda, Subbakrishna, Ramakrishna, & Veena, 2018). This emphasizes the fact that teachers, parents and health care workers have a significant role to play in shaping the SRH of adolescents.

### 5.3.2 Going to discotheques

Adolescents attend discotheques during their free time. Adolescents have casual sex on these occasions, sometimes with multiple partners, and mostly without condoms. Some girls are forced into sex, others have sex in exchange for money. In our study, going to discotheques was associated with having sexual intercourse (p= 0.001). This is comparable to a study done in Sri Lanka among undergraduate students in a university whereby those who attended night clubs (AOR = 3.58, 95% CI: 1.29–9.88 ) were more likely to engage in risky sexual behaviours (Amaranganie, Perera, & Abeysena, 2018) The similarity is attributed to similar age group as ours. In contrast a

study done in Ethiopia among youths ages 18-24 found no association between attending night clubs and risky sexual behaviours .This is attributed to involvement of an older population than ours who are involved in less risk taking behaviour.(Al, 2018) ALHIV are at risk of early sexual debut and exposure to multiple partners when they go to discotheques, therefore they should be encouraged to seek alternative activities during their free time.

### 5.3.3 Drug abuse

Drugs use may form a niche for impulsivity and aggravated risk taking such as intimate partner violence, rape, and unprotected sex(Chakravarthy, Shah, & Lotfipour, 2013) Adolescents agree that drugs have an impact on their SRH, by impairing judgement, making one have sexual urge that can lead to rape. Adolescents are particularly vulnerable to the negative effects of drug use on sexual decision-making, with particularly limited skills in being able to negotiate correct condom use while under the influence.) segniThis is comparable to studies in Nigeria and USA among adolescents where substance abuse was identified as a clear influence for risky sexual behaviors like engaging in condomless sex. (Bukar et al., 2016)(Gamarel et al., 2016)Another study in Uganda concluded that being in school, not drinking alcohol, not smoking and not having a friend who drinks or smokes decreased the risk of ever having had sex. (Mbalinda et al., 2015). .Programs should encourage adolescents to avoid alcohol and drug abuse in order to negotiate sexual reproductive health safely.

# CHAPTER SIX

## 6.0 CONCLUSION AND RECOMMENDATION

### 6.1 Study Limitation

We were not able to offer them the privacy of filling the questionnaire on their own as we used interviewer administered questionnaire. This may have affected the data collected especially concerning sexual behavior as some may withhold some information. This study did not explore the consistency of condom use among ALHIV who were sexually active.

### 6.2 Conclusion

ALHIV are engaging in risky sexual inter-course but most of them are not disclosing their HIV status to their romantic partners.

ALHIV have high reproductive intentions as most of them would like to have romantic relationships and children in future.

The factors that influence sexual behavior of adolescents included: going to discotheques (p= 0.001), alcohol intake (p=0.001). From the Focused group discussions adolescents reported that idleness, biological changes on their bodies, drug abuse and alcohol influenced sexual behavior negatively while going to school and family structure influenced sexual behavior positively. Fear of HIV spread to their children and hard economic times influenced the reproductive intentions.

ALHIV would like to have more support groups to discuss SRH issues.

### 6.3 Recommendations

SRH education addressing risky sexual behaviors and methods of prevention of mother to child transmission of HIV to be introduced early among ALHIV.

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# APPENDICES

## Appendix I: Questionnaire

**TOPIC: SEXUAL AND REPRODUCTIVE HEALTH OF ALHIV AT MTRH ELDORET KENYA.**

Serial number………………………………………….
Date……………./………../……… (dd/mm/year)
Administered by……………………………… (Interviewer's name).
**1.** Demographic characteristics; tick the right one.

| INDICATOR | DESCRIPTION | |
|---|---|---|
| (a)Gender | ( ) Male | ( ) Female |
| (b)Age | ………… years | |
| (c)Year of birth | ………… | |
| (e)Level of education | 01.None<br>02.Primary | 03.secondary school<br>04. College/university |
| (f)Are you currently in school? (if in school go to l) | 01. Yes<br>02.No | |
| (g)If not in school what is the reason you stopped schooling? | 01. Lack of fees<br>02. expelled<br>03. poor performance | 04. Too sick<br>05. Bored<br>06. Other-specify |
| (i)Are you currently employed | 01.yes<br>02. no | |
| (j)If employed how can you describe your job? | 01.N/A (in school)<br>02.Casual<br>03.Formal (specify) | |
| (k)If employed Earnings per week in KSH. | ………..Ksh | |
| (l)How many meals do you eat in a day | 01. Once 02. Twice 03. Three times<br>04. More than three times | |

| | |
|---|---|
| (m)How often do you miss meals due to lack of money? | 01.Daily 02. Weekly 03. Never. |
| (n) Are your parents alive? | 01.Both alive |
| (if both deceased go to No. 2) | 02.Father deceased |
| | 03.Mother deceased |
| | 04.Both deceased |
| (o) If father alive what is his marital status? | 01.Monogamous living with my mother |
| | 02.Monogamous living with other woman (not my mother) |
| | 03.Polygamous |
| | 04.Widower |
| (p)What is the level of education of your father(if alive)? | 01.none 02. Primary 03. Secondary 04. College/university. |
| (q) what is the level of education of your mother (if alive)? | 01. none 02. Primary 03.secondary |
| | 04. College/ university. |

2. Social characteristics; tick the right one

| INDICATOR | DESCRIPTION | |
|---|---|---|
| (a)Whom do you live with now? | 01. Both parents | 06. With a relative |
| | 02. Father | 07. institution |
| | 03. Mother | 08. guardian |
| | 04. Alone | 09.Spouse/boy/girlfriend |
| | 05. With siblings | |
| (b)Have you ever been in a relationship/ dating? (If no go to l) | 01.Yes 02.No | |
| (c). If yes How many girl / boy friends (intimate relationship) have you had? | Number ………. | |
| (d). Do you have a special partner (boyfriend/girlfriend) right now? | 01. yes 02. No | |
| (e).How old is your special partner right now? | ……………. | Years (even approximate) |
| (f)What is the HIV status of your partner | 01.Neg 02.Pos 03. Don't Know | |
| g) how long have you been dating/married to your current partner? | 01.Less than 1 month<br>02.1month -6months<br>03. six months-one year<br>04.More than one year. | |
| h) do you date someone else while dating your current partner? | 01. yes 02. No | |
| i) how can you describe the current relationship? | 01. casual<br>02. Serious<br>03. Important may lead to marriage<br>04. Engaged to be married<br>05. Married | |
| (j)Have you told your special partner about your HIV status | 01.Yes 02.No | |

| | |
|---|---|
| (k)If no why? | ………………………. |
| (l)If not in a relationship is it because of your HIV status? | 01.Yes 02.No |
| (m)If not in a relationship do you wish/intend to be in a serious relationship? | 01.Yes 02.No |
| (n)Do have preference to the HIV status of a special partner | 01.Yes HIV neg 02.Yes HIV pos<br>03.I don't have a preference |
| (o)Have you ever been a rejected from a relationship because of your HIV status? | 01.Yes<br>02.No |
| (p) Do you go to clubs/parties where young people dance? | 01. yes<br>02.No |
| (q) do you drink alcohol? | 01. yes 02. No |
| (r) do you smoke cigarettes? | 01. Yes 02.No |
| (s) do you use other drugs that make one high? | 01. yes 02. no |
| (t) if yes to s above specify the drug. | ………………… |

3.Sexual Behaviour and intentions

| Indicator | Description |
|---|---|
| (a) have you ever had sex? (If no go to m) | 01. Yes<br>02. No |
| (b) how old were you when you had your first sexual intercourse? | Specify age…….. |
| (c) Think back to the first time you had sexual intercourse? Would you say; | 01. I forced my partner against his/her will.<br>02. I persuaded my partner to have intercourse<br>03. my partner persuaded me to have intercourse<br>04. my partner forced me to have intercourse<br>05. we were both equally willing. |
| (d) the first time you had sexual intercourse it was? | 01.planned<br>02.unexpected |
| (e)Are you currently sexually active? | 01.Yes 02. No |
| (f)If yes How many sexual partners are you currently having? | ……………. |
| (g)If sexually active does your sexual partner know your HIV status? | 01.Yes<br>02.Yes all of them (if more than 1)<br>03. Yes some of them (if more than 1)<br>04.No |
| (h)If yes Do you know the HIV status of your sexual partner (s)? | 01.Yes<br>02.Yes all of them (if more than 1)<br>03.Yes some of them (if more than 1)<br>04.No |
| (i)If yes Do you have any fears about having sex due to your HIV status? | 01.Yes 02.No |

| | |
|---|---|
| (j)If having fears explain | |
| (k)If yes Does your HIV status affect how your sexual satisfaction? | 01. Yes 03. No |
| (l)If it affects your satisfaction explain | |
| (m)If not sexually active, is it because of your HIV status? | 01. yes<br>02. no |

4.Reproductive behavior and intentions

Females

| Indicator | Description |
|---|---|
| (a)Have you ever been pregnant? (if no go to d) | 01.Yes Number of pregnancies……<br>02.No |
| (b)If yes Have you ever delivered? | 01.Yes Number of deliveries…… 02.No |
| (c)If ever delivered How many children do you currently have | ………. |
| (d)If never been pregnant, do you intend/wish to have children in the future (if no go to f) | 01.Yes<br>02.No |
| (e)How many children do you wish to have? | ……. |
| (f) If does not intend/ wish to have children, why? | |
| (g)Do you have fears of having an HIV infected child? (if not sexually active go to no 5) | 01.yes<br>02.no |
| (h)If sexually active are you currently on a modern family planning method? | 01.yes<br>02.no |
| (i)If yes, which one? | 01.OCPs 02. IUCD<br>03.3 monthly injection 04. Condoms |
| (j)If no, why? | |

Boys

| INDICATOR | DESCRIPTION |
| --- | --- |
| (a)Has your partner ever been pregnant? (if no go to d) | 01.Yes Number of pregnancies…… 02.No |
| (b)If yes Has your partner ever delivered? | 01.Yes Number of deliveries…… 02.No |
| (c)If partner ever delivered, how many children do you currently have? | ………. |
| (d)If never been pregnant, do you intend/wish to have children in the future? | 01.Yes 02.No |
| (e)How many children do you wish to have? | ……. |
| (f) If does not intend/ wish to have children, why? | |
| (g)Do you have fears of having an HIV infected child? | 01.yes 02.no |
| (h)If sexually active is your partner currently on a modern family planning method?(if not sexually active go to number 5) | 01.yes 02.no |
| (i)If yes, which one? | 01.OCPs 02. IUCD 03.injection 3 months 04. Condoms |
| (j)If no, why? | |

## 5.SEXUAL ABUSE

| | |
|---|---|
| (a) Some young people are forced to have sexual intercourse against their will by a stranger, a relative or an older person. Has this ever happened to you? (if no go to d) | 01. yes 02. No |
| (b) How many different strangers, relatives or older perons have forced you to have sex against your will? | 01.1<br>02.2<br>03. 3 and more |
| (c) Did you or the sexual partner do anything to avoid a pregnancy on these occasions? | 01. yes<br>02.no |
| (d) Did you do anything to avoid re-infection with another strain of HIV? | 01. yes I used a………<br>02. No |
| (d) Has a stranger, relative or older person touched you on the breast or some other part of the body against your will? | 01. yes<br>02. No |
| (e) Has anybody given you money or gifts in exchange for sexual intercourse? | 01.yes<br>02.no |
| (f) Have you ever paid or given money to someone else in exchange for sexual intercourse? | 01.yes<br>02.no |

6. STI (only those sexually active)

| INDICATORS | DESCRIPTION |
| --- | --- |
| (a)have you experienced the following symptoms? | |
| Pain during urination | |
| Lower abdominal pain | 01. yes 02.No |
| Abnormal discharge from penis/ vagina | 01. YES 02.no |
| Pain during sexual intercourse in woman | 01. YES 02.NO |
| Bleeding between periods | 01. yes 02.no |
| Testicular pain | 01. yes 02.no |
| Anal itching | 01. yes 02.no |
| Pain on passing stool | 01. yes 02.no |
| | 01. Yes 02. No |
| b) have you been treated due to any of above symptoms and confirmed was due to an STI? | 01.Yes<br>02.no |
| c) what do you do to prevent an STI when having sexual intercourse? | i) Condom use,<br>ii) one partner,<br>iii) abstinence,<br>iv) none |

7. Source of Information on SRH ( sexual reproductive health)

| | |
| --- | --- |
| a) where do you get information about SRH from?<br>(tick more than one) | 01.School teacher<br>02. Mother<br>03. Father<br>04. Brother<br>05. Sister<br>06. Other family members |

| | |
|---|---|
| | 07. Friends<br>08 Health Care Workers<br>09Books<br>10magazines<br>11 Films/Videos<br>12Other (Specify……………) |
| b) Most Important (tick one) | 01 02 03 04 05 06 07 08 09 10 11 12………..…. |
| c)Second most important (tick one) | 01 02 03 04 05 06 07 08 09 10 11 12 … |
| d)Preferred (tick one) | 01 02 03 04 05 06 07 08 09 10 11 12………..…. ………….. |
| e)which source of information on SRH do you regard as reliable? (tick one) | 01 02 03 04 05 06 07 08 09 10 11 12………..…. ………….. |
| f) during discussion in your support groups, have you discussed about SRH? | 01. yes<br>02. No |
| g)do you think there should be more discussions on this topic | 01. yes<br>02. no |

**Appendix II: Fomu Ya Maswali (Dodoso**

KICHWA CHA UTAFITI: Mahitaji ya Afya ya Ngono na uzazi kati ya vijana wanaoishi na Virusi Vya Ukimwi wanaoenda katika kliniki ya Vijana katika hospitali kuu ya Moi Teaching and Referral.

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

1. Data ya washiriki

| INDICATOR | DESCRIPTION | |
|---|---|---|
| (a)Jinsia | ( ) mvulana | ( ) msichana |
| (b)miaka | miaka………… | |
| (c)Mwaka wa kuzaliwa | ………… | |
| (e)kiwango cha elimu | 01.hakuna<br>02.msingi | 03.sekondari<br>04. Chuo kikuu |
| (f) Je, kwa wakati huu unasoma shuleni? | 01. Ndio<br>02. la | |
| (g)If not in school what is the reason you stopped schooling? Kwa nini uliwacha kusoma shuleni? | 01. kukosa karo<br>02. nilifukuzwa<br>03. sikupita mtihani | 04. mgonjwa sana<br>05. nilichoka<br>06. Kingine………. |
| (i) je, kwa wakati huu umeajiriwa? | 01. Ndio<br>02. la | |
| (j)Kama umeajiriwa, kazi yako ni ya aina gani? | 01.N/A niko shule<br>02. kazi ya kawaida<br>03.kazi rasmi (andika jina)…….. | |
| (k)Kama umeajiriwa unapata shilingi ngapi kwa wiki? | ………..Ksh | |
| (l) Je, kwenu mnakula chakula mara ngapi kwa siku? | 01.Mara moja 02.mara mbili 03. Mara tatu<br>04.zaidi ya mara tatu | |
| (m)Je,ni mara ngapi mnakosa chakula kwenu kwa sababu ya kukosa pesa? | 01.kila siku 02. Mara moja kwa wiki<br>03. hatujawahi kosa chakula | |
| (n) Je,wazazi wako wako hai? | 01.wote wako hai<br>02.baba aliaga<br>03.Mama aliaga | |
| (o) kama baba ni hai, ana mke mmoja ama wengi? | 01.Mke mmoja ambaye ni mamangu<br>02.mke mmoja ambaye sio mamangu<br>03. ana wake wengi | |
| (p)Je, babako amesoma hadi kiwango gani? | 01.hajasoma 02. Msingi 03.shule ya upili<br>04. Chuo kikuu. | |
| (q) Mama yako amesoma hadi kiwango gani? | 01. hajasoma 02. msingi 03.shule ya upili<br>04. chuo kikuu | |

2. Sifa ya kijamii ya washiriki

| KIASHIRIA | MAELEZO |
|---|---|
| (a) unaishi na nani sasa hivi? | 01. wazazi wote wawili 06. Na mtu wa ukoo<br>02.na baba 07. Kwa chumba watoto<br>03. na mama 08. Aliyejitolea kukaa<br>04. pekee yangu 09. Bibi/bwana<br>05. na ndugu zangu<br>06. na mtu wa ukoo<br>07. kwa chumba cha watoto yatima<br>08. kwa wazazi wa kambo<br>09. kwa bibi/bwana |
| (b) umewahi kuwa na rafiki wa kimapenzi? | 01.ndio 02.la |
| (c)kama ndio, umewahi kuwa na marafiki wa kimapenzi wangapi? | nambari ………. |
| (d) una rafiki wa kimapenzi kwa wakati huu? | 01. ndio 02. La |
| (e)rafiki wako wa kimapenzi ana umri upi? | miaka ……………. |
| (f)unajua hali ya Ukimwi ya rafiki wako wa kimapenzi? | 01. hana Ukimwi 02. Ana ukimwi<br>03. sijui |
| (g) Umekuwa na uhusiano na rafiki wako wa kimapenzi kwa muda upi? | 01. chini ya mwezi moja<br>02. kati ya mwezi na miezi sita<br>03.kati ya miezi sita hadi mwaka<br>04. Zaidi ya mwaka |
| h) Una uhusiano wa kimapenzi na watu Zaidi ya moja? | 01. ndio 02. La |
| (i) Uhusiano wako wa kimapenzi u hali gani? | 01. sio muhimu<br>02. muhimu<br>03.muhimu tunaweza oana<br>04.karibu tuoane<br>05. tumeoana |
| (j)Umemweleza rafiki wako wa mapenzi kuhusu hali yako ya Ukimwi? | 01. ndio 02.la |

| | |
|---|---|
| (k) kama hapana kwa nini? | |
| (l)Hali yako ya mapenzi inakuzuia usiwe na rafiki wa kimapenzi? | 01.ndio 02.la |
| (m) Ungependa kuwa na rafiki wa kimapenzi hapo usoni? | 01.ndio 02.la |
| (n) Je, una upendeleo kwa hali ya Ukimwi ya mpenzi wako? | 01.ndio asiwe na Ukimwi<br>02.ndio awe na ukimwi<br>03. sina upendeleo |
| (o)umewahi kataliwa kwa sababu ya hali yako ya Ukimwi? | 01.Ndio<br>02.la |
| (p) Je, unaenda kwa vilabu/ vyama ambapo vijana hucheza densi? | 01.Ndio<br>02.la |
| (q)Je, unakunywa pombe? | 01. Ndio 02. La |
| (r) Je, unavuta sigara? | 01. Ndio 02.la |
| (s)je, unatumia dawa zingine za kulevya? | 01. ndio 02. la |
| (t) kama ndio, dawa gani? | ………………… |

3. tabia na nia ya ngono

| Kiashiria | Maelezo |
|---|---|
| (a) je, umewahi kufanya ngono? | 01. Ndio 02. La |
| (b) Ulikuwa na umri upi ulipofanya ngono mara ya kwanza? | miaka…….. |
| (c) wakati ulipofanya ngono mara ya kwanza, ungesema.. | 01. Nilimlazimisha mpenzi wangu dhidi ya mapenzi yake.<br>02. Nilimshawishi mpenzi wangu kufanya ngono.<br>03. mpenzi wangu alinisawishi kufanya ngono.<br>04. mpenzi wangu alinizalimisha kufanya ngono<br>05. sisi wote tulikuwa tayari. |
| (d)wakati ulipofanya ngono mara ya kwanza | 01. tuliipangia<br>02.haikutarajiwa |
| (e) Kwa wakati huu unafanya ngono? | 01.Ndio 02.la |
| (f) Je , una fanya ngono na watu wangapi kwa wakati moja? | ……………. |
| (g)kama unafanya ngono, mpenzi wako anajua hali yako ya Ukimwi? | 01.Ndio<br>02.ndio wote (Zaidi ya moja)<br>03. ndio wengine<br>04.hawajui |
| (i)Je, hali yako ya ukimwi | 01.ndio 02.la |

| | | |
|---|---|---|
| inakufanya uogope kushiriki katika ngono? | | |
| (j) Kama unaogopa eleza. | | |
| (k) Je, hali yako ya Ukimwi inaadhiri kuridhika kwako wakati kwako? | 01.ndio | 02.la |
| (l) Inaadhiri kuridhika kwako aje? | 01. ndio | 02. La |
| (m)Je, hali yako ya Ukimwi inakufanya usishiriki katika ngono? | 01. ndio<br>02. la | |

Tabia na nia ya uzazi.
Wasichana pekee

| KIASHIRIA | MAELEZO |
|---|---|
| (a) Umewahi kuwa na mimba? | 01. Ndio mimba……<br>02.la |
| (b) Kama ndio umewahijifungua? | 01.Ndio ……<br>umejifungua mara ngapi…… 02.la |
| (c)Kama umewahijifungua una watoto wangapi? | ………. |
| (d)kama ujawahi kuwa na mimba, ungependa kuwa na watoto hapo usoni? | 01.ndio<br>02.la |
| (e)Ungependa kuwa na watoto wangapi? | ……. |
| f) Kama haungependa kuwa na watoto ni kwa nini? | |
| (g) Je, unaogopa kujifungua mtoto ambaye ana virusi vya ukimwi? | 01.ndio<br>02.la |
| (h) Kama unashiriki ngono, je unatumia njia yoyote ya kupanga uzazi? | 01.ndio<br>02.la |

| | |
|---|---|
| (i)kama ndio, njia ipi? | 01.tembe<br>02. Kifaa cha kupanga uzazi cha kuingiza katika uterasi<br>03.sindano ya miezi tatu<br>04. kondomu |

(j)kama la, kwa nini?

Wavulana

| KIASHIRIA | Maelezo |
|---|---|
| (a)Je, mpenzi wako amewahi kuwa na mimba? | 01.ndio mimba ngapi……<br>02.la |
| ( b)Kama ndio, mpenzi wako amewahijifungua? | 01.ndio mara ngapi……<br>02.la |
| (c) Kama mpenzi wako amewahijifungua ni mara ngapi? | ………. |
| (d) Ungependa kuwa na watoto siku sijazo? | 01.ndio<br>02.la |
| (e)ungependa kuwa na watoto wangapi? | ……. |
| (f) Kama hautaki kuwa na watoto ni kwa nini? | |
| (g)Je, unaogopa kupata mtoto aliye na Ukimwi? | 01.ndio<br>02.la |
| (h)kama unashiririki katika ngono je, mpenzi wako anatumia njia ya kupanga uzazi ya kisasa? | 01.ndio<br>02.la |
| (i) Je, mpenzi wako anatumia njia ipi ya kupanga uzazi? | 01.tembe<br>02. Kifaa cha kupanga uzazi cha kuingiza katika uterasi<br>03.sindano ya miezi tatu<br>04. kondomu |

(j) kama la kwa nini?

6. KUNAJISI

| Swali | Jibu |
|---|---|
| (a) Umewahi lazimishwa kufanya ngono na mtu wa ukoo, mtu usiyemfahamu au mtu mkubwa kwako? | 01. ndio 02. la |
| (b) Ni watu wangapi wamekulasimisha ufanye ngono na hao? | 01.1<br>02.2<br>03. 3 na zaidi<br>04. N/A |
| (c) Je, ulifanya chochote ili kuzuia kupata mimba? | 01. ndio<br>02.la |
| (d) Je, ulifanya chochote ili kuzuia kupata virusi vingine vya Ukimwi? | 01. ndio nilitumia………<br>02. la |
| (d) Je, kuna mtu yeyote amekugusa sehemu nyeti ya mwili bila wewe kutaka? | 01. ndio<br>02. la |
| (e) Kuna mtu yeyote amekupa pesa au zawadi ndio ushiriki katika ngono? | 01.ndio<br>02.la |
| (f) Umewahi mpa mtu pesa au zawadi ili ashiriki katika ngono? | 01.ndio<br>02.la |

**7. UGONJWA WA ZINAA**

01.Umewahi kuwa na shida kama hili?

| | |
|---|---|
| uchungu wakati wa kukojoa | |
| uchungu kwa upande wa chini wa tumbo | 01.ndio 02.la |
| uchafu usio wa kawaida kwa sehemu za siri | 01. ndio 02.la |
| uchungu wakati wa kushiriki katika ndoa | 01. ndio 02.la |
| kutokwa damu isiyo ya kawaida | 01.ndio 02.la |
| uchungu sehemu za siri | 01.ndio 02.la |
| kujikuna sehemu za siri | 01. ndio 02.la |
| uchungu ukienda haja kubwa | 01. ndio 02.la |
| | 01. ndio 02. la |

| | |
|---|---|
| b) Umewahi tibiwa ungonjwa wa zinaa? | 01.ndio<br>02.la |
| c) hizi ni njia za kuzuia ugonjwa wa zinaa? (chagua Zaidi ya moja) | i)mipira<br>ii) kushiriki ngono na mtu mmoja<br>iii) kutoshiriki katika ngono<br>iv) kutumia njia ya kuzuia uzazi ya kudungwa |

**8. Chanzo cha habari kuhusu afya ya ngono**

| | |
|---|---|
| **a)Je, unapata wapi habari kuhusu afya ya ngono?** | **01.Mwalimu shuleni**<br>**02. Mama**<br>**03. baba**<br>**04. kaka**<br>**05. dada**<br>**06. jamaa wa ukoo**<br>**07. marafiki**<br>**08 .wafanyakazi wa afya**<br>**09. vitabu**<br>**10. magazeti**<br>**11. filamu**<br>**12.mtandao**<br>**13. nyingine (gani……………)** |
| **b) ya muhimu sana** | **01 02 03 04 05 06 07 08 09 10 11 12 13 ………..…** |
| **c)ya pili kwa umuhimu** | **01 02 03 04 05 06 07 08 09 10 11 12 13…** |
| **d) unayoipenda** | **01 02 03 04 05 06 07 08 09 10 11 12 13………..… …………..** |
| **e) Ni ujumbe ya habari gani ya kuaminika? (1-13)** | **01 02 03 04 05 06 07 08 09 10 11 12 13………..… …………..** |
| **f) Wakati mnapoongea hapa kliniki mnaongea juu ya afya ya ngono?** | **01. ndio**<br>**02. la** |
| **g)Je, ungependa kuwa na majadiliano mengi kuhusu hii afya ya ngono?** | **01. ndio**<br>**02. la** |

**Appendix III: Focused Group Discussion guide.**

1. Activities engaged in (including sexual activity). Young people your age usually engage in many activities. What do you do during your free time?

2. How would you define sexual reproductive health?

What does it involve?

3. where do you get information on SRH from?

4.when is the right time to have a boyfriend/girlfriend?

5. what can one do when alone with his/her partner?

6. what can you do to avoid unwanted pregnancy?

7. what do you know about contraceptive methods and condoms?

8. have you heard of sexual abuse? What do you know about this?

9. what are the different methods of HIV transmission?

10. what can one do to avoid transmission of HIV to the newborn/ partner?

11.do you want to have children now or in future and why?

12. what do you think about smoking cigarettes and drinking alcohol ?

**Appendix IV: Consent Form:**

**Study Title:** Sexual and Reproductive Health of Adolescents living with HIV at Moi Teaching and Referral Hospital, Eldoret.

**Introduction:** My name is Dr. Mutai Faith. I am a post-graduate student in the department of Child Health and Paediatrics at Moi University. As part of my post-graduate studies, I am required to carry out a research project. My research study is aimed at establishing the sexual and reproductive health needs of adolescents living with HIV at Moi Teaching and Referral Hospital, Eldoret.

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

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

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

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

**Confidentiality:** All information obtained from you or your dependant will be kept strictly confidential and used only for research purposes. Your name will not appear on the data collection tools. All papers and computer records will be kept under lock and key and security codes respectively. The questionnaires will be filled in a

room/place deemed private by the researchers after being identified prior to the study with assistance from the staff in the facility. Your responses will not be shared with your guardian/parent.

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

In case of any question regarding the study, you can contact Dr. Mutai Faith on mobile phone number 0722-829989.

| NAME | TITLE | CONTACT |
|---|---|---|
| Dr. Mutai Faith | Principal investigator | 0722 829989 |
| Dr. Nabakwe Esther | supervisor | 0722 998603 |
| Dr. Apondi Edith | supervisor | 0721 818157 |

Having read and been explained to the above:

I Mr. / Mrs. / Miss…………………………………………………………………………

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

With knowledge that this study is voluntary, do hereby give my consent/ consent for my dependant to participate in the study.

I understand that I can withdraw or my dependant can withdraw from the study without any penalty or harm.

Participant's signature……………………………….. Date ………………………

.Guardian/parent signature………………………… Date ……………………….

.Principal investigator's signature …………………… Date ……………………….

**Appendix V: Fomu Ya Makubaliano Ya Kushiriki Katika Utafiti Huu.**

**Kichwa cha Utafiti:** Mahitaji ya Afya ya Ngono na uzazi kati ya vijana wanaoishi na Virusi Vya Ukimwi wanaoenda katika kliniki ya Vijana katika hospitali kuu ya Moi Teaching and Referral.

**Utangulizi:**Kwa majina ni daktari Mutai Faith. Mimi ni mwanafunzi katika chuo kikuu cha Moi. Nasomea taaluma ya udaktari wa watoto. Katika masomo yangu, nahitajika kufanya utafiti. Utafiti wangu unahusu kutambua mahitaji

**Utaratibu wa utafiti:**Iwapo wewe au mtegemezi wako atakubali kushiriki katika utafiti huu, utapewa karatasi iliyo na maswali kuhusu afya ya ngono na uzazi na mahitaji ya vijana. Maswali haya yatapewa wakati wa kliniki au mikutano ya vijana.

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

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

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

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

Iwapo una swali lolote kuhusu utafiti huu, unaweza kuwasiliana na Daktari Mutai Faith kupitia numbari ya simu ya rununu 0722-829989

Pia, waweza kuwasiliana na wafuatao:

| JINA | CHEO | KUWASILIANA |
|---|---|---|
| Dr. Mutai Faith | Mtafiti mkuu | 0722 829989 |
| Dr. Nabakwe Esther | Msimamizi | 0722 998603 |
| Dr. Apondi Edith | Msimamizi | 0721 818157 |

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

Mimi………………………………………………………………………………………

………….natoa idhini yangu kushiriki katika utafiti huu. Nafahamu kuwa naweza kusitisha kushiriki kwangu katika utafiti huu wakati wowote bila madhara yoyote.

Sahihi ya mshiriki………………………………………..

Tarehe………………………..

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

……………………….

**Appendix VI: Assent Form: (For the participants aged less than eighteen years)**
**Study Title:**

Sexual and reproductive health of adolescents living with HIV at Moi Teaching and Referral Hospital, Eldoret.

**Introduction:**

My name is Dr. Mutai Faith. I am a post-graduate student in the department of Child Health and Paediatrics at Moi University. As part of my post-graduate studies, I am required to carry out a research project. My research study is aimed at assessing the sexual and Reproductive Health Needs of adolescents with HIV at Moi Teaching and Referral Hospital.

**Study Procedure:**

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

**Benefits of the study:**

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

**Harm of the study:**

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

**Confidentiality:**

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

**Rights to refuse or withdraw from study:**

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

In case of any question regarding the study, you can contact Dr. Mutai Faith on mobile phone 0722-829989

Contact persons:

| NAME: | TITLE: | CONTACT |
|---|---|---|
| Dr. Mutai Faith | Principal Investigator | Tel: 0722-829989<br>Email: faithchep75@gmail.com |
| DR. Nabakwe Esther | Supervisor | Tel: 0722- 998603 |
| Dr. Apondi Edith | Supervisor | Tel 0721818157 |

Having read and been explained to the above:

I …………………………………………………………..with knowledge that this study is voluntary, do hereby give my assent to participate in the study.

I understand that I can withdraw from the study at any time without any penalty or harm.

Participant's signature…………………………………Date ……………………….

Principal investigator's signature …………………… Date ……………………….

**Appendix VII: Fomu Ya Makubaliano Ya Kushiriki Katika Utafiti Huu Kwa Washiriki Walio Chini Ya Umri Wa Miaka Kumi Na Nane:**
**Kichwa cha utafiti:**

Mahitaji ya Afya ya Ngono na uzazi kati ya vijana wanaoishi na Virusi Vya Ukimwi wanaoenda katika kliniki ya Vijana katika hospitali kuu ya Moi Teaching and Referral.

**Utangulizi:**

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

**Utaratibu wa utafiti:**

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

**Faida ya kushiriki:**

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

**Madhara ya kushiriki:**

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

**Siri:**

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

**Uhuru:**

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

Iwapo una swali lolote kuhusu utafiti huu, unaweza kuwasiliana na Daktari Mutai Faith 0722829989.

| NAME: | TITLE: | CONTACT |
|---|---|---|
| Dr. Mutai Faith | Principal Investigator | Tel: 0722-829989<br>Barua pepe:<br>faithchep75@gmail.com |
| DR. Nabakwe Esther | Supervisor | Tel: 0722- 998603 |
| Dr. Apondi Edith | Supervisor | Tel: 0721-818157 |

Pia, waweza kuwasiliana na wafuatao:

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

Mimi…………………………………………………………………………..natoa idhini yangu kushiriki katika utafiti huu. Nafahamu kuwa naweza kusitisha kushiriki kwangu katika utafiti huu wakati wowote bila madhara yoyote.

Sahihi ya mshiriki………………………………………..

Tarehe………………………..

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

**Appendix IV: IREC Approval**

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

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

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference: IREC/2017/220
***Approval Number: 0002053***

26th November, 2020

Dr. Faith Chepkurui Mutai,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
ELDORET-KENYA.

Dear Dr. Mutai,

**RE: APPROVAL OF AMENDMENT**

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

***"Sexual and Reproductive Health of Adolescents Living with Human Immunodeficiency Virus at Moi Teaching and Referral Hospital Eldoret".***

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

- To change the title to above from ***"Sexual and Reprodutive Health Needs of Adolescents Living with Human Immunodeficiency Virus at Moi Teaching and Referral Hospital Eldoret".***

The amendment has been approved on 26th November, 2020 according to SOP's of IREC. You are therefore permitted to continue with your research.

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 | - | SPH |
|---|---|---|---|---|---|---|
| | Principal | - | CHS | Dean | - | SON |
| | Dean | - | SOM | Dean | - | SOD |

**INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)**

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

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference: IREC/2017/220
***Approval Number: 0002053***

1st March, 2019

Dr. Faith Chepkurui Mutai,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
**ELDORET-KENYA.**

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
01 MAR 2019
APPROVED
P. O. Box 4606-30100 ELDORET

Dear Dr. Mutai,

**RE: CONTINUING APPROVAL**

The Institutional Research and Ethics Committee has reviewed your request for continuing approval to you study titled:-

***"Sexual and Reproductive Health Needs of Adolescents Living with Human Immunodeficiency Viru at Moi Teaching and Referral Hospital, Eldoret, Kenya".***

Your proposal has been granted a Continuing Approval with effect from 1st March, 2019. You are therefor permitted to continue with your study.

Note that this approval is for 1 year; it will thus expire on 28th February, 2020. If it is necessary to continu with this research beyond the expiry date, a request for continuation should be made in writing to IRE Secretariat two months prior to the expiry date.

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

Sincerely,

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

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

**MU/MTRH-INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)**

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

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET

Reference: IREC/2018/127
***Approval Number: 0003100***

6th September, 2018

Dr. Titus Ndugire,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
**ELDORET-KENYA.**

Dear Dr. Ndugire,

**RE: FORMAL APPROVAL**

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

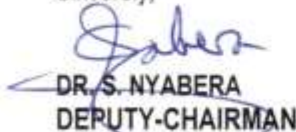
***"Patterns of CT Scan Findings in Patients with Suprahyoid Neck Masses at Moi Teaching and Referral Hospital (MTRH)".***

Your proposal has been granted a Formal Approval Number: ***FAN: IREC 3100*** on 6th September, 2018. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; hence will expire on 5th September, 2019. 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 will be required to submit progress report(s) on application for continuation, at the end of the study and any other times as may be recommended by the Committee.

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. You will also be required to seek further clearance from any other regulatory body/authority that may be appropriate and applicable to the conduct of this 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 |

**MU/MTRH-INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)**

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

MOI UNIVERSITY
COLLEGE OF HEALTH SCIENCES
P.O. BOX 4606
ELDORET

Reference: IREC/2018/127
***Approval Number: 0003100***

6th September, 2018

Dr. Titus Ndugire,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
**ELDORET-KENYA.**

Dear Dr. Ndugire,

**RE: FORMAL APPROVAL**

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

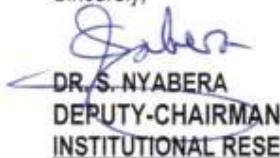
***"Patterns of CT Scan Findings in Patients with Suprahyoid Neck Masses at Moi Teaching and Referral Hospital (MTRH)".***

Your proposal has been granted a Formal Approval Number: ***FAN: IREC 3100*** on 6th September, 2018. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; hence will expire on 5th September, 2019. 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 will be required to submit progress report(s) on application for continuation, at the end of the study and any other times as may be recommended by the Committee.

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. You will also be required to seek further clearance from any other regulatory body/authority that may be appropriate and applicable to the conduct of this 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 V: Hospital Approval**

An ISO 9001:2015 Certified Hospital

# MOI TEACHING AND REFERRAL HOSPITAL

Telephone :( +254)053-2033471/2/3/4
Mobile: 722-201277/0722-209795/0734-600461/0734-683361
Fax: 053-2061749
Email: ceo@mtrh.go.ke/directorsofficemtrh@gmail.com

Nandi Road
P.O. Box 3 – 30100
ELDORET, KENYA

**Ref:** ELD/MTRH/R&P/10/2/V.2/2010

14th September, 2018

Dr. Titus Ndugire,
Moi University,
School of Medicine,
P.O. Box 4606-30100,
**ELDORET-KENYA.**

**APPROVAL TO CONDUCT RESEARCH AT MTRH**

Upon obtaining approval from the Institutional Research and Ethics Committee (IREC) to conduct your research proposal titled:-

**"Patterns of CT Scan Findings in Patients with Suprahyoid Neck Masses at Moi Teaching and Referral Hospital (MTRH)".**

You are hereby permitted to commence your investigation at Moi Teaching and Referral Hospital.

CEO APPROVED 14 SEP 2018

14/09/2018

**DR. WILSON K. ARUASA, *MBS***
**CHIEF EXECUTIVE OFFICER**
**MOI TEACHING AND REFERRAL HOSPITAL**

cc - DCEO, (CS)
- Director of Nursing Services (DNS)
- HOD, HRISM

*All correspondence should be addressed to the Chief Executive Officer*
*Visit our Website:* **www.mtrh.go.ke**
TO BE THE LEADING MULTI-SPECIALTY HOSPITAL FOR HEALTHCARE, TRAINING AND RESEARCH IN AFRICA

**Appendix VI: Ampath Approval**

*Academic Model Providing Access To Healthcare*

Telephone: 254 53 2033471/2P.O. BOX 4606, ELDORET Fax: 254 53 2060727

**RESEARCH**

**Ref: RES/STUD/7/2018** **November 8, 2018**

Dr. Faith Mutai
Moi University
P.O Box 4606-30100
Eldoret

Dear Dr. Mutai,

**RE: PERMISSION TO CONDUCT RESEARCH AT AMPATH**

This is to inform you that your study ***'Sexual and Reproductive Health Needs of Adolescents Living with Human Immunodeficiency Virus at Moi Teaching and Referral Hospital'*** has been reviewed by the AMPATH Research Program Office. Permission is therefore granted to begin collecting your data at AMPATH.

Please note that your research activities should not in any way interfere with the care of patients. This approval does not support access to AMRS data at AMPATH.

You are required to submit a final report of your findings to the AMPATH Research Program Office.

Should you wish to publish your research findings, permission has to be sort from AMPATH Publications Committee. Please contact the AMPATH Research Office research.manager@iukenya.org in case of any enquiry regarding this matter.

Thank you,

Prof. Winstone Nyandiko
AMPATH Executive Director, Research

CC: AMPATH Executive Director, Care