

**DETERMINANTS OF RISKY SEXUAL BEHAVIOR IN ADOLESCENTS: A  
CASE STUDY OF KIBERA INFORMAL SETTLEMENT**

**By**

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## DECLARATION

### **Declaration by Candidate**

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## **DEDICATION**

This thesis is dedicated to my lovely wife, Dr. Wambui Njung'e for her continuous support, my parents, Mr. Joseph Kimei and Mrs. Monica Kimei and my brother Mr. Dennis Kiangi and the rest of my family.

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## ABSTRACT

**Background:** Risky behaviors related to sexual practice in adolescents have taken much of the attention worldwide. Adolescence provides a challenging development period for young people across the globe. Adolescent fertility and sexuality is a major public health issue in Kenya.

**Objective:** The main aim of this study was to establish the factors which contribute to risky sexual behavior among adolescents.

**Methods:** The study was carried out in Kibera informal settlement. Quantitative methods of data collection were used in the form of self-administered questionnaires in the selected households. Data was collected on socio-demographic, economic, social and cultural factors. Descriptive statistics, chi square goodness of fit test and multivariate logistic regression analysis were applied at 95% confidence intervals.

**Results:** A total of 408 adolescents between the age of 13 years and 19 years were interviewed. There was a negative correlation ( $-0.334$   $P < 0.01$ ) between age and respondents having ever engaged in sexual intercourse. A strong significance was found between respondents having ever engaged in sex and source of sex information from parents [ $0.005(.496)$ ] and Media [ $0.036(2)$ ]. There was a protective effect against indulgence in sex when parents educated the adolescents on the same. Age at sexual debut and being influenced into sex was positively associated with gender with the odds of having sex at an early age among girls being 4 times higher compared to males. Female adolescents were 3 times likely to be influenced into having sex as compared to their male counterparts. The use of drugs was strongly related to having sexual intercourse with the odds of engaging in sexual intercourse being 7.6 times higher among drug or alcohol users.

**Conclusions:** Risky sexual behavior was strongly influenced by cultural practices and social factors like peer influence, and consumption of alcohol and/or drugs as well as age and gender.

**Recommendations:** There is need to enhance guidance and counseling of adolescents in Kibera. Parental guidance is necessary for promoting good sexual health. Institutions of learning are well placed in continuing sex education; however, this should be introduced in early years of education. To discourage harmful cultural practices, it is necessary to have alternative rites of passage as opposed to wife inheritance and sexual cleansing. There is need for law enforcement in order to curb the use of drugs among children less than 18 years of age. Parents need to monitor closely the use of drugs among their children

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## ABBREVIATIONS

AAP	:	American Academy of Pediatrics
AIDS	:	Acquired Immune –Deficiency Syndrome
AMREF:		African Medical Research Foundation
ANOVA:		Analysis of Variance
ARV:		Anti-Retroviral
CBS:		Central Bureau of Statistics
CDC:		Centre of Disease Control
CI:		Confidence Interval
DALY:		Disability-Adjusted Life Years
FGDs:		Focus Group Discussions
HIV:		Human Immuno-Deficiency Virus
IDI:		In-Depth Interviews
IDU's:		Intravenous Drug Users
IREC:		Institutional Research and Ethics Committee
ISDP:		International Sexuality Description Project
KASP:		Knowledge, Attitudes and Sexual Practices
KDHS:		Kenya Demographic and Health Survey
KNBS:		Kenya National Bureau of Statistics
KSHS:		Kenya Shillings
MARPS:		Most at Risk Populations
MDG:		Millennium Development Goals
MSF:		Medicines San Frontiers
NASCOP:		National AIDS & STI Control Program
NGO's:		Non-Governmental Organizations

PLACE:	Priority for Local AIDS Control Efforts
RA:	Research Assistant
RDST:	Respondent Driven Sampling Technique
RSB:	Risky Sexual Behavior
SES:	Socio Economic Status
SPSS:	Statistical Packages for Social Sciences
STDs:	Sexually Transmitted Diseases
STI's:	Sexually Transmitted Infections
TV:	Television
UK:	United Kingdom
UNAIDS:	United Nations Programme on HIV/AIDS
US:	United States
WHO:	World Health Organization
YRBS:	Youth Risk Behavior Survey

## DEFINITION OF TERMS

**Adolescence:** A transitional period of physical, emotional, and sexual maturation that culminates in increased independence, autonomy, and a greater sense of one's personal identity.

**Adolescent:** An individual of 10 years- 19years of age. In this proposal, the word adolescents will be used interchangeably with teens.

**Casual Sex:** Certain types of human sexual activity outside the context of a romantic relationship. The term is not always used consistently. It may refer to extramarital sex, sex in a causal relationship, one-time encounters, promiscuous sex, or sex in the absence of emotional attachment or love, which can include prostitution.

**Early sexual debut:** Having first sexual intercourse at or before the age of 14 years.

**Informal settlements:** Residential areas that have been constructed illegally and where housing is not in compliance with current planning and building regulations. (Ubale, *et al.*, 2013). Slums will be used interchangeably to refer to the same.

**Post-adolescence:** The period after adolescence, i.e. 19-23 years of age.

**Pre-adolescence:** A stage of human development following early childhood and prior to adolescence, and ends with the beginning of puberty, i.e. 10-13 years of age.

**Puberty:** The time in life when the body matures sexually and the reproductive organs become functional.

**Risky sexual behavior:** Having multiple sexual partners, inconsistent, and/or, lack of condom use with multiple partners, early sexual debut and casual sex.

**Wife inheritance:** This is a cultural practice whereby a widow is required to marry a male relative of her late husband, often his brother.

**Sexual cleansing:** A tradition in which a girl or woman is expected to have sex as a cleansing ritual after her first menstruation, or after becoming widowed.

**Widowhood related Rituals:** These are practices that any bereaved woman has to go through upon becoming a widow. In this study, widowhood related rituals were wife inheritance and sexual cleansing.

**Harmful traditional practices:** They refer to all forms of violence which have been committed primarily against women and girls in certain communities and societies for so long that they are considered, or presented by perpetrators as part of accepted cultural practice.

**Traditional cultural practices** reflect the values and beliefs held by members of a community for periods spanning generations.

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background

Worldwide, risky behaviors related to sexual practice in adolescents have taken much of the attention. These behaviors have continued to exist even though the proportions of adolescents who delay sexual onset and use condoms have increased globally. As a result, adolescents experience a large number of unplanned pregnancies and sexually transmitted disease including HIV/AIDS (Fekadu & Teklu, 2014). By the end of 2005, an estimated 4.6% of females and 1.7% of males aged 15–24 years in Sub-Saharan Africa were living with HIV and about one in 10 young women experienced a premarital birth by age 20 (Asare *et al.*, 2006). Current statistics on HIV/AIDS indicate that one-half of all new HIV infections worldwide occur among young people of ages 15 to 24 years. Every minute, five young people worldwide become infected with HIV/AIDS (Alamrew *et al.*, 2013). This is much more in Sub Saharan Africa which remains most severely affected with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide (Avert, 2020). According to the report on global AIDS pandemic by UNAIDS, (2006), women in sub-Saharan Africa are infected more often and earlier in their lives than men. In the United States, young people represent 25% of the sexually experienced population. However, the incidence and prevalence of sexually transmitted diseases (STDs) among this age-group are unknown (Weinstock *et al.*, 2004). Young women aged 15–24 are between two and six times as likely to be HIV-positive than men of a similar age. Only five percent of the people currently infected with AIDS in sub-Saharan Africa are identified. The rest, about twenty-four million, continue fueling the epidemic in one of the world's

poorest and socially and politically unstable regions (Avert, 2020). Other studies done in Sub Saharan Africa have revealed that adolescents have a tendency to have multiple sexual partners and unprotected sexual intercourse (Gavin *et al.*, 2006).

According to Kenya National Bureau of statistics (2016), Kenya has a very young population that has led to very rapid population growth. Almost three-quarters of the population is under the age of 30 and Kenya has grown from 2.9 million to almost 40 million people within a century. Kenyan adolescents constitute about 26% of the population, with a population growth of 2.5% per annum. Adolescents in developing countries are more vulnerable through a number of factors including poverty, limited access to education, and unstable social contexts (i.e. the immediate physical and social setting in which adolescents live in and the people and institutions with whom they interact). These circumstances can lead to engaging in problem behaviors; that is, behaviors that transgress societal norms and that can compromise adolescent health and development (Ndugwa, *et al.*, 2010). Two major risk factors that increase sexual risk are unprotected intercourse and having multiple partners (Kotchik *et al.*, 2001).

The onset of sexual activity typically occurs by age 20 and often earlier in Sub Saharan Africa (Lloyd, 2005). According to TwaTwa, (1997), several studies in Uganda show a high rate of sexual activity among school students. This early sexual debut exposes young adolescents to a myriad of negative sexual and reproductive health outcomes, for example, multiple and concurrent partners, engaging in unprotected sexual intercourse and acquiring sexually transmitted infections, including HIV (Gupta and Mahy, 2003). In addition, early sexual intercourse is associated with negative behavior such as alcohol and drug abuse, violence, and poor performance in school (Bonnie and O'Connell, 2004).



According to the Kenya Demographic and Health Survey 2008-09, 12% of women aged 20-49 had sex before the age of 15 and about half had sex by their 18<sup>th</sup> birthday. Older women were found to be slightly more likely to have had their first sexual intercourse at an earlier age though the difference between the older and younger women was minimal. Men were found to have had an earlier sexual debut than women with 19% of men aged 20-49 reported to have had sex before the age of 15 years (KNBS, 2010).

Though similar studies have been done in Korogocho and Viwandani informal settlements of Nairobi by Beguy *et.al.*, (2009), limited information exists about Kibera. Informal settlements in general are characterized by limited access to health, education and other social services and amenities; poor housing, sanitation and infrastructure; high rates of unemployment, HIV and substance use; and pervasive violence, including sexual and gender-based violence. In addition, slum residents tend to have inadequate knowledge of contraception, as well as limited access to family planning services as observed by Marston, *et al.*, (2013). The Kibera slum faces an exploding youth population, representing over half of the slum's entire population, which is largely unemployed and will likely continue to multiply. Earlier research indicate that an estimated 12 to 15% of youth in Kibera is infected with HIV/AIDS, a situation exacerbated by the lack of basic human rights for girls and young women (Oballa, 2007). The current status of HIV/AIDS in Kibera remains largely unknown. In addition to this, the cultural and social contexts which are largely dynamic with time need to be understood as they form the basis of adolescent behavior in any given locality. Madise N. and Zulu E. (2007), concluded that HIV prevention programs need to take account of strong social and cultural contexts that influence young people's sexual behavior.

This study aimed at exploring the correlations between risky sexual behavior and early sexual debut as influenced by economic, cultural and social factors like behavioral characteristics and attitude towards sexuality, peer pressure as well as demographic factors.

## **1.2 Problem Statement**

Risky sexual behavior among adolescents has been a major concern globally and more so within informal settlements. In Kenya, adolescents constitute about 26% of the population (Ndugwa, *et al.*, 2010). Although the majority of adolescents are sexually active, many do not take appropriate precautions to prevent pregnancy or the spread of sexually transmitted infections (Fekadu & Teklu, 2014). Previous studies also show that a high number of sexually transmitted diseases (STDs) diagnosed every year involve youth between the ages of 15-24 years. Statistics also indicate that about 50% of all new HIV infections worldwide occur among young people of ages 18-24 years (Alamrew *et al.*, 2013). Among the most affected areas, the sub Saharan Africa remains the most vulnerable with many young adults living with HIV. Though current statistics are unknown, earlier research indicates that an estimated 12 to 15% of youth in Kibera are infected with HIV/AIDS (Oballa, 2007).

Early sexual debut exposes young adolescents to a myriad of negative sexual and reproductive health outcomes, for example, adolescents who initiate sex at a young age are more likely to have multiple and concurrent partners, engage in unprotected sexual intercourse and acquire sexually transmitted infections (STIs) (Gupta and Mahy, 2003). In addition, early sexual intercourse is associated with negative behavior such as alcohol and drug abuse, violence, and poor performance in school (Bonnie and O'Connell, 2004).

Studies done among adolescents in other informal settlements have revealed lack of condom use and low willingness to abstain from sex. While condoms are an integral and essential part of HIV prevention and care programs, there are indications of their low levels of uptake among adolescents in Kenya thereby increasing chances of HIV infection and unintended pregnancies. This therefore implies that the adolescents in Kibera are likely to engage in risky sexual behavior. For females, teenage pregnancy may complicate adolescent development and contribute to a troublesome transition to young adulthood, which involves a potential future as a single parent, with limited education and economic opportunities.

In addition to the above, informal settlements like Kibera are usually characterized by many problems such as limited access to health, education, other social services and amenities; poor housing; high rates of unemployment, HIV and substance use; and pervasive violence including sexual and gender-based violence (Marston, *et al.*, 2013).

Though various factors such as peer pressure can cause adolescents to engage in risky sexual behavior, (Widman *et.al.*, 2016) the factors driving adolescents' risky sexual behavior in Kibera are poorly understood. The cultural and social contexts which are largely dynamic with time also need to be understood as they form the basis of adolescent behavior in any given locality and therefore there is a need to take them to account, for example in HIV prevention programs (Madise N. and Zulu E., 2007).

### **1.3 Justification**

Adolescents' vulnerability to sexual risk-taking behavior could be heightened by the fact that during the onset of this stage of development, they are sexually very active

and are out to experiment, leading to high rates of HIV and STIs. It is important to note that high rates of STIs and HIV infection among adolescents and youth in general are likely to reduce productivity, due to deaths related to the same and consequently interfere with existing struggles to eradicate poverty. Therefore, understanding the driving factors leading to risky sexual behavior among adolescents in Kibera will go a long way in influencing policy and decision makers on ways of mitigating these challenges.

As the population of adolescents in Kenya increases, the debates about adolescent sexuality, school girl pregnancy and its consequences become more fierce between the medical fraternities, religious organizations and lay press. This is because of concerns that sex education and distribution of contraceptives including condoms could erode moral and cultural values as well as norms. This study will explore the driving factors that influence risky sexual behavior among adolescent living in urban informal settlements, i.e. economic, social and cultural factors. Therefore it provides important information necessary for formulating holistic approaches for tackling the challenges posed by Risky Sexual Behaviour (RSB).

The perspectives of adolescents and their voices on these issues remain largely unheard. It is imperative to understand current attitudes of Kenyan adolescents towards premarital sex, unwanted pregnancies and risky sexual behavior in order to design appropriate sexual and reproductive health interventions for adolescents.

Limited information exists on adolescents living in Kibera, with regard to risky sexual behavior. In addition, the cultural and social contexts may be different in Kibera as compared to the other informal settlements, such as, Viwandani and Korogocho. This is due to the fact that different communities exhibit different social

and cultural contexts. This calls for further research to better understand the factors influencing risky sexual behavior in Kibera.

Due to rural urban migration, the population in informal settlements and more so in Kibera has increased tremendously. Kibera faces an exploding youth population, representing over half of the slum's entire population; a population that is largely unemployed and will continue to multiply. By their very nature, informal settlements are replete with poor environmental factors that predispose their inhabitants to poor health outcomes and also poor access of health facilities. It is observed that teens presenting in primary healthcare settings in urban environments seem to be at high risk of HIV, STIs, and substance abuse. Therefore, being an urban slum, Kibera is a good set up as far as investigating the risky sexual behavior among adolescents is concerned. This study therefore is a source of baseline information on risky sexual behavior patterns and the factors that influence the behaviors among adolescents living in Kibera informal settlement.

This study also contributes to the body of knowledge on how economic, social and cultural factors influence risky sexual behavior. The information generated will help planners and policy makers in government agencies and NGO's develop substantive, alternative policy interventions to address the challenges posed by adolescent risky sexual behavior.

## **1.4 Objectives**

### **1.4.1 Broad objective**

To establish the factors which contribute to risky sexual behavior among adolescents living in Kibera informal settlement.

### **1.4.2 Research Questions**

1. Are adolescents living in Kibera informal settlement engaging in risky sexual behavior?
2. What is the relationship between economic factors and risky sexual behavior among adolescents?
3. What is the role of social factors in influencing risky sexual behavior among adolescents?
4. What is the role of cultural factors in influencing risky sexual behavior among adolescents?

### **1.4.3 Specific objectives**

- To determine the relationship between economic factors and risky sexual behavior among adolescents in Kibera informal settlement.
- To establish the role of social factors in influencing risky sexual behavior in adolescents in Kibera informal settlement.
- To establish the role of cultural factors in influencing risky sexual behavior among adolescents in Kibera informal settlement.

## **1.5. Significance of Study**

Today, it is widely acknowledged by public health decision makers that adolescents have sexual and reproductive needs. However, sexually transmitted infections (STIs) in general, and among adolescents in particular, are of paramount concern to all

people who work on improving the health status of populations. Worldwide, the highest reported rates of STIs are found among people between 15 and 24 years with up to 60% of the new infections and half of all people living with HIV globally in this age group. As a region, countries in Sub-Saharan Africa have the highest levels of early child bearing in the world. On average, more than 50% of women give birth before the age of 20 years (WHO, 2014).

As the world at large becomes more and more concerned with the risky sexual behavior (RSB) among the adolescents, enhancing knowledge, behavior change and attitude change remain among the very effective options for preventing further ill health outcomes as a result of RSB. However, for such initiatives to be effective, it is important to have a broader understanding of adolescents' attitude, behavior practices and how such behaviors influences RSB.

This study seeks to further understand the factors that contribute to risky sexual behavior among adolescents living in urban informal settlements. The national budget allocated to the health sector in Kenya is around 6% of the total budget as opposed to 15% recommended by the Abuja Declaration (WHO, 2011). Therefore, there are limited resources to address health issues. Meanwhile the burden of health expenditure continues to increase due to new STI infections among the youth including adolescents. With scanty literature and information on risky sexual behavior among adolescents in Kibera, this study is of great help both to the general public and policy makers as it seeks to come up with real time information crucial for formulating strategies that can mitigate the challenges of RSB among adolescents', for example, high levels of teenage pregnancy and high prevalence of STIs including HIV. These results will help to reduce the health expenditure by availing information that can lead to reduction of incidences of STIs and early

teenage pregnancy as well as increase youth productivity by reducing STI, HIV and teenage pregnancy related deaths. The results will also go a long way in realizing the millennium development goals number 6 and number 1, that is, to combat HIV, malaria and other diseases and to eradicate extreme poverty and hunger.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

Risky sexual behavior is defined within the medical model as having unprotected sexual intercourse that places a person at risk of a sexually transmitted disease or unintended pregnancies. The risk sexual behaviors reported among young adults includes: unprotected sex, multiple sexual partners, frequent sexual partner change, transactional sex, alcohol and other substance abuse, sex under the influence of alcohol, and forced sexual encounters in some instances (Magu *et al.*, 2012). In this study RSB also refers to having multiple sexual partners, inconsistent, and/or, lack of condom use with multiple partners, early sexual debut and casual sex. RSB is influenced by a number of factors as discussed below.

#### **2.2 Economic Factors**

Before the discovery of HIV and AIDS, adolescents were considered to have the lowest burden of disease compared to other age groups. However, this is not the case as HIV prevalence among young people have increased steadily especially in the poorer nations and prevention strategies need to be anchored on evidence of the proximate and background risk factors that increase the vulnerability of young people. The adolescents' sexual behavior is of public health importance since the young people often lack adequate knowledge and skills of how to protect themselves from unplanned pregnancies and sexually transmitted infections (Madise, Zulu and Ciera, 2007).

In a survey of adolescents conducted by Madise *et.al.*, (2007) in four African countries namely Burkina Faso, Ghana, Malawi, and Uganda wealth status was significantly associated with condom use in Ghana, Malawi, and Uganda. In Malawi

and Uganda, the poorest adolescents had the lowest odds of using condoms compared with the wealthiest. In a data review from the 1998 South African Demographic and Health Survey, it was found that poor women were indeed less likely to be knowledgeable about HIV/AIDS or the sexual transmission routes of the virus and to engage in risky sexual behavior. The study found that nearly 82% of the women in the bottom quintile did not use a condom when having had last sexual intercourse with a casual acquaintance, someone they have just met, or a commercial sex worker, compared to 80.8% of the women in the top quartile (Booyesen and Summerton, 2002 and Silas, 2013). In a study in Tanzania to investigate the influence of socioeconomic status on specific HIV/AIDS knowledge and the relationship between poverty and risky sexual behavior in Tanzania, it was found that men and women in the poorest wealth quartile were more likely to have higher-risk sex compared with wealthier men and women and thus may have more risk of contracting HIV (Silas, 2013). At the same time a study done by Buttmann (2011) showed that poverty is associated with lack of education and suggested that lack of information about condoms and safer-sex leads to non-use of condoms and thus greater HIV/AIDS risk. Research also shows that poorest men are more likely to pay for sex, which may suggest that poor men may lack the means to maintain a household and to have a stable relationship (Silas, 2013). Moreover, the social organization of infidelity is shaped by economic inequality and aspirations for modern lifestyles (Smith, 2007).

According to Beyers *et al.*, (2001) risk factors such as poor parent-adolescent communication and early intercourse, appeared to be context-dependent among adolescents living in low socioeconomic neighborhoods. However, Santelli *et al.*, (2000), observed that household income was not linearly related to any sexual

behavior among adolescents in the United States. Additionally, a study done by Schmitt, (2004) on family income did not show a linear relation with any sexual behavior for male or female adolescents. Further adjustment for socioeconomic status and family structure had limited effect on association between race/ethnicity and sexual behaviors. In a case study to investigate the prevalence of HIV among individuals with high risk lifestyles and the associated socioeconomic and cultural practices that predispose to the spread of HIV in certain locations in Nigeria, it was observed that poverty and the quest for survival provide the base of behavior that tend to enhance the spread of HIV particularly among vulnerable groups including young ladies, individuals from broken homes and migrants, unemployed, deprived or street children (Dibua.2009).

Unsafe sexual behaviors and experiences have also been associated with socioeconomic status. This was observed in KwaZulu-Natal province, whereby a sexual behavior of young men and women was influenced by high rates of poverty, inequality and relative economic disadvantage. Low socioeconomic status was found to not only increases female odds of exchanging sex for money or goods, but also raised female chances of experiencing coerced sex, and male and female odds of having multiple sexual partners. It was also observed to lower female chances of secondary abstinence, female and male age at sexual debut, condom use at last sex, and communication with most recent sexual partner about sensitive topics (Hallman, 2004). A study by Rombo (2009), to establish and compare marital risk factors associated with HIV infection among women in Ghana and Kenya, regions representing low and high HIV prevalence respectively, observed that a higher SES marginally reduces the risk of infection. Results indicated that with every additional rise in the level of SES, the odds of being infected with HIV marginally decrease by

1.0. Similar observations linking economic status and RSB were also reported by (Obwoya et al., 2018). In their study, income levels were directly related to RSB and significantly influenced a teenage girl's decision of whether to use birth control pills.

In addition, in a study titled "Economic status, Education and Risky Sexual Behavior for Urban Botswana Women," Dintwa (2012) observed that there was a relationship between the number of sexual partners and economic status whereby further stressing of economic status led to having more sexual partners in exchange for money and material things. Adolescents, particularly women, are also more susceptible to coercive sexual relationships. There are reports of "sugar daddy" phenomena, which refer to sexual relations between young women and older, wealthier men; young women have sexual intercourse with the older men in exchange for economic gains (Gubhaju, 2002). Therefore, these researchers provide the evidence on linkages between economic status and its influence on risky sexual behavior hence the need to understand and address it.

### **2.3 Social Factors**

Sexual onset is of great concern as it is associated with a number of risky sexual behaviors such as having a greater number of sexual partners, more frequent sexual activity, and older sexual partners. According to (Markham et al., 2011), many teens are not protecting themselves from unintended pregnancy or STIs, and that 80% and 39% of sexually active high school students in the United States did not use birth control pills or a condom, respectively, the last time they had sex. A study done by (Imaledo JA, Peter-Kio OB, 2012), found that more than half of the respondents had either boyfriend or girlfriend and 52% of the respondents have ever had sex with someone. Literature reveals that peer norms influence sexual initiation and

subsequent sexual behavior. In most cases, adolescents who perceive their friends are engaged in sexual practices are more likely to adopt those same behaviors. Research shows that risk sexual behavior is affected by a complex web of factors at the individual, family, school and peer levels. In a study done to identify the factors associated with adolescent risky sexual behavior among school adolescents in Addis Ababa, Ethiopia, it was found that one in five high school students had initiated sexual activity and about half of those who initiated sex were involved in risky sexual practices. Analysis of the factors associated with risky sexual behavior using the ecological framework indicated peer pressure as the most important predictor, (Cherie and Berhane, 2012). At the same time, individuals who engage in sexual intercourse at young ages are less likely to use effective contraception and are at higher risk for teen- age pregnancy and contraction of sexually transmitted infections than those who initiate sexual activity at later ages (Johnson, 2007; Selikow *et al.*, 2009).

In an analysis of sexual behavior data for men 15–24 years from representative cross sectional household survey in South Africa, Harrison *et al.*, (2004) observed that young men reporting sexual debut before age 15 were more likely not to use condoms at first sexual contact, have had multiple and casual partners, and also likely to say they “had not been ready and wanted to have sex.” At the same time young men with early sexual debut were 10 times more likely to have multiple partners, even after controlling for duration of sexual activity, reinforcing evidence that early sexual experiences may determine risk sexual behaviors throughout life. A study done by Nzioka, (2001) among adolescent boys aged 15-19 years attending high school in rural Eastern Kenya, revealed that there was a large measure of contradictory beliefs and ambiguities in the perceptions of young males with regard

to causing pregnancies and experiencing treatable sexually transmitted infections. Both were seen as a sign of sexual prowess and maturity for boys.

In a transition to adulthood study carried in high schools in Nairobi Kenya, among youth who were aged 12–16 years, 87% percent each of males and females reported that their first sexual partner was a non-cohabiting boyfriend or girlfriend. The study found that majority of females had partners who were older, whereas the majority of males had younger or same-aged partners (Kabiru and Orpinas, 2008). A study done in Kisumu by Ochieng *et al.*, (2011) among school-going students, found that more than half of the students reported early onset of sexual activity with the majority indicating that they had their first sexual intercourse between the ages of 11-15 years. Additionally, in a previous study done in Jamaica the mean age at first sexual activity ranged between (11-17) years, further confirmation that adolescents begin engaging in sexual intercourse early is shown by Baumgartner *et al.*, (2009). Furthermore, Long-More *et al.*, (2004) found that depressive symptoms were predictive of earlier sexual debut timing among female adolescents.

In a systematic literature review conducted from sub-Saharan Africa with biologically confirmed HIV infection measures included, no evidence was found to support the claim that early sexual debut is associated with increased HIV infection risk through the increased duration of sexual activity and the increased exposure time (Mmbaga, *et al.*, 2012).

Under the auspices of a five-year study titled “Understanding HIV Risks among Youth: Protecting the Next Generation”, nationally representative surveys of adolescents were conducted in 2004 in four African countries namely Burkina Faso, Ghana, Malawi, and Uganda. It was found that condom use was not strongly

associated with the age when an adolescent started having sexual intercourse (Madise, Zulu and Ciera, 2007). Adolescent mothers represent a high-risk population for HIV exposure through heterosexual transmission for several reasons (Griffin and Stein, 2006). In addition, a study done by Kiragu and Zabin, (1993), revealed that only 10% of young people who are sexually active reported regular use of birth control.

In a cross-sectional study to assess the association between the experience of sexual coercion and risky sexual behavior among university students of both sexes in Uganda, sexual coercion was found to be significantly associated with previously having had early sexual debut, and a great number of sexual partners practicing inconsistent condom use (Agardh, *et al.*, 2011).

In Kenya, young men (22%) are twice as likely to engage in sexual intercourse before age 15 than young women (11%). By age 18, about half of women (47%) and slightly more than half of men (58%) were reported to have had sexual intercourse (KDHS, 2010). According to 2008-2009 Kenya Demographic Health Survey, (KNBS, 2010), 12% of women aged 20-49 had sex before the age of 15 and about half had their sex by their 18<sup>th</sup> birthday. According to the survey, older women were found to be slightly more likely to have had their first sexual intercourse at an earlier age though the difference between the older and younger women was minimal. At the same time, men were found to have had an earlier sexual debut than women with 19% of men aged 20-49 reported to have had sex before the age of 15 years.

In a study carried out in Maseno University to determine the current HIV/AIDS Knowledge, Attitudes and Sexual Practices (KASP) indicators among university students that would facilitate development and implementation of a peer education

program and the subsequent monitoring and evaluation of other HIV/AIDS activities, peer pressure emerged as an important factor in students' sexual behavior with significant proportion of first year students reported having had their first sexual intercourse at the university, (Othero, Aduma and Opil, 2009). The influence of peer pressure is also echoed by reports from a cross-sectional rapid situational assessment conducted using the Respondent Driven Sampling Technique (RDS) by National AIDS and STI Control Programme (NASCOP) among injecting drug users in Nairobi and Coast provinces of Kenya. Majority of the Intravenous Drug Users (IDUs) indicated that they were introduced to drug use by close friends in their homes or at outdoor or indoor shooting galleries. Reasons for initiating drug injection included peer pressure, drug quality and desire for a better feeling of high (NASCOP, 2012).

In addition, a study to determine the prevalence of sexual intercourse among school going adolescents in Coast Province Kenya, revealed that some of the close friends of adolescents were also sex partners. The study also found that adolescents with close friends found it easier to recruit a sex partner from the friendship pool. They also noted that peer influence could affect an individual's likelihood of engaging in sex (Rudatsikira, *et al.*, 2009).

Brook *et al.*, 2006, undertaking a Cross sectional study to test a developmental model of pathways to risky sexual behavior among South African adolescents, observed that family poverty was associated with difficulty in the parent-child relationship. This was related to vulnerable personality and behavioral attributes and to association with deviant peers, which, in turn, were related to risky sexual behavior (Brook, *et al.*, 2006).



In another study titled “Social Support and Risky Sexual Behavior among Adolescents: The Protective Role of Parents and Best Friends”, by Majumdar (2006), it was observed that higher levels of family involvement and best friend interaction increased the likelihood of using contraception during intercourse and early sexual activity among adolescents. Consequently, in a study titled “Peer influences on adolescent risk behavior: A network analysis of social influence processes among adolescents in Flemish secondary schools,” which was intended to investigate to what extent peer social structure influences adolescent risky behavior, Berten (2008) observed that peers were not only influenced by their best friends, but also by peers in structurally similar positions. Peers were found to be more influential in 5th grade than in 3rd grade and peer influence was stronger for substance use than for sexual risk behavior. In another study whose objective was to assesses the relation of socioeconomic status (SES), family structure, and race/ethnicity to adolescent sexual behaviors that are key determinants of pregnancy and sexually transmitted diseases (STDs), it was found that among male and female adolescents, greater parental education, living in a 2-parent family, and white race were independently associated with never having had sexual intercourse (Santelli, *et al.*, 2013).

In a study to determine the predictors of risky sexual behavior in African American adolescent girls, teens reported high rates of substance use and teens self-reported substance use significantly predicted teens engaging in risky sexual behavior. Substance use was found to be the strongest predictor of risky sexual behavior (Bachanas, *et al.*, 2002).

In addition, in a study to determine the effects of psychosocial factors and high-risk behavior, Millstein and Moscicki, (1995), observed that under the influence of

alcohol or drugs, adolescents were less likely to delay intercourse or use protection during sex. Another study, Priority for Local AIDS Control Efforts (PLACE) a sample of IDUs from Malindi, Kenya, were found to be twice as likely as non-IDUs to have had multiple partners in the past year and multiple new partners in the that year hence facilitating HIV transmission (Brodish, *et al.*, 2011).

In a case study report done by Brown, *et al.*, (2001) 30% and 90% of males and between 12% and 90% of females practiced some form of contraception during their first sexual experience. Although the in-school and university students were more likely than others to have practiced contraception at debut, the practice was not universal, even among them. The case studies carried by WHO reports that gaps remain between ever-use and consistent use of contraceptives. For example, while 69% of both female and male college students in the case study in Dumaguete City, Philippines, had ever used contraceptives, only 53% of males and 56% of females claimed to have practice contraception regularly. In Lambayeque, Peru, contraceptive use by youth was similarly inconsistent. While 45% of all males and 32% of all females had ever used a method, only 13% and 10%, respectively, professed regular use, and only 11% and 4%, respectively, had used a condom in their last three sexual contacts. The leading reason for inconsistency of use was a dislike of the method: 49% males and 37% of females; and 18% of males and 14% females attributed non-use to their partners dislike (Brown, *et al.*, 2001). Center for Disease Control and Prevention (2013) also found that nearly 46% of sexually active high school students did not use a condom the last time they had sex.

According to American Academy of Pediatrics (2013), a Youth Risky Behaviour Survey done in 2011 in the United States, revealed that 47.4% of students reported that they had ever had sexual intercourse, 33.7% reported that they were currently

sexually active, and 15.3% had had sexual intercourse with four or more partners in their lifetime. In a cross-sectional study to determine the links between sex-related expectations about alcohol heavy episodic drinking and sexual risk among young Menina Shanty town in Lima, Peru, heavy drinking was associated with having had two or more sexual partners and having had sex with a casual partner in the past year (Grossman, and Markowitz, 2005). At the same time, Copper, (2002) in a study to evaluate the empirical associations between alcohol use and risky sex found a strong relationship between drinking and decision to have sex and to indiscriminate forms of risky sex. In a study by Parks, *et al.*, (2009) in assessing the rates of risky sexual behavior among women bar drinkers, as well as differences in predictors of risky sexual behavior based on partner type, new or regular, rates of risky sexual behavior were significantly higher with regular partners compared with new partners.

In a study to investigate if risky behavior can be reduced through the provision of information by Chowdry *et al.*, (2013), the researchers concluded that schools are an important factor associated with risky behavior, and school characteristics e.g. truancy rates may provide a useful way to identify target populations. In another research carried out to examine whether relationship infidelity and sexual promiscuity are related to Big Five personality traits (i.e. extraversion, agreeableness, openness, conscientiousness and neuroticism) in different ways, and whether these differences pervade all world regions of the International Sexuality Description Project (ISDP), the study found that relationship infidelity was universally associated with low agreeableness and low conscientiousness (Schmitt, 2004). However, in another study to examine coital diary data collected during a 7-month longitudinal study of young women at high risk of STDs and to describe their sexual behaviors, with particular attention to issues of partner sequence and overlap;

high-risk behavior was not common among the study population. According to the researchers, partner choice and the behavior of these partners were found to be more important elements than personal high-risk behavior in accounting for the high prevalence of sexually transmitted infections among inner-city adolescent women (Katz, *et al.*, 2001).

Kaiser (2002) observed that many teens and young adults' alcohol and drug use are closely linked to sexual decision-making and risk-taking. In some studies, adolescents' use of alcohol and other drugs has been associated with certain sexual risk behaviors. The relationship between alcohol and other drug use and first sexual intercourse is well established i.e. longitudinal studies have shown that prior substance use increases the probability that an adolescent will initiate sexual activity (UNAIDS, 2004). Available literature suggests that the global burden of disease with regard to both alcohol and unsafe sex is considerable. For example, in 1990 alcohol accounted for 3.5% of the total disability-adjusted life years (DALYs) lost globally, and for 2.1% of the total years of life lost, while unsafe sex accounted for 3.0% of the total years of life lost globally (Room, *et al.*, 2001:17; Murray and Lopez, 1996). The respective contributions of alcohol and unsafe sex to the global burden of disease are, furthermore, amplified through the linkages that have been shown to exist between alcohol, risky sexual behavior and the spread of sexually transmitted infections (STIs), including HIV infection. Sexual risk behavior accounts for a large number of opportunities for acquiring HIV infection, and alcohol use has been shown to increase high-risk sexual behavior.

Globally, the negative effects of sexuality like early and unwanted pregnancy, unsafe abortion and sexually transmitted infections (STIs) including HIV/AIDS have been reported to threaten the health and social life of adolescents more than any

other age group (Bearinger, *et al.*, 2007). Despite pre-marital sex and multiple sexual partners among Kenyan adolescents, the use of contraceptives including condoms is low (Adaji *et al.*, 2010). Studies have shown that even though adolescent boys may have knowledge about condom use and the protection it offers against unwanted pregnancies and STIs including HIV/AIDS, male norms favoring sexual experience without condoms has been observed to often prevent them from using condoms correctly and consistently (Bastien *et al.*, 2011). Although there is a high level of knowledge of contraceptive methods and a positive attitude towards contraception, the level of contraceptive use is relatively lower among the youth even for the sexually active (Oindo, 2012). Furthermore, prevalent societal norms limit young women's access to and use of contraceptives. Paradoxically, such norms emphasize sexual submissiveness and weaken young women's ability to negotiate the use of contraceptives, (Magadi and Curtis, 2003). As a result, unwanted pregnancies and abortions are reported to be prevalent among Kenyan in-school girls. According to a study done on female adolescents in secondary school in Nairobi, Kenya, 42% of pregnancies among secondary school girls resulted in induced abortions, (Chege, *et al.*, 1993). It has also been reported that adolescent girls aged 15 – 19 years accounted for 19% of abortion related complications in Kenyan hospitals in 2003 (Grabreselassie, *et al.*, 2005). Adolescent sexual activity is also viewed as a problem in that teenagers also use contraceptives ineffectively and have early or otherwise mistimed pregnancies (Kowaleski and Mott, 1998).

This literature reveals that sexual autonomy for women and girls, especially as it applies to premarital sex and prevention of unwanted pregnancies remains a highly contentious issue, a similar finding to a study done by Taylor *et al.*, (2000) who also found that sexual abuse was more common among females than among males.

Concerns that sex education and distribution of contraceptives including condoms could erode moral and cultural values and norms. However, the perspectives of adolescents and their voices on these issues remain largely unheard. It is imperative to understand attitudes of Kenyan adolescents towards RSB, premarital sex and unwanted pregnancies in order to design appropriate sexual and reproductive health interventions for adolescents.

#### **2.4. Cultural Factors**

The effects of collective moralities and cultural norms that can generate self-imposed constraints on some forms of sexual conduct remain the most powerful influence on human sexuality. It is due to this that sexual practices are said to be a reflection of community specific sexual norms and all normative discourses on sexuality (Ntseane and Preece, 2005). The above argument is based on the fact that involvement in high risk sexual behavior is most likely among men and women who are socialized and live in communities in which collective moralities and cultural norms are most permissive towards sexual relationships with multiple partners and extra marital relationships. This shows that community cultures influence how the adolescents behave. According to Uchudi, *et al.*, (2011), these are societies in which the normative elements that legitimate both multiple and concurrent partnerships and the association between sexual exchange and individual gains among women are clustered and where women have a great deal of decision-making autonomy (freedom of choice) in sexual matters.

On the other hand compelling arguments associate cultural practices that oppress women with HIV infection. Some practices, such as early marriage and wife inheritance enhance the chances of HIV infection as they result in a higher frequency of unprotected sex, often with older men who have had multiple sex

partners (Rombo, 2009). According to (CBS, 2003), regions in which gender-based violence is common record a high prevalence of HIV, in addition to marital rape which increases the risk of infection. According to a study whose aim was to increase understanding of the social and cultural context of substance use and sexual behaviors among 11- to 16-year-old adolescents in Europe and North America, it was concluded that adolescent substance use and sexual behavior are predicted by a complex interplay of social and cultural factors (Looze, 2006). Cultural beliefs are a significant factor when it comes to RSB as they determine the beliefs and attitude of the said adolescents.

Research shows that gender inequality in marital relations especially in sexual decision-making increases vulnerability to HIV transmission (United Nations, 1990). Current data on new HIV infections suggests that the incidences of HIV infections are on the rise among married women and girls worldwide with unsafe and unprotected heterosexual intercourse being the single most important factor in the transmission of HIV among women. Indeed, marriage which greatly increases women's sexual exposure has in itself become a risk factor for women and girls in many countries. A number of reasons have been cited to be leading to high frequency of unprotected sex after marriage among them being the implications of infidelity or distrust associated with certain forms of contraception such as condoms, a strong desire to become pregnant, and an imbalance in gender power relations (Mtenga *et al.*, 2015).

The cultural practice of polygamy that is legally sanctioned in some parts of the world allows husbands to have more than one wife. Due to the concurrent sexual networks between multiple wives and their husband, and in addition to any extra-marital sexual contacts the spouse may have, direct sexual transmission of HIV can

occur in these concurrent sexual networks. In this case the virus is introduced through the spouse's extra-marital sexual contacts or by a new HIV positive wife who enters the polygamous union. Gender inequality and patriarchy encourage multiple sexual partners for men inside and outside marriage while women are required to be faithful and monogamous. Such socio-cultural practices and norms make men and their partners especially vulnerable to HIV, (Dibua, 2009). These patriarchal notions increase the risk of HIV transmission by undermining women's ability to negotiate condom use, insist on partner fidelity, and to leave high risk sexual relationships. In addition, negotiating for safe sexual practices and insisting on partner fidelity becomes further complicated in polygamous households especially where multiple wives are reliant on one husband for material survival. At the same time, the economic hardship and lack of emotional attention associated with polygamy can make women to engage in extramarital sexual relationship (Ashby and Gupta, 2013). Polygamy increases the chances of getting STD's as it means having sex with more than one partner. While this is the scenario, the same partners may be engaging in other extra marital affairs hence RSB. These extra marital affairs by married men sometimes involve adolescent girls.

Most sexually active girls aged 15-19 years in developing countries are married (KDHS, 2010). Research shows that early marriages increase a young girl's vulnerability to HIV as they are most likely to be forced into having sexual intercourse with their husbands. Young girls have softer vaginal membranes which are more prone to tear, especially on coercion, making them susceptible to HIV and other STIs while the older husbands are more likely to be sexually experienced and HIV infected. The significant age gap in spouses also further intensifies the power differential between husband and wife, which in turn discourages the open

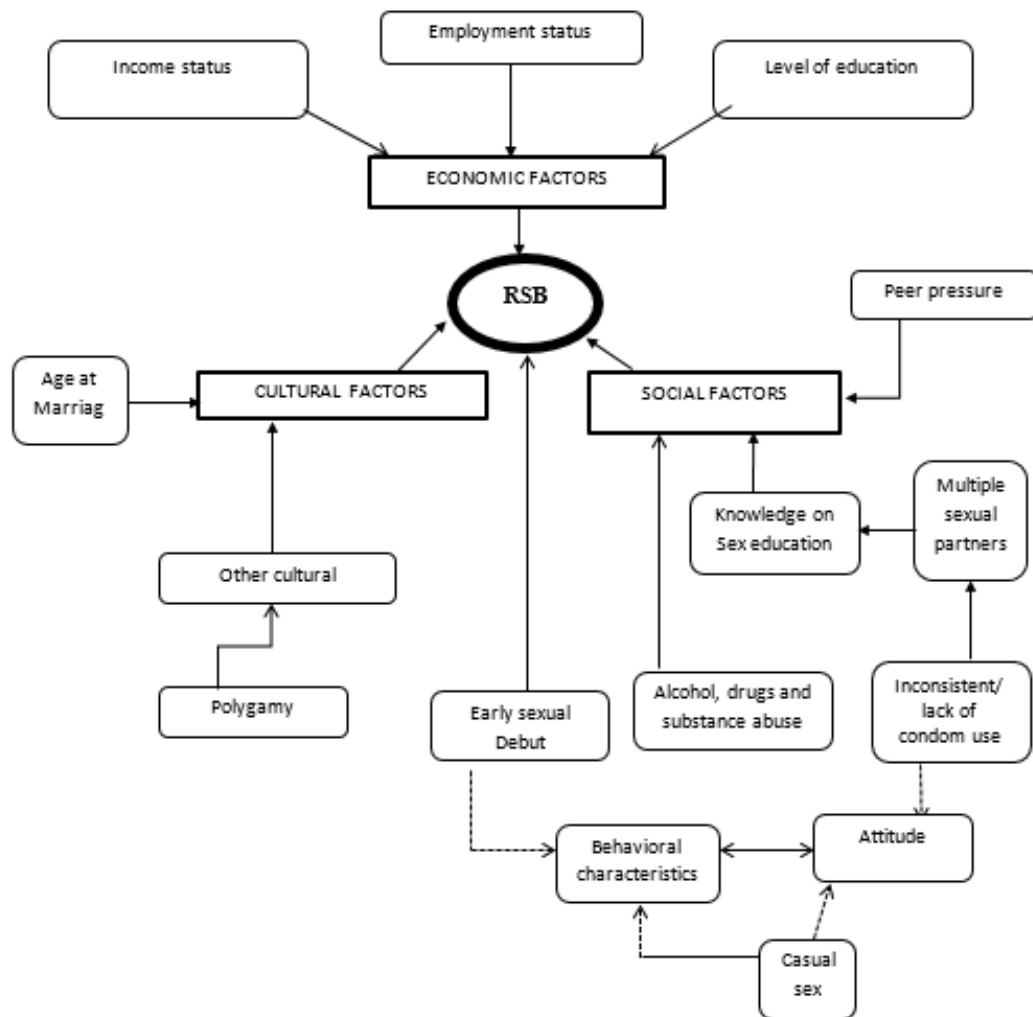


communication required to ensure uptake of voluntary counseling and testing for HIV, sharing test results and planning for safe sexual relations throughout the marriage (Clark *et al.*, 2007). Early marriage among the youth is another important factor which exposes the young adults into engaging in early sexual behavior hence RSB.

Harmful cultural practices like widowhood-related rituals, sexual cleansing and female genital mutilation have been known to heighten the risk of HIV transmission. In most cases, these practices are often justified in the name of cultural values and traditions. Though cultural values and traditions are significant to community identities, it is important to realize that they cannot be continued at the cost of the right to health of the individual (Juma, *et al.*, 2014). In the same study, it was observed that funeral ceremonies, especially the night dances/discos and overnight prayer gatherings, create environments conducive for risky sexual behavior. Robinson (2010) examining how negative gender beliefs operate to predict sexual risk taking in later adolescence, observed that the single best predictor of future sexual risk taking is past sexual risk. Additionally, high levels of drug use, and low acceptance of interpersonal violence were found to predict sexual risk taking in later adolescence.

Harmful cultural practices for quite a long time have been condemned for perpetuating RSB on both men and women thus leading to diseases like HIV/AIDS, STI and even pregnancy. For example, in a study by Skinner (2004) titled “risky sexual behaviour, culture and public health: ‘disco funerals’ in Western Kenya”, the researcher notes that cultural factors may include the unspoken acceptance of polygamy and wife or sister inheritance. According to the researcher, the party, with music and dancing, starts around 10 to 11 pm and can last for days, but typically

goes throughout the night until the morning hours. Men generally drink homemade brew and smoke cannabis (*marijuana*) or chew khat (*miraa*). The master of ceremony makes attendees pay if they want to remain sitting or go out and dance to avoid paying. At the same time, men also pay for girls who they want for their dance partners. This dance is also used to decide on later transactional sex; if unwilling, girls are frequently raped as a consequence.



**Figure 1: Conceptual Framework**

## **CHAPTER THREE**

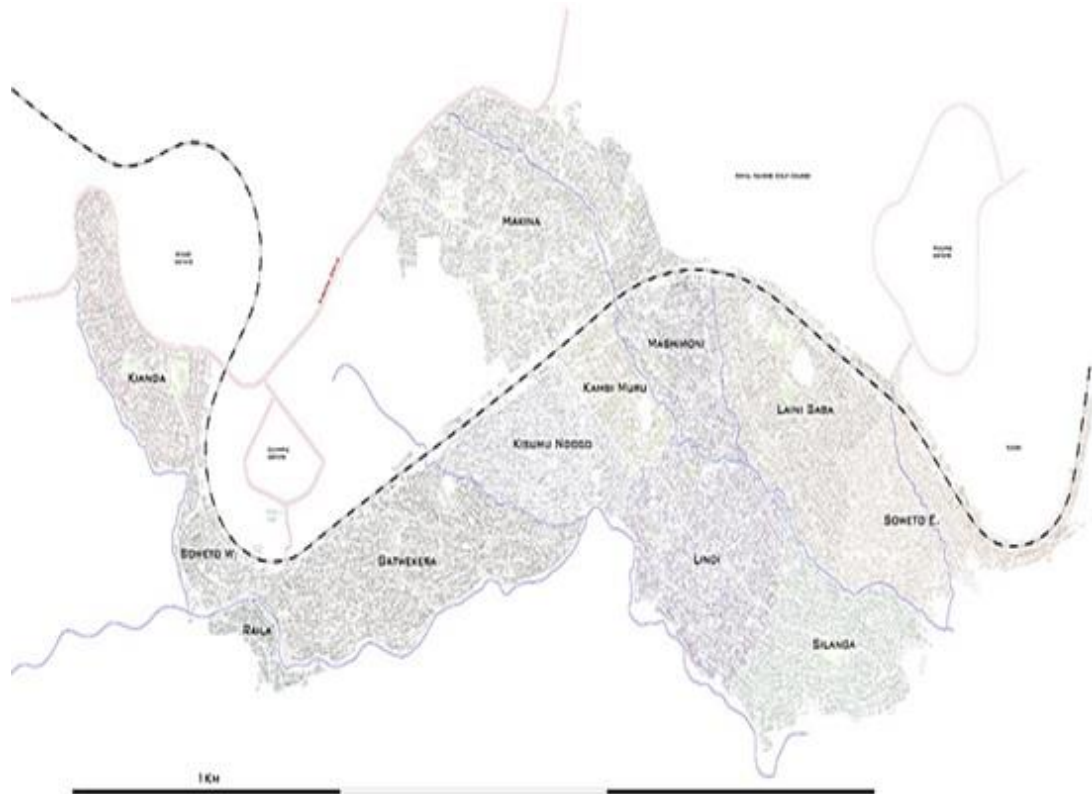
### **METHODOLOGY**

#### **3.1 Study Design**

This was a cross-sectional descriptive study that was carried out to establish the factors that are related to risky sexual behavior among adolescence in Kibera informal settlement. Quantitative methods for data collection were used to collect relevant information from the adolescents. For the purpose of this study, questionnaires were hand delivered to the adolescents in the selected households within Kibera by the research assistants.

#### **3.2 Study Site**

This study was undertaken in Kibera informal settlement which is one of the largest informal settlements in the world; with an estimated population ranging between half a million to 1 million people on an area of 2.5 square kilometers. It is one of the most densely populated slums in Nairobi with a density of more than 2000 people per hectare. Lack of reliable data on population and growth parameters on Kibera slums has led to disagreements on the size of the slums as one of the largest in the continent. Kenya National Bureau of Statistics estimates the average population of Kibera at approximately more than 900,000 people.



**Figure 2: Map of the Study Site**

(Retrieved from: [https://chewychunks.files.wordpress.com/2012/04/kibera-map\\_names\\_800.jpg](https://chewychunks.files.wordpress.com/2012/04/kibera-map_names_800.jpg))

The slums is divided into 14 villages with varying populations - Kianda, Olympic, Soweto West, Gatwekera, Raila, Karanja, Kisumu Ndogo, Makina, Kambi Muru, Mashimoni, Lindi, Laini Saba, Silanga and Soweto East., (Figure 2).

By their very nature, informal settlements are replete with poor environmental conditions that predispose their inhabitants to poor health outcomes, and also poor access of health facilities. Most of the healthcare providers in Kibera are the charitable organizations notably AMREF, MSF amongst others. All people are encouraged to have a free HIV test and if positive to take free generic ARV medicine.

### 3.3 Target Population

This study targeted adolescent of age 13-19years living in Kibera informal settlement. The choice of this population was informed by studies showing that this age bracket is one of the most predisposed and vulnerable to risky sexual behaviour. (Danjin *et al.*, 2009). According to the government statistics in Kenya, 18% of teenagers were initiating childbearing in 2008 with those from poorer households (24%) being at higher risk than the ones from wealthier households (16%) (Kenya National Bureau of Statistics (KNBS) & ICF Macro, 2010). Also, studies from informal settlements have reported riskier sexual behaviours among adolescents and young people which include early sexual debut, transactional sex and multiple sexual partnerships than those in the non-slums parts of the city (Kabiru *et al.*, 2010). There is evidence that the odds of engaging in multiple sexual partnerships is three times higher for the poorest quartile in Nairobi compared to the poorest quartile in rural areas (Dodoo *et al.*, 2007). Early involvement in unprotected sexual intercourse and engagement with multiple sexual partners exposes the youth to sexually transmitted infections, including HIV, given the relatively high prevalence of HIV/AIDS in slum settlements. Therefore, Kibera slums being the largest informal settlement was chosen to examine the three main factors as follows:

- 1) Economic factors; Level of income of adolescent and parents/ guardian, employment status. For the purpose of this study, wealth status was determined using wealth quartiles derived from information on the presence or absence of household assets and amenities as proposed by Filmer and Pritchett (2001). These amenities and assets included source of drinking water, source of cooking fuel, electricity, and ownership of a car, television (TV), refrigerator, radio, and other assets.

- 2) Social factors; Behavioral practices, knowledge on sex education and attitude towards sexuality.
- 3) Cultural factors: Early marriage, polygamy and other harmful practices.

### 3.4 Sample Size Determination

The hypothesized prevalence deviant behavior among adolescents in Kenya is estimated to be 50%, (Mbutia, 2013). Therefore, using the Fisher's formula (Kumar, 2011), the sample size was determined as follows:

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

Where:

n = the desired sample size if the target population is greater than 10,000

z = the standard normal deviate at the required confidence level

p = the prevalence of risky sexual behavior estimated to be at 50%.

q = (1-p); the proportion of youth not engaging in risky sexual behavior. (100-50= 50%)

d = the level of statistical significance/ margin of error required.

$$n = (1.96^2) \cdot 0.50 \cdot 0.50 / 0.05^2$$

$$n = 384.$$

10% was added in order to cater for non-response; 384+38= 422

Therefore, the targeted population was 422

### 3.5 Sampling Technique

A sample of 422 respondents were targeted in this study, however, 408 respondents were reached and interviewed. The 14 could not be reached even after trying to reach them every time we visited their households for the second time. Therefore, only the 408 respondents that were reached consented to take part in this study and it

was assumed that the remaining fourteen (14) participants declined to consent, due to their unavailability. The respondents were selected using a multi-stage sampling process. According to Kenya National Bureau of Statistics (2010), Kibera has 14 villages and the population in each village is as shown in table 1.

The first stage of sampling involved a random sampling of the 14 villages in which 7 villages were selected at random. These were; Silanga, Laini Saba, Lindi, Mashimoni, Makina, Kisumu ndogo and Katwekera.

Within each selected village, a number of households were selected using systematic random sampling in the second stage. The sampling interval used in this study was eight (8) and calculated as follows:

$$\text{Sampling Interval} = \frac{\text{No. of households in all villages}}{\text{targeted number of households}} = \frac{3367}{422} = 7.9$$

Therefore the sampling interval was 8. A number was chosen between 1 and 8. After random selection of a number between one and eight, the first household was selected and each eighth house after that until the 422<sup>nd</sup> household was reached. Recruitment of the adolescents followed a major pathway within the village which the households were aligned. Our guides played a major role in guiding our movement. The number of households selected in a particular village was dependent on the population density of that village i.e. the higher the population density of a village, the higher the number of households allocated as shown in Table 1. The households were the unit of analysis, with one adolescent aged 13 to 19 years in each household interviewed through a questionnaire. This was based upon the assumption that the adolescent population in each cluster had fairly similar characteristics and each household contained at least one adolescent. The minimum for each sex category was 192. This was done in order to allow for statistically representative numbers of each sex category and helped in identifying and

highlighting the significant difference between male and female adolescents in relation to risky sexual behavior. The number of adolescents who responded was 204 for females and 204 for males resulting in a total of at 408.

**Table 1: Population of the selected villages and sample allocation.**

Village	Population per square kilometer	Number of Households	Targeted number of households	Actual number of respondents
Silanga	70,000	387	48	47
Laini Saba	80,000	442	56	53
Lindi	85,000	470	59	57
Mashimoni	100,000	553	69	67
Makina	130,000	719	90	87
Kisumu Ndogo	60,000	332	41	40
Katwekera	85,000	464	59	57
<b>Total</b>	<b>610,000</b>	<b>3367</b>	<b>422</b>	<b>408</b>

Source: Desgropes, A., & Taupin, S., (2011). *Kibera: The biggest slum in Africa?*

### 3.6 Eligibility Criteria

#### 3.6.1 Inclusion criteria

Adolescents of 13-19 years of age, both male and female who had lived in Kibera for at least one year. In addition, those adolescents who were given their verbal and written consent were considered as respondents to the study. The adolescent respondent must have had the ability to read and write.

### 3.7 Ethical Consideration

Ethical approval was sought from Moi University Institutional of Research Ethics Committee (IREC). All the participants were informed verbally and in writing about the study. Consent was sought from all participants who were 18-19 years while for those below the age of 18 years, consent was sought from parents or guardians.



Since the study was on a voluntary basis, participants were allowed to withdraw from the study whenever they liked.

Any ethical issue that affected the quality of data for example confidentiality remained a top priority in this study. This was ensured through training all research assistants that were involved in the study on the importance of adhering to ethical principles during the study period. Research assistant's role in this study was to majorly assist in data collection

### **3.8 Training Research Assistants**

Research assistants were trained for three days so as to have a standardized way of administering the tools to the adolescents who could not answer the questions. This was also meant to obtain accurate and complete data as well as adhere to ethical principles of research such as confidentiality.

### **3.9 Validation of Instruments**

The questionnaire was pretested to improve on the content, format and sequence and scales of measurement so as to ensure its validity (Creswell, 2003). The pilot study was done in Kibera slums specifically in Raila village, where 20 questionnaires were administered. The area was chosen given that it was not one of study sites and the characteristics of the population were more or less the same. The questionnaire was then adjusted where necessary. During this period, research assistants were trained on rapport building techniques to obtain accurate data. This was done after receiving an approval from IREC.

### **3.10 Data Collection Instruments**

Quantitative data was collected using self-administered questionnaires, which were distributed to the participants using three Research Assistants (RAs), and later

collected after answering the questions. Each Research Assistant was assigned one administrative village at a time. Data collected for socio-demographic factors included age, sex, and religion among others. In addition, data was also collected on economic factors such as education level, income level as well as on social factors such as sexual debut, behavioral practices and attitude towards RSB and already known cultural factors e.g. early marriage.

In order to maximize the quality of data, every questionnaire collected was subjected to scrutiny so as to determine the patterns and flow of information emanating from the participants to ensure more accurate and reliable results.

Data collection was majorly self-administered given that after identifying all the respondents in a village, they all gathered in central place where the administration of the tools took place. The respondent read the questions and recorded the answers themselves. This was after the respondent was guided and informed on the objective and the need for quality data. Only when the respondent had a challenge to answer the questions did the research assistants help. The tool was also left with the respondent as the research assistant moved to the next household to identify more respondents.

### **3.11 Data Analysis**

Data cleaning was done before data entry. Frequencies for discrete data like age, sex and marital status were obtained before carrying out statistical analysis to ensure that all data were entered correctly. Chi square tests was performed to establish the association between categorical variables like sex, marital status and education level while Analysis of Variance (ANOVA) was used to compare the means for age and income level. Multivariate logistic regression analysis was used to investigate

associations between RSB (the dependent variable) and economic, social and cultural variables (independent variables). Results were considered significant at P-value of less than 0.05 at 95% Confidence Interval (C.I.). The results of the study were also presented in tables, graphs, charts, figures and narration for further descriptions and interpretation. This was mainly to show descriptive statistics while inferential statistics were used to show the correlation and associations of the independent variables with risky sexual behavior.

### **3.12 Confidentiality of collected information**

Confidentiality of the information given and anonymity of the respondents was adhered to. This was explained in detail to the respondent before signing the consent form. Respondents' names were not used in the study. Codes were however used to represent each voluntary participant. All data collected were stored securely for the appropriate period of time according to the requirements of the ethics committee.

### **3.1 3 Community Entry**

Prior to data collection, together with the research assistants, we visited the District Officer's offices in Kibera and met with the Chief and two representatives from each village, totaling 14 representatives. This was in order to sensitize the community on the study. We also met seven (7) youth representatives from each village the following day, who acted as guides to help in movement within the villages. In addition, having previously worked as a health care worker involved with the youth within Kibera for four years, I had a better understanding of the adolescent characteristics as well as topographical and geographical characteristics within Kibera. This contributed to an easy entry into the community.

### **3.1 4 Study Limitations**

The first limitation was that the information collected was self-reported, which was subject to reporting errors and bias. The respondents were assured of the confidentiality of their responses and the fact that no personal identifier was entered during data collection hence the filled questionnaires could not be linked directly to them. This was done to minimize social-desirability bias from the respondents. The second limitation was that the study was based on cross sectional data implying that the direction of causal relationship cannot be determined. This means that the interpretation of results therefore limits it to association between variables rather than the cause-and-effect relationship.

**Table 2: Operational Definition of Variables**

Type	Variable Name	Operational definition	Scale of measurement
<b>Background Variables</b>	Age	Age of respondent in years	Numerical
	Sex	Biological difference; male or female	Binary
	Marital status	Single, married, separated, divorced	Categorical
	Education Level	Highest education level attained at the time of interview	Ordinal
	Religion	Christian, Muslim, Other	Categorical
	Number of children	Number of children adolescent has	Numerical
<b>Dependent Variable</b>	Risky Sexual Behavior	Whether or not adolescents engage in risky sexual behaviour	Binary
	Employment Status of adolescent	Permanent employment, casual employment, self-employed, unemployed	Ordinal
	Income level of both adolescent and parents/guardian	Income of adolescent/parent or guardian i.e. Low, medium, high	Categorical
<b>Independent Variables</b>	Knowledge on RSB	Ability to know basic practices associated with RSB	Nominal
	Behavioral practices influencing RSB	Early sexual debut, Alcohol and drugs, casual sex	Nominal
	Attitude towards RSB	Respondent's thinking towards RSB	Ordinal
	Cultural factors influencing RSB	Early marriage, Polygamy, Other harmful cultural practices.	Nominal

## **CHAPTER FOUR**

### **RESULTS**

#### **4.1 Introduction**

This chapter presents the results of the study. The study sought to establish the factors which contributed to risky sexual behavior among adolescents living in Kibera informal settlement. The results of the study are presented using tables and figures. A total of 408 respondents participated in the study. However, two participants were disqualified due to inconsistencies in their responses, bringing the total number of respondents to 406. Therefore, a total of 406 respondents were analyzed in this study.

#### **4.1 Socio Demographic Characteristics**

A total of 408 adolescents between the age of 13 years and 19 years were interviewed in this study. The mean age of the respondents was 15.7 years ( $\pm 1.59$ ). Two female respondents were disqualified as part of the study due to inconsistencies in their responses. There were 202 (49.8%) female and 204 (50.2%) male respondents in the study. About 56% of all respondents had attained secondary school education by the time of the study. Majority of the respondents were single, primary and secondary school students, with 94.1% being Christians (Table 3).

**Table 3: Demographic Characteristics of respondents**

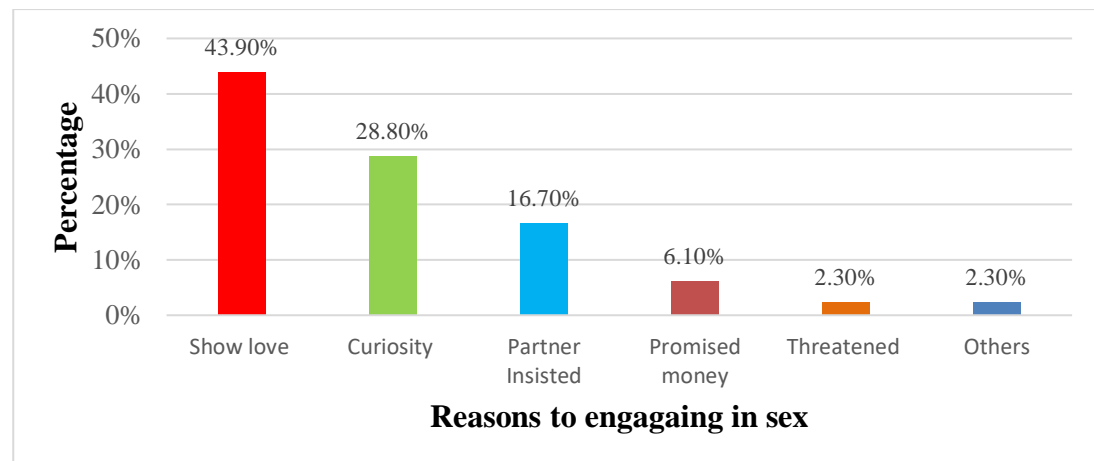
<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>		
Male	204	50.2
Female	202	49.8
<b>Total</b>	406	100
<b>Highest Level of Education</b>		
Primary	169	41.6
Secondary	229	56.4
Tertiary	7	1.7
Non-respondents	1	0.3
<b>Total</b>	406	100
<b>Marital Status</b>		
Married	2	0.5
Single	391	96.3
Divorced	4	1
Widowed	0	0
Non-respondents	9	2.2
<b>Total</b>	406	100
<b>Religion</b>		
Christian	382	94.1
Muslim	16	3.9
None	5	1.2
Other religion	3	0.8
<b>Total</b>	406	100
<b>Importance of religion</b>		
Not important	74	18.2
Somewhat Important	144	35.5
Very important	179	44.1
Non-respondents	9	2.2
<b>Total</b>	406	100

## 4.2 Sexual Behavior among Adolescents in the Community

### 4.2.1 Sexual debut

According to this study, 35.8% of the respondents had engaged in sexual intercourse by the time of the study with the mean age at which the respondents first heard about sex being 10.1 years ( $\pm 2.9$ ). A majority of the male respondents (60.4%) had engaged in sexual activity compared to their female counterparts (39.6%). The study also revealed a younger mean age of 11.8 years ( $\pm 3.8$ ), at the time of sexual debut, with girls engaging in sex slightly early (11.7 years) compared to boys at 12 years. As shown in figure 5, respondents reported that the reasons as to why they engaged in sex was: to show love (43.9%), due to curiosity (28.8%), while (16.7%) was

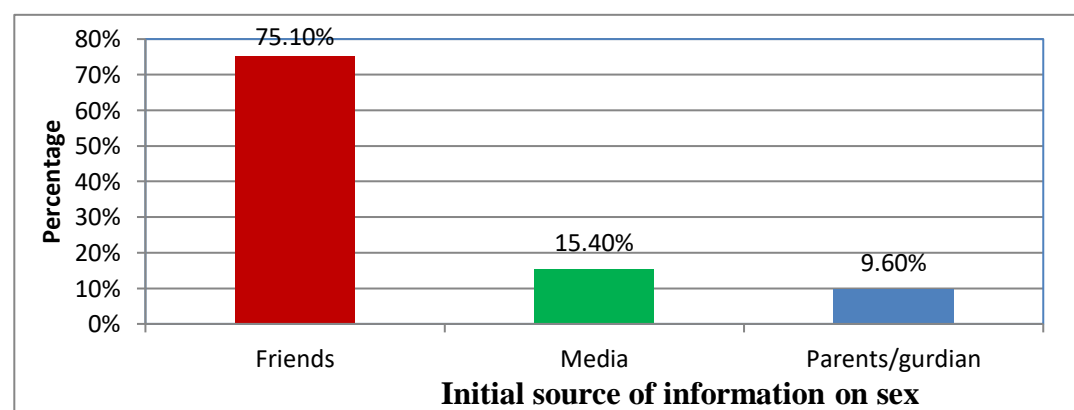
because their partners insisted. According to the respondents, 4.8% confirmed to be engaging in sex regularly while 62.4% had never engaged in sexual activity.



**Figure 3: Reasons for respondents engaging in sex**

#### 4.2.2 Source of information on sex

Majority of the respondents (75.1%) first heard about sex from their friends while 15.4% got it from the media and only 9.6% got the information from their parents (Figure 4).

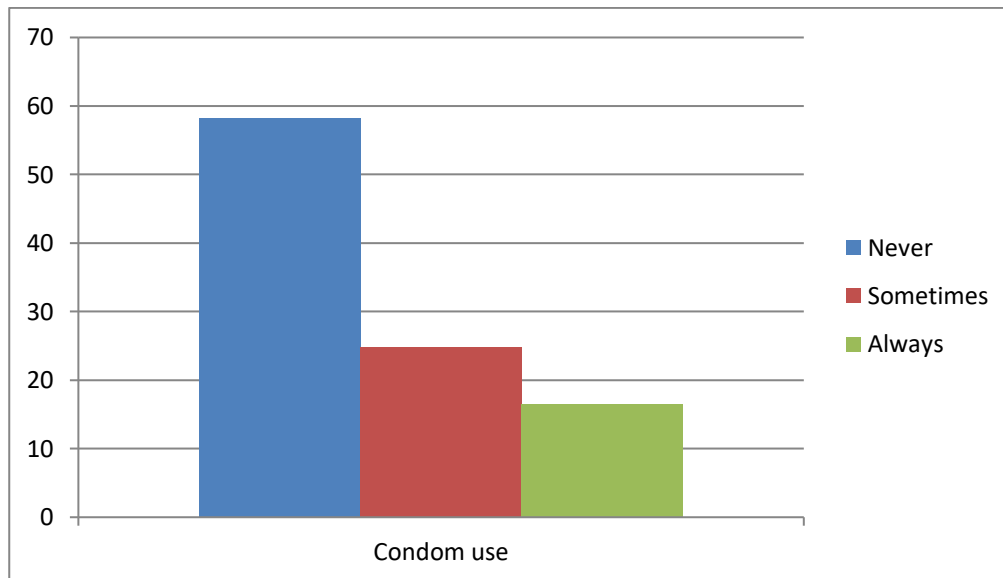


**Figure 4: Source of Initial information on sex**

#### 4.2.3 Condom use among respondents

Majority of the respondents (58.2%) have never used condoms while 16.5% always used condoms and 24.8% sometimes used condoms as shown in Figure 5 below.





**Figure 5: Condom use among respondents**

### **4. 3. Economic factors associated with risky sexual behavior in adolescents**

#### **4.3.1 Economic Characteristics of the respondents**

As shown in Table 4 below, a majority of the respondents 91.1%, reported to be receiving their income from their parents/guardian, of whom 32% were permanently employed. On the average amount, 66.7% received Kenya shillings (1-3000) from their parents and 1.2% from their partners. On education level of the parents, a majority had attained secondary education 49.8% with only 2% having not attended any formal education.

**Table 4: Economic Factors of the respondents**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Source of Income</b>		
Parent /guardian	370	91.1
Salary/wage	11	2.7
Partner	5	1.2
None	18	4.4
Non-respondents	2	0.5
<b>Employment Status(Parent)</b>		
Permanent	130	32
Casual	93	23
Self Employed	90	22.1
Unemployed	14	3.4
Non-respondents	79	19.5
<b>Amount received(Parent)</b>		
1-3000	271	66.7
3001-15000	39	9.6
>15000	1	.3
None	14	3.4
Non-respondents	81	19.9
<b>Employment Status(Partner)</b>		
Permanent	14	3.5
Casual	70	17.2
Self Employed	5	1.2
Unemployed	10	2.5
Student/ still in school	245	60.3
Non-respondents	62	15.3
<b>Amount received(Partner)</b>		
1-3000	23	5.7
3001-15000	13	3.2
>15000	2	0.5
None	20	4.9
N/A	348	85.7
<b>Employment Status(Respondent)</b>		
Permanent	2	.5
Casual	8	2
Self	4	1
Unemployed	57	14
Student	286	70.4
Non-respondents	49	12.1
<b>Monthly Income(Respondent)</b>		
1-3000	12	3
3001-6000	3	0.7
>15000	1	0.3
None	341	84
Non-respondents	49	12.1
<b>Parents level of education</b>		
Primary	102	25.1
Secondary	202	49.8
Tertiary	87	21.4
None	8	2
Non-respondents	7	1.7

#### **4.3.2 Association between risky sexual behavior and economic factors**

There was no association found between villages of residence and engaging in risky sexual behavior. There was also no significance ( $P > 0.05$ ) found between source of income of the respondents and risky sexual behavior. Likewise no association was found between RSB and monthly income, employment status of the respondent, household goods, education level of parent and partner. A strong significance was found between respondents having ever engaged in sex and source of sex information from parents [0.005(.496)] and Media [0.036(2)]. There was a protective effect against indulgence in sex when parents educated the adolescents on the same. There was significance ( $P = 0.00$ ) between sex education on human reproduction and risky sexual behavior. According to the study, respondents who received sex education on human reproduction were 2.6 times less likely to engage in sex. The study shows that those who have used family planning have a higher chance of engaging in risky sexual behavior; with the odds being 28 times more compared to those who have never used family planning. Though there was no association between the amounts of money received with RSB, the respondents who received less amount of money from their parents tended to have engaged in sex. At the same time, no association was observed between employment status and ever had sex as shown in Table 5 below.

**Table 5: Association between Risky sexual behavior and economic factors**

Variable	Ever had Sex		Chi square goodness of fit test	95% CI (OR)	
	Yes No	No %			No %
<b>Ever received sex education</b>					
Yes	127	35.4	232	64.6	X <sup>2</sup> = 0.258, df = 1, P = 0.373
No	12	40	18	60	
<b>Ever used family planning</b>					
Yes	44	91.7	4	8.3	X <sup>2</sup> =74.3, df = 1, P = <b>0.00</b>
No	94	27.9	243	72.1	
<b>Received money from parent</b>					
Yes	99	33.8	5	35.7	X <sup>2</sup> = 0.022, df = 1, P = 0.544
No	194	66.2	9	64.3	
<b>Amount received from parent</b>					
(1-3000)	87	33.7	171	66.3	X <sup>2</sup> = 3.9, df = 7, P = 0.787
3001-6000	9	37.5	15	62.5	
(6001-9000)	2	40	3	60	
(9001-12000)	0	0	3	100	
(12001-15000)	1	33.3	2	66.7	
>15000	1	100	0	0	
<b>Employment Status</b>					
Employed	7	5.8	7	3.1	X <sup>2</sup> = 1.4 , df = 1, P = 1.79
Not employed	113	94.2	216	96.9	

#### 4.4. Social Factors Associated with Risky Sexual Behavior in Adolescents

##### 4.4.1 Social characteristics of the adolescents

###### 4.4.1.1 Sex education

Majority of the respondents (92.6%) had received sex education by the time of the study, with the highest proportion, 81.6%, receiving it from school while the least source of sex education was the media at 12.3%. Most of the respondents (72.4%) received sex education within the year of the study while 9.1% received the same three years before the study. According to 70% of the respondents, most of the concerns they had on sex education were covered.

###### 4.4.1.2. Family planning

Only 12.3% of the respondents had used family planning (FP) by the time of this study with 61.5% reporting to have used male condoms. When probed on why they

did not use family planning, 81% of respondents said that they had not attained the age of using it while 10.8% claimed that FP would affect their health.

#### 4.4.1.3 Attitude of the respondents towards risky sexual practices

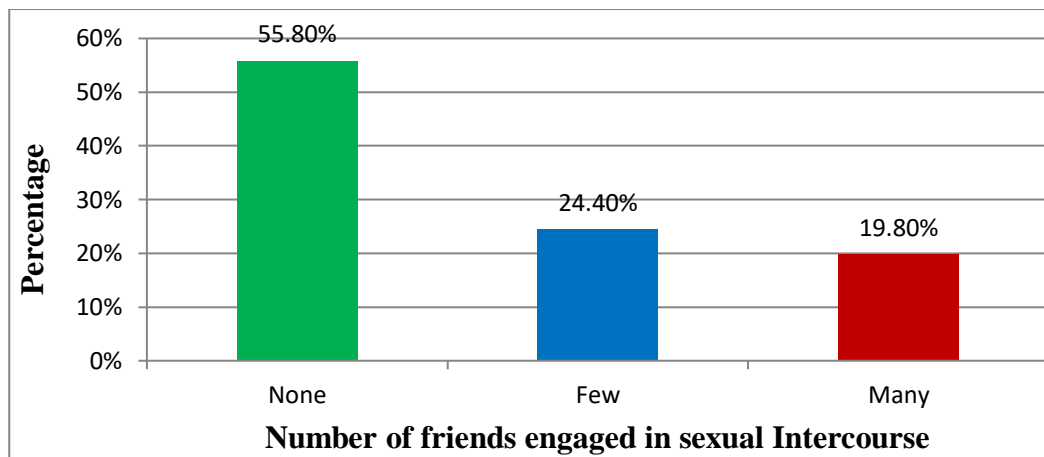
Majority of the adolescents, 85.7%, were for the opinion that there was a problem with having multiple sexual partners with 77.1% stating that casual sex was a risky sexual behavior. At the same time, majority (63.7%) agreed that inconsistent condom use was risky and 72.7% agreed that there was a problem in being sexually active in early life (Table 6). Generally all respondents acknowledged that they were aware of risky sexual behaviors.

**Table 6: Attitude towards risky sexual practices among respondents**

	Agree N (%)	Neutral N (%)	Disagree N (%)
There is no problem with having multiple sexual partners	52(12.8)	6(1.5)	348(85.7)
Casual sex is a risky sexual behavior	314(77.1)	9(2.2)	84(20.6)
Inconsistent/lack of condom use is risky sexual behavior	258(63.7)	59(14.6)	88(21.7)
There is no problem in being sexually active in early life	85(20.9)	26(6.4)	296(72.7)

#### 4.4.1.4 Peer pressure

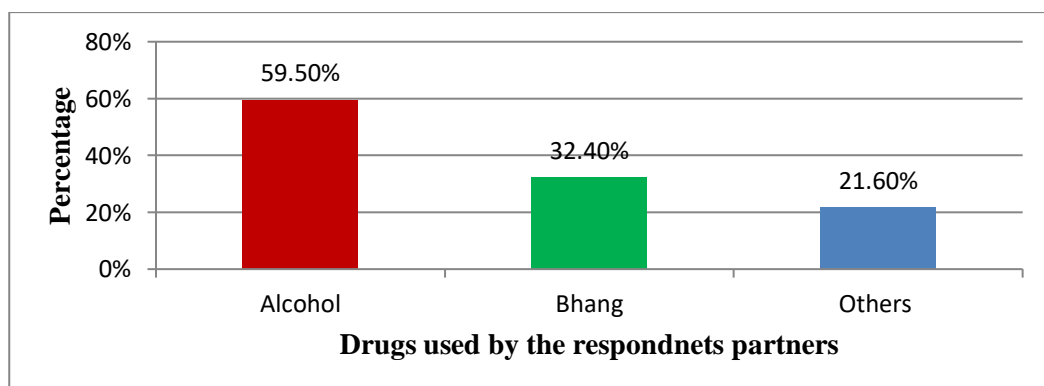
Majority of respondents affirmed that they had indeed been influenced to engage in sexual activity. According to the data, 44.2% reported that they had friends (both few and many) that had engaged in sexual intercourse by the time of the study (Figure 6). Note that few refers to less than 5 friends, while many refers to 5 or more friends.



**Figure 6: Number of friends engaged in sexual intercourse**

#### 4.4.1.5. Drugs and substance use

Only 9.5% of the respondents had used alcohol prior to their engagement in sexual activity. The study revealed that 9.6% respondents were drug users with 11% indicating that their partners were also drug users. Among some of the substances used were alcohol, tobacco, *bhang*, *khat* and cocaine. Some of their partners were reported to use alcohol, bhang and other drugs at 59.5%, 32.4% and 21.6% respectively as shown in figure 7 below. Only 1.6% of the respondents reported that their partners were always on drugs, 14.4% rarely on drugs, while 77.7% never used drugs as inducement before having sex.



**Figure 7: Drugs used by the respondents' partners**

#### **4.4.2 Association between risky sexual behavior and social factors**

A strong significance ( $P < 0.003$ ) was observed between gender and respondents ever engaged in sex, with the male found to be engaging in sex more compared to females as shown below in Table 7. The study revealed a negative correlation ( $-0.334$ ,  $P < 0.01$ ) between age and respondents ever engaged in sexual intercourse.

A strong association ( $P > 0.003$ ), ( $P > 0.001$ ) was found between use of family planning with gender and level of education with male respondents likely to use family planning as compared to the females. In addition, high level of education was found to significantly influence adolescents' use of family planning as summarized in table 7 below.

The use of drugs and/or alcohol was strongly related to having sexual intercourse with the odds of engaging in sexual intercourse being 7.6 times higher (Table 7). Also having a friend who used drugs increased the chances of one doing the same with an odd of 2 times. There was no association between the education level of the parents and the respondent's use of condoms as well as ever having sexual intercourse. Likewise, no association was found between partners' use of alcohol and or the use of drug and condom.

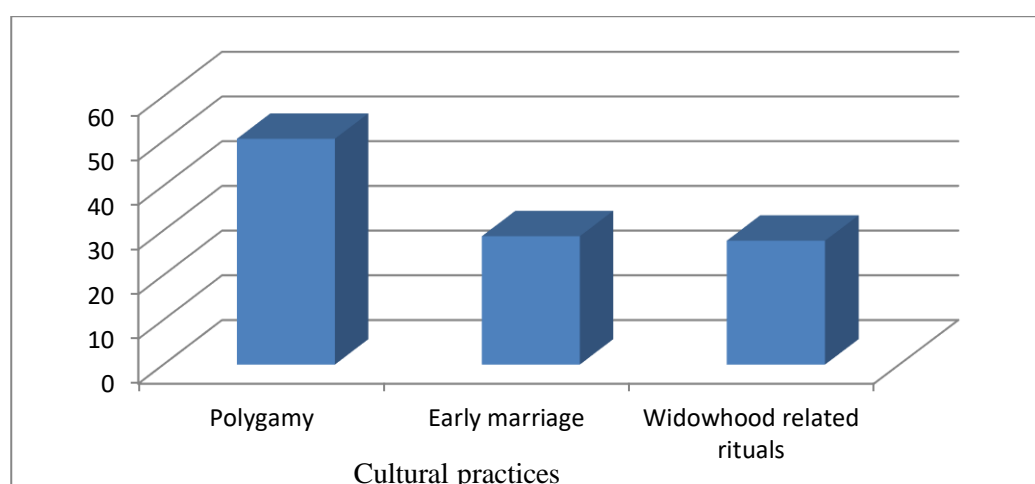
**Table 7: Association of sexual behaviour and socio-demographic factors of the adolescents**

Variable	Yes		Ever Had Sex		Total	Chi square goodness of fit test	95% CI (OR)
	Num.	%	Num.	%			
<b>Gender</b>							
Male	34	69.4	15	30.6	49 (100)	$X^2 = 8.08$ , df = 1, P = <b>(0.003)</b>	
Female	167	47.7	183	52.3	350 (100)		
<b>Education Level</b>							
Primary	9	18.4	159	45.7		$X^2 = 13.2$ , df = 2, P = <b>(0.001)</b>	
Secondary	39	79.6	183	52.6			
Tertiary	1	2	6	1.7			
<b>Taking drugs/ alcohol</b>							
Yes	27	79.4	7	20.6	34 (100)	$X^2 = 27.5$ , df = 1, *P = <b>(0.000)</b>	<b>7.6</b>
No	113	33.6	223	66.4	336 (100)		
<b>Partner using drugs/alcohol</b>							
Yes	16	72.7	6	27.3	22 (100)	$X^2 = 1.98$ , df = 1, P = 0.118	<b>2.0</b>
No	105	57.1	79	42.9	184 (100)		

#### 4.5 Social Factors Associated with Risky Sexual Behavior in Adolescents

##### 4.5.1 Cultural Practices related to sexuality in the community

As summarized in figure 8 below, polygamy (50.5%), early marriage (28.7%) and widowhood related rituals (27.7%) were the most practiced cultural activities that were reported by the respondents.



**Figure 8: Local community cultural practices**

Though majority of the respondents were Christians, only 44.1% respondents said that religion was very important. Respondents reported receiving sex education from



various sources by the time of the study with parents/guardians accounting for 32.5%.

#### 4.5.2 Association between risky sexual behavior and cultural factors of the adolescents

As shown in table 8 below, a strong association was found between having sex and cultural practices including early marriage ( $P < 0.012$ ) and sexual cleansing ( $P < 0.026$ ). However, no association was found on polygamy and FGM.

**Table 8: Association between Risky sexual behavior and Cultural factors**

Variable	Ever had sex				Total N (%)	Chi square goodness of fit test	95% CI (OR)
	Yes		No				
	No	%	No	%			
<b>Polygamy</b>							
Yes	78	40.2	116	59.8	194 (100)	$X^2 = 3.24$ , df = 1, *P = <b>0.045</b>	1.466
No	61	31.4	133	68.6	194 (100)		
<b>FGM</b>							
Yes	12	46.2	14	53.8	26 (100)	$X^2 = 1.28$ , df = 1, P = 0.19	1.58
No	125	35.1	231	63.9	356 (100)		
<b>Early Marriage</b>							
Yes	57	50.9	55	49.1	112 (100)	$X^2 = 16.6$ , df = 1, P = <b>(0.012)</b>	<b>2.0*</b>
No	78	29	191	71	269 (100)		
<b>Sexual cleansing</b>							
Yes	31	56.4	24	43.6	55(100)	$X^2 = 11.5$ , df = 1, P = <b>(0.026)</b>	<b>2.3*</b>
No	88	32.2	185	67.8	273(100)		

#### 4.6 Multivariate Analysis

Table 9 and Table 10 shows the results of a series of multivariate logistic regression models used to explore association of RSB and the characteristics of the individuals. The age at sexual debut and being influenced into sex was positively associated with gender with the odds of having sex at an early age among girls being 4.3 times more compared to males. In addition, female adolescents are 3.4 times likely to be influenced into having sex as compared to their male counterparts. Age at first sex,

gender and used of drugs and or alcohol were positively associated with ever having sex. The findings of this study indicated that female (OR, 1.7) and the respondents who used drugs and or alcohol (OR, 6.03) were more likely to engage in sex. In addition, age was a protective factor with the odds of engaging in sex among the younger ones being lower by 33.1% ( $0.669 \times 100 - 100$ ). The results also show that the level of education is not a determinant of risky sexual behavior.

**Table 9: Multivariate analyses of factors associated with sexual intercourse (Gender)**

Factors	B	S.E	df	Sig	Exp (B)	95% C.I for EXP (B)
Sex at first age	1.46	.562	1	<b>.009</b>	4.3	(1.430-12.96)
Used FP	0.015	.439	1	.973	1.01	(0.429-2.34)
Influenced into sex	1.219	1.154	1	<b>0.003</b>	3.38	(1.50-7.61)

**Table 10: Multivariate analyses of factors associated with sexual intercourse (Ever had sex)**

Factors	B	S.E	Df	Sig	Exp (B)	95% C.I for EXP (B)
Age	-.402	.093	1	<b>.000</b>	.669	(.558-.802)
Gender	.519	.240	1	<b>.030</b>	1.7	(1.050-2.69)
Used drug/alcohol	1.8	.464	1	<b>.000</b>	6.03	(2.432-14.97)
Level of education			2	.560		
Level of education(1)	.830	.811	1	.306	2.29	(.468-11.25)
Level of education (2)	.667	.804	1	.407	1.95	(.403-9.419)

Level of education (1) = Primary school

Level of education (2) = Secondary school

## CHAPTER FIVE

### DISCUSSION

#### 5.1 Introduction

This chapter presents the summary of findings drawn from the results. The main objective of this study was to establish the factors which contribute to risky sexual behavior among adolescents living in Kibera informal settlements. The females were found to be more likely to engage in risky sexual behavior compared to the males. In addition, peer influence, consumption of alcohol and/or drugs and cultural practices were the main contributors to risky sexual behavior among the adolescents.

#### 5.2 Demographic Characteristics and Sexual Practices

The mean age at sexual debut was 12 years for male, while for the female it was 11.7 years. Although this difference may not be statistically significant, these findings are consistent with a study done in Kisumu by Ochieng *et al.*, (2011) where more than half of the students reported early onset of sexual activity with the majority indicating that they had their first sexual intercourse between the ages of 11-15 years. This is also well documented in the Kenya AIDS Epidemic update of 2012 where women reported that they had their first sexual intercourse before the age of 16 years (NASCO, 2012). Additionally, in a previous study done in Jamaica the mean age at first sexual activity ranged between (11-17) years, further confirmation that adolescents begin engaging in sexual intercourse early is shown by (Noel *et al.*, 2009). However, the study found age to be a protective factor with the younger adolescents (10-15 years) less likely to have engaged in sexual intercourse (OR=0.669, 95%CI 0.558, 0.802) compared to those who were older. This finding was consistent to a study by Rudatsikira *et al.*, (2009) which found that male adolescents of less than 15 years were 40% less likely to have engaged in sexual

intercourse compared to those who were older. The likelihood of this outcome may be because older adolescents had developed friendships with other friends who may influence them unlike the younger ones. Early sexual debut has its challenges, among them risky sexual behavior such as having multiple partners and not using contraceptives and may independently be associated with pregnancy (Santelli *et al.*, 1998).

A majority of the male respondents (60.4%) had engaged in sexual activity compared to the female counterparts. However, females had an early sexual debut. It is plausible that males may over report their sexual behavior unlike females due to societal expectations of female virginity at marriage coupled with greater acceptance of sexual mobility among males both prior to and during marriage as observed by (Kabiru & Orpinas, 2008).

### **5.3 Economic Factors and Sexual Behavior**

According to this study, parent or guardians were the main source of finance. The respondents who received little amounts of money (ksh.1- ksh.3,000) from their parents were found to be engaging more in sexual intercourse compared to those who received much more money (ksh.3,001- ksh.15,000) from their parents though no association was recorded. According to Madise *et al.*, (2007), poverty may be a motivation for young people to engage in early sexual activity and to have multiple partners, and this assertion has stemmed mainly from adolescents' reports of exchange of gifts and money in sexual partnerships. However, according to Mclaughlin and Kaplan, (2008), income does not actually play a significant role in determining a teen's involvement in most types of risky sexual behavior. The Schmitt, (2004) study on family income did not show a linear relation with any sexual behavior for male or female adolescents. Therefore, results from this study

found no significant association between risky sexual behavior and monthly income or employment status of the respondent, are in agreement with those of other studies that economic status of individuals is not a determinant of risky sexual behaviors.

In a survey of adolescents, wealth status was significantly associated with condom use with the poorest adolescents in some countries having the lowest odds of using condoms compared with the wealthiest (Madise, Zulu and Ciera, 2007). This could explain the less than 25% respondents in this study who always used condoms.

#### **5.4 Role of Social Factors in Sexual Behavior**

This study confirms the fact that information on sexuality, pregnancy, contraceptives, and disease is rarely imparted by teachers or health professionals. Moreover, parents are frequently *not* the primary source of information. Ranking high as main sources of information are friends, and the media, an observation similar to that made by Brown *et al.*, (2001). The fact that schools are an important source of information can be used in dissemination of sexual education to the children at an early age. They also offer opportunities of learning for many adolescents and since they also spend around 12 years in school, there is enough opportunity to teach them in a well-structured environment.

This study also revealed that adolescents in Kenya are making their sexual debut while they are still young. Lately, there has been a heated debate with stakeholders taking diverse positions on the concept of having education on sexuality taught in Kenyan schools. Their main argument has been that providing such information to school going Kenyan youth will be like giving them a license to engage in sexual activity. However, research disapproves this argument. According to Breuner & Mattson, (2016), some studies demonstrate that age-appropriate programs on

sexuality can help young people delay their sexual debut. Some opponents argue that age-appropriate education on sexuality will lead the youth away from our culture and traditions. However, this can be addressed by creating a culturally sensitive curriculum. This is important considering respondents in this study who received sex education on human reproduction were 2.6 times less likely to engage in sex.

At the same time, the adolescents may do what they hear or watch on media. Growing up in the information and technology age, Kenyan adolescents are at risk of misinformation and exposure to plenty of inappropriate sexual content. Many of them have access to mobile phones, the internet and social media. Moreover, they have access to highly sexualized TV, print and radio content. Bryant and Chavious (2014), found that sex is associated with social media in at least two categories; Twitter and You Tube. They also reported that sexual content is part of many adolescents' social networking websites profiles. Likewise, Ugoji, (2014), noted that media is a significant factor that influences adolescents particularly on risky sexual behavior. The researcher observed that adolescents who see and hear a lot about sex in the media are twice as likely to have early sexual intercourse compared to those who are not exposed to this sexual content. This is consistent with our findings that media was ranked second as an initial source of information on sex.

Peer influence could affect an individual's likelihood of engaging in sex. For example, a Kenyan study revealed that some of the close friends of adolescents were also sex partners (Rudatsikira, *et al.*, 2009). Similar to Le and Kato (2006), peer influence seems to be an important factor in adolescents' sexual decision making and sexual risk-taking behaviors. Its impact comes from adolescents' perception of their peer's attitudes and behaviors, as well as their actual attitudes and behaviors.

Likewise Kabiru and Orpinas (2008), observed that adolescents with sexually active peers are likely to engage in sexual activity unlike their counterparts with peers who are sexually inactive. Our findings are consistent with these studies that youth who report that their peers engage in high-risk behaviors also report engaging in risky sexual behaviors. Although our findings highlight the importance of peer influence on adolescent's choices about risky practices, it is not clear whether the adolescents engage in RSB as a way of imitating their peers.

According to the study, respondents whose partners were using alcohol and drugs like cannabis and khat, were likely to have used them in their last sexual activity with the odds being 4 times higher. Moreover, among the respondents who had partners using these drugs, the likelihood of them using drugs was 6 times higher compared to those whose partners were not using drugs. This confirms that peer influence seems to be an important factor in adolescents' sexual decision making and sexual risk-taking behaviors. The fact that the adolescents also take a lot of time sharing and being together shows that large amounts of information is passed amongst them hence the ease at which they can influence each other. Additionally, the fact that majority of the respondents had engaged in sex is a pointer to how adolescents can influence each other to engage in sexual activity due to peer pressure. Again the likelihood of friends being sex partners is high hence, the reasons given as to why the adolescents engage in sexual activity mainly being the need to show love, because of curiosity or at the insistence of their partners. Peer influence and risky sexual behavior was also related to alcohol use and this fact is shown by a section of the respondents who used drugs and or alcohol before engaging in sex. The frontal lobe is the part of the brain that controls decision making. Neuroscientists have found that this part of the brain experiences the

majority of its growth and shaping during the time from puberty to young adulthood (George *et al.*, 2005). Alcohol and drugs inhibit this part of the brain and one is prone to making poor decisions and judgment, hence engage in risky sexual behavior.

According to our findings, the likelihood of engaging in sex among those who used drugs and alcohol was 7.6 times higher compared to non-drug users. This confirms the strong correlation between use of drugs and risky sexual behavior. This is consistent to earlier studies by Cooper, (2002), Antonio *et al.*, (2008) and Choudhry *et al.*, (2014) and confirms the strong correlation between drug use and risky sexual behavior. Additionally, Choudhry *et al.*, (2014) showed that the use of drugs and or alcohol also decreases the chances of condom use hence likelihood of contraction of STD's. It also leads to the likelihood of sexual relations with a high number of partners or intercourse at a younger age. Knowing how damaging alcohol can be to the part of the brain that controls judgment, the risks and the potential negative outcomes of making sexual decisions while drunk can be overwhelming, as was observed by Brodish *et al.*, (2011).

Condoms are an important contraceptive for prevention of STIs (Choudhry *et al.*, 2014). However, the findings of this study showed that only 16.5% of the respondents used condoms always. This may be due to the fact that the respondents were also drug users though this study could not establish a correlation between the two. As shown in this study, those who have used family planning methods had a higher chance of engaging in risky sexual behavior despite the fact that 63.7% respondents were of the attitude that inconsistent condom use was risky. This raises the question on whether the respondents understand the outcomes of risky sexual behavior. It may also be because they have developed trust with those they engage



with or dislike the method as reported in Brown *et al.*, (2001) study. Males were found to be more likely to use condoms compared to females, findings that are consistent to a study by Gutierrez *et al.*, (2006) in which the proportion of boys (36%), using condoms during the most recent sexual act was far greater than that of girls (14%) in the age group of 15-18 years. This study confirmed the vulnerability of girls in two levels; one being physiological, in terms of susceptibility to infections and the second being social, in terms of the ability to negotiate the use of a condom.

### **5.5 Cultural Factors and Sexual Behaviors**

This study confirmed that cultural beliefs play a role in influencing risky sexual behavior. According to the study, about half of the respondents reported polygamy as the most practiced cultural tradition within their families, 28.7% reported occurrence of early marriages while 27.7% reported that widowhood related rituals such as widow inheritance were commonly practiced cultural traditions within their families. A strong association was found between adolescents having ever engaged in sex and early marriage as well as widowhood related rituals. This result supports the argument that involvement in high-risk behavior is most likely among communities where cultural norms are more permissive towards sexual relationships (Ntseane and Preece, 2005). However, there was no association between risky sexual behavior and polygamous families. A study by Juma *et al.*, (2014) observed that widow inheritance was a common cultural practice in Western Kenya that left male adolescents at risk of STI infections including HIV. According to Juma, adolescent and caregiver respondents reported that the cultural practice requires a widow be inherited by an immediate brother-in-law or other appropriate male relative of her deceased husband. In the absence of such a relative, male adolescents from one study site reported that some families prevail upon their male adolescent

sons to inherit their widowed in-laws, so as to keep off men from outside the family. Male adolescents from the specific study community felt obliged to engage in widow inheritance. In addition, the researchers found that early marriage, encouraged by parents as a way of getting dowry, resulted in school dropout hence putting girls at risk for STI including HIV infection. Similar observations were also made by Undie (2011), whereby acquiring HIV infection was influenced by early marriages and engagement.

The practice in African society has been to educate adolescents about sexuality although full sexual intercourse was prohibited between boys and girls. Communities developed codes of conduct relating to when, where and with whom sexual relationships might take place. These principles were communicated to young people at initiation ceremonies (Mudhovozi *et al.*, 2012). However, Mudhovozi *et al.*, (2012) study reported that cultural reasons inhibited mothers from effectively imparting knowledge on sexuality to their daughters. This may be because in cultures, this was the role of an older knowledgeable person such as a paternal aunt or village elders. According to this study, parents were the least group of individuals from whom the adolescents received information about sex matters. Adolescents may find it difficult to communicate with their parents on issues such as sexuality owing to differences in values and beliefs (Le and Kato, 2006). Despite the necessity for sexual health education for adolescents, it has faced challenges from most cultures. Influence from other cultures due to advanced communication technology may cause adolescents to challenge traditions and to be free from religious constraints (Latifnejad Roudsari *et al.*, 2013). However, factors such as parent engagement and parental discipline have important influences on adolescents' sexual development and socialization (Le and Kato, 2006). It has further been reported that

if teens experience considerable parental support and feel connected to their parents, they are less likely to initiate sex at an early age and have sex less frequently hence the need for a closer relationship and support between parents and their children as also observed by (Kirby et al., 2005). This was noted in this study where there was a protective effect against indulgence in sex when parents educated the adolescents on the same. Yadeta *et al.*, (2014), reported that 28.76% of parents discussed reproductive health issues with their adolescents. The parents who demonstrated good reproductive knowledge and a positive attitude were almost six times more likely to discuss reproductive health with their adolescents than their counterparts. However, parent-adolescent discussions rarely occurred due to cultural norms and parental concern that such discussions would encourage premarital sex or sexual experimentation. In addition to this, Motsomi *et al.*, (2016) study reported that barriers to effective communication between parents and adolescents concerning sexual and reproductive health issues included embarrassment in discussing sexual topics. Adolescents also feared they would be misunderstood if they wanted to communicate about sexual topics (Motsomi *et al.*, 2016). This was similar to Ounjit (2015) study where Thai adolescents believed that talking about sexual issues was unacceptable because the culture of their society considered such issues to be a private matter. Though they believed that families were their best advisors about sexual issues, most sought sexual knowledge and experience for themselves or from their friends.

It is culturally unacceptable to provide sexual education to non-married adolescents in some religious societies, for example Muslim societies. This may be because of concerns about negative impacts of sexual education such as causing premature sexual activity before marriage, perceived stigma and embarrassment on discussing

sexual matters and sexual discussion being seen as a cultural taboo (Latifnejad Roudsari et al., 2013). Though almost all the respondents reported to be Christians, a predominant religion in the area, this study found that respondents who were not religious had sexual debut earlier than the mean age of the other respondents. This is similar to observations made by Edwards *et al.*, (2008), where the youths who reported high levels of religious importance, strong religious influence in their daily lives and adherence to their religion's teachings were less likely to initiate sexual activity than their peers. Edwards and colleagues (2008) reported that religion tended to endorse cultural attitudes on sexuality. Teens of ages 13-19 years who described themselves as more religious, who attended religious services more frequently and who had stronger religious affiliations were less likely to initiate sex and tend to have sex less frequently if they practice it (Kirby *et al.*, 2005). This study confirms that within the religious groups, Christianity and Islam, there seems to be teachings on sexuality that discourage engaging in early sexual intercourse. As also observed by Ugoji (2014), adolescents who are active in religious groups have a greater commitment towards sexual abstinence and are likely to place greater emphasis on maturity in sexual relationships unlike young people inactive in religious institutions. This can be explained by the fact that, in Christianity, the Bible promotes complete abstinence before marriage. For example, sex between a husband and his wife is the only form of sexual relations of which God approves as seen in the book of Hebrews 13:4. However, according to (Odimegwu, 2005) simply being affiliated with a religion does not appear to have great effect on sexual behavior, but the extent of an individual's commitment to a religion or affiliation with certain religious denominations does. Additionally, members of some communities find that religion plays a double-edged role in adolescents' sexual

behavior either by a protective role of restraining adolescents from risky sexual behavior or on the other hand it disparages cultural measures that regulate adolescents' sexual behavior. Some parents though may find religion a significant factor that could potentially reduce the risks that come with early onset of sexual behavior (Osafo *et al.*, 2014).

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATION

#### 6.1 Conclusion

The purpose of this study was to establish the factors that contribute to risky sexual behavior among adolescents in Kibera informal settlement. From this study, demographic factors such as gender and age, social factors such as peer pressure and use of alcohol and/or drugs, and cultural practices were the key factors that influenced teens to engage in RSB.

##### 1. Demographic factors

###### *Gender and Age*

Early sexual debut exposed adolescents to numerous negative sexual and reproductive health outcomes that can impair positive development. This study confirms that majority of the adolescents engaged in RSB at a young age.

##### 2. Economic Factors

Economic status of individual adolescents is not a determinant of risky sexual behavior.

##### 3. Social Factors

###### *a) Peer Pressure*

According to the study's findings, adolescents are more likely to be influenced into risky sexual behavior by their peers and friends whose information may be misleading to the young minds. Most of this information is obtained from the media, whose sexual content has increased while becoming more graphic. This tends to influence their sexual behavior.

*b) Drugs and substance abuse*

Alcohol and drug use among adolescents was a significant contributor to risky sexual behavior among adolescents in Kibera. The use of drugs and/or alcohol decreases the chances of condom use (increasing the probability of contracting STD's) as well as sexual relations with a high number of partners or intercourse at a younger age. The adolescents may end up engaging in RSB after the use of drugs and/or alcohol as a result of impaired judgment.

**4. Cultural Factors**

*a) Cultural practices*

Cultural practices mainly early marriage and widowhood related rituals were found to significantly influence risky sexual behavior among adolescents in Kibera. Early marriage affects the schooling of a child hence increasing their exposure to RSB. This and other cultural practices increase adolescent chances of contracting STI's.

*b) Parenting and culture*

Parents were the least group of individuals from whom the adolescents received information about sex matters. Adolescents may find it difficult to communicate with their parents on issues such as sexuality owing to differences in values and beliefs.

*c) Religion*

Adolescents who had strong religious beliefs and adhered to their religious teachings were less likely to engage in risky sexual behavior.

**6.2 Recommendations**

- There is need for reviewing the current education policy with the aim of introducing sexual education early in schools. Currently, sex education is taught at a time in which many adolescents have passed the age of sexual

debut in Kenya. This study revealed that sexual debut among adolescents comes at a very young age. With such information in mind, it is important for Kenya to consider incorporating age appropriate sexuality education in the school curriculum. This knowledge will equip them with life skills thereby shielding them from coercion, sexually transmitted infections and unintended pregnancy.

- Adolescents should be counseled by parents/guardians and teachers to avoid friends and media content with a negative influence.
- There is need for intervention by all stakeholders including parents/guardians, teachers, mainstream media and religious leaders in providing information to the adolescents on the dangers of peer pressure, drug use and use of alcohol.
- Guidance and counseling of adolescents in this study area needs to be enhanced. This can be achieved through setting up adolescent friendly programs in health facilities within the slum with the aim of improving adolescents' attitude towards their sexual health and behavior.
- Parents/guardians should play a key role to be source of information on sexuality to their children. This can be achieved by having closer relationships with their children whereby they can encourage them to talk freely about their sexual health and further get important health information regarding their sexuality.
- The relevant ministries should educate and advocate against early marriage and other harmful cultural practices against adolescents. They should also encourage communities to come up with alternative rites of passage as a way of abandoning harmful cultural practices that enhance RSB.



- Strong religious influence and values in the community prohibit premarital sex. However, this study showed that adolescents are faced with social pressures to engage in sex, and therefore find it difficult to match their attitudes with their practice. Adolescents may thus portray strong conservative values which could hide their true sexual behavior, thereby increasing their vulnerability to STIs. Therefore, further studies need to be carried out using qualitative methods to help explain attitudes of adolescents towards sexual behavior.

## REFERENCES

- Adaji, S.E., Warenius, L.U., Ong'any, A.A., & Faxelid, E.A.. (2010). The attitudes of Kenyan in-school adolescents towards sexual autonomy. *African Journal of Reproductive Health*, 14(1), 33-41.
- Agardh, A., Patterson, O. K., & Ostregren, P. O. (2011). Experience of sexual coercion and risky sexual behavior among Ugandan university students. *BMC Public Health*, 11,527.
- Alamrew, Z., Bedimo, M., & Azage, M. (2013). Risky Sexual Practices and Associated Factors for HIV/AIDS Infection among Private College Students in Bahir Dar City, Northwest Ethiopia. *International Scholarly Research Notices*, 2013(763051), 1-9.
- American Academy of Pediatrics. (2013). Condom use by adolescents. *Pediatrics*, 32(5), 973-978 .
- Antonio, B. J., Paz-soldan, V., Delea, S., Gilman, R. H., James, C., Gálvez-, J. A., & Anthony, J. C. (2008). Links between sex-related expectations about alcohol , heavy episodic drinking and sexual risk among young men in a shantytown in Lima , Peru. *International Family Planning Perspectives*, 34(1), 15–20.
- Asare, A., Biddlecom, A., Kyereme, A., & Patterson, K. (2006). *Adolescent sexual and reproductive health in Ghana: Results from 2004 National survey of adolescents*. Occassional report No.22, New York: Guttmacher Institute.
- Ashby, B., & Gupta, S. (2013). Sexually transmitted infections in polygamous mating systems. *Philosophical Transactions of the Royal Society*, B, 368 .
- Avert. (2020). HIV and AIDS in East and Southern Africa Regional Overview.
- Bachanas, P. J., Morris, M. K., Lewis-Gess, K. J., Sarett-Cuasay, E. J., Sirl , K., & Ries, K. J., (2002). Predictors of risky sexual behavior in African American adolescent girls: Implications for prevention intervention. *Journal of Pediatric Psychology* , 6 (23) ,519-530.
- Bastien, S., Kajula L.J., & Muhwezi W., (2011). A review of studies of parent-child communication about sexuality and HIV/AIDS in sub-Saharan Africa, *BioMed Central*.
- Baumgartner, J. N., Waszak Geary, C., Tucker, H., & Wedderburn, M. (2009). The Influence of Early Sexual Debut and Sexual Violence on Adolescent Pregnancy: A Matched Case-Control Study in Jamaica. *International Perspectives on Sexual and Reproductive Health*, 35(01), 021–028. <https://doi.org/10.1363/3502109>

- Bearinger, L. H., Sieving, R. E., Ferguson, J., & Sharma, V. (2007). Global perspective on the sexual and reproductive health of adolescents: Patterns, prevention and potential. *The Lancet Journal* 369, 1220-31.
- Beguy, D., Kabiru C.W., Nderu, E.N., & Ngware, M.W. (2009). Inconsistencies in self-reporting of sexual activity among young people in Nairobi, Kenya. *Journal of Public Health*, 42(6), 511-517.
- Berten, H. (2008). Peer influences on adolescents risk behavior: A network analysis of social influence processes among adolescents in Flemish secondary schools. *Annual Meeting of American Sociological Association*. Retrieved August 14, 2016, from <http://hdl.handle.net/1854/LU-483106>
- Beyers, J. M., Loeber, R., Wikstrom, P. H., & Stouthamer-Loeber, M. (2001). What predicts adolescent violence in better-off neighborhoods? *Journal of Abnormal Child Psychology*, 29 (5), 369-381.
- Billy, J. O., & Moore, D. E. (1998). *The surgeon general's call to action to promote sexual health and responsible sexual behavior*. Office of the surgeon general, US.
- Bonnie, R. J., & O'Connell, M. E. (2004). *Reducing Underage Drinking: A Collective Responsibility*. Washington DC: National Academies Press (US).
- Booyesen, F. R., & Summerton, J. (2002). Poverty, risky sexual behavior, and vulnerability to HIV infection: evidence from South Africa. *Journal of Health, Population and Nutrition*, 20(4), 285-8.
- Breuner, C.C., & Mattson, G. (2016). Sexuality education for children and adolescents, 138(2), e20161348. Doi:<https://doi.org/10.1542/peds.2016-1348>.
- Brodish, P., Singh, K., Rinyuri, A., Njeru, C., Kingola, N., Mureithi, P., Sambisa, W., & Weir, S. (2011). Evidence of high risk sexual behavior among injection drug users in Kenya PLACE study. *Drug and Alcohol Dependence*, 119(1-2), 138-141.
- Brook, D. W., Morojele, N. K., Zhang, C., & Brook, J. S. (2006). South African adolescents: pathways to risky sexual behavior. *AIDS Education and Prevention: Official Publication of the International Society for AIDS Education*, 18(3), 259-272.
- Brown, A. D., Jejeebhoy, S. J., & Shah, I. (2001). *Sexual Relations Among Young People in developing countries: Evidence of WHO Case Studies*. World Health Organization, Department of Reproductive Health and Research, Geneva: A Chart Book on Sexual Experience and Reproductive Health.
- Bryant, C., Chavious, M., Advisor, F., Heath, J. C., & Carter, V. L. (2014). Assessing the Impact of Social Media on the Risky Sexual Behaviors of College Students. *Proceedings of the national conference of undergraduate research 2014*, 1231-1239.

- Buttmann, N., Nielsen, A., Munk, C., Liaw, K. L., & Kjaer, S. K. (2011). Sexual risk taking behaviour: Prevalence and associated factors. A population-based study of 22 000 Danish men. *BMC Public Health*, *11*(1), 764. <https://doi.org/10.1186/1471-2458-11-764>
- Centers for Disease Control, (2013). *Sexual Risk Behavior, HIV,STD and Teen Pregnancy Prevention*. Retrieved May 30, 2016, from <http://www.cdc.gov/healthyouth/Sexualbehaviours/index.htm>.
- Central Bureau of Statistics (CBS) [Kenya] Ministry of Health (MOH), and ORC Macro.(2003). Kenya Demographic and Health Survey. Calverton, Maryland: NCPD, MOH, and ORC Macro.
- Chege, I. & Okumu, M. Y. (1993). *Female Adolescent Health and Sexuality Study in Kenya Secondary Schools*. Nairobi, Kenya: African Medical and Research Foundation, Community department.
- Cherie, A., & Berhane, Y. (2012). peer pressure is the prime driver of risky sexual behaviors among school adolescents in Addis Ababa, Ethiopia. *World Journal of AIDS*, *2*, 159-164.
- Choudhry, V., Agardh, A., & Ostergren, P. (2014). Patterns of alcohol consumption and risky sexual behavior: A cross-sectional study among Ugandan university students. *BioMed Central* , *14* (1) 128.
- Chowdry, H., Kelly, E., & Rasul, I. (2013). *Reducing risky behavior through the provision of information*. Institute for Fiscal Studies and University College London, England.
- Clark, L., Allen, S., Karita, E., Chomba, E., Roth, D. L., & Telfair, J. (2007). Promotion of couples' voluntary counselling and testing for hiv through influential networks. *BioMed Central Public Health* *349* (7)
- Cooper, L. M. (2002). Alcohol use and risky sexual behavior among college students and youth: Evaluating the evidence. *Journal of Studies on Alcohol* , *14*, 101-117.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative and mixed method approaches-2<sup>nd</sup> ed*. United Kingdom: Sage Publications Inc.
- Danjin M., & Onajole A. (2009). HIV/AIDS risk behavioral tendencies among secondary school students in Gombe (Nigeria). *The internet journal of health*, *1*(11), 1-10.
- Desgropes, A., & Taupin, S. (2011). Kibera: The biggest slum in Africa? *Les Cahiers de L'Afrique de L'est*, *44* pp 23-24.
- Dibua, U. (2009). socio-economic and socio-cultural predisposing risk factors to HIV/AIDS: Case study of some locations in East Nigeria. *The Internet Journal of Tropical Medicine*, *6*(2), 1-12.

- Dintwa, K. F. (2012). Economic status, education and risky sexual behavior for urban Botswana women's studies. *Journal of International Women's Studies*, 13 (3) 153-170.
- Dodoo, F. N., Zulu, E. M., & Ezech, A. C. (2007). Urban-rural differences in the socioeconomic deprivation--sexual behavior link in Kenya. *Social science & medicine* (1982), 64(5), 1019–1031. <https://doi.org/10.1016/j.socscimed.2006.10.007>
- Edwards, L., Fehring, R., Jarrett, K. M., & Haglund, K. (2008). The influence of religiosity , gender , and language preference acculturation on sexual activity among Latino/a adolescents. *Hispanic Journal of Behavioral Sciences*, 30(4), 447–462.
- Fekadu, A. D., & Teklu, F.G. (2014). Risky Sexual Behavior and Associated Factors among Grade 9-12 Students in Humera Secondary School, Western Zone of Tigray, NW Ethiopia. *Science Journal of Public Health*, 2(5), 410-416.
- Filmer, A.D., & Pritchett, L. (2001). Estimating wealth effects without income or expenditure data- or tears: Educational enrollment in India. *Demography*, 38(1), 115-132.
- Galvez-Buccollini, J. A., Paz-Soldan, V. A., Herrera, P. M., DeLea, S., & Gilman, R. H. (2009). Gender differences in sex related alcohol expectancies in young adults from a peri-urban area in Lima, Peru. *Pan American Journal of Public Health*, 25(6), 499-505.
- Gavin, L., Galarotti, C., Dube, H.M., & Mcnaghten A. (2006). Factors associated with HIV infection in adolescent female in Zimbabwe. *The Journal of Adolescent Health*, 39(4), 596. e11-8.
- Gebreselassie, H., Gallo, M., Monyo A, & Johnson, B. (2005). The magnitude of abortion complications in Kenya. *BJOG: An International Journal of Obstetrics and gynaecology*, 112(9), 1229-1235.
- George, S., Rogers, R. D., & Duka, T. (2005). The acute effect of alcohol on decision making in social drinkers. *Psychopharmacology*, 182(1), 160-169.
- Griffin, D. K., & Stein, J. A. (2006). Predictors of sexual risk behaviors among adolescent mothers in a human immunodeficiency preventive program. *Journal of Adolescent Health* , 38(297), 1-11.
- Grossman, M., & Markowitz, S. (2005). " I did what last night?! Adolescent risky sexual behaviors and substance use. *Eastern Economic Journal* ,31(3), 383-405.
- Gubhaju, B. B. (2002). Adolescent reproductive health in Asia. *Asian- Pacific Population Journal*, 17(4), 97-119.
- Gupta, N., & Mahy, M. (2003). Sexual initiation among adolescent girls and boys: trends and differentials in Sub-Saharan Africa. *Archives of Sexual Behaviour* , 32(1), 41-53.

- Gutierrez, J., Bertozzi, S. M., & Conde-glez, C. J. (2006). Risk behaviors of 15 – 21 year olds in Mexico lead to a high prevalence of sexually transmitted infections : results of a survey in disadvantaged urban areas, *BioMed Central Public Health*, 6, 49. Retrieved August 19, 2016, from <http://europepmc.org/articles/PMC1409781>.
- Hallman, K. (2004). Socioeconomic disadvantage and unsafe sexual behaviors among young women and men in South Africa. *Population Council, Inc., Policy Research Division*, 190, 23-25.
- Harrison, A., Cleland, J., Gouws, E., & Frohlich, J. (2004). Early sexual debut among young men in rural South Africa: Heightened vulnerability to sexual risk. *Sexually Transmitted infections*, 81(3), 259-261.
- Idele-Akwara, P. A. (2002). *The social context of perception of AIDS risk and sexual behavior in Kenya*. University of Southampton, Southampton, UK, pp 1-79.
- Imaledo, J. A., Opirite, B. P., & Asuquo, E. O. (2012). Pattern of risky sexual behavior among undergraduate students of the university of Port Harcourt, Rivers State, Nigeria. *The Pan African Medical Journal* , 12(1), 97.
- Juma, A., Askew, I., Alaii, J., Bartholomew, L. K., & van den Borne, B. (2014). Cultural practices and sexual risk behavior among adolescent orphans and non-orphans: A qualitative study on perceptions from a community in western Kenya. *BioMed Central Public Health*, 14(1), 84.
- Johnson, J., Grubb, G., & Constantine, G. (2007). Endometrial histology following one year of continous daily regimen of Levonorgestrel 90 micrograms/ ethinyl estradiol 20 micrograms. Department of Obstetrics and Gynecology, University of Vermont, College of Medicine, United States.
- Kabiru, C.W., & Orpinas, P. (2008). Factors associated with sexual activities among high school students. *Journal of Adolescents* , 32(4), 1023-1039.
- Kabiru, C. W., Beguy, D., Undie, C.-C., Zulu, E. M. & Ezech, A. C. (2010) Transition into first sex among adolescents in slum and non-slum communities in Nairobi, Kenya. *Journal of Youth Studies* 13, 453–471.
- Kaiser Family Foundation, (2002). Substance use and risky sexual behavior: Attitudes and practices among adolescents and young adults. *American Journal of Health Education*, 33(5), 278-281.
- Kaplan, V., & McLaughlin, C. (2008). *Risky Business: The Effect of Family Income on Teen Risky Sexual Behavior*. Trinity College, Duke University Durham, North Carolina, US.
- Katz, B. P., Fortenberry, J. D., Wanzhu, T. U., Harezlak, J., & Donald, P. (2001). Sexual behavior among adolescent women at high risk for sexually transmitted infections. *Journal of American Sexually Transmitted Diseases Association* , 28(5), 247-251 .
- Kenya Demographic Health Survey (2008-2009)

- Kenya National Bureau of Statistics (2016). ISBN: 9966-767-54-1
- Kenya National Bureau of Statistics - KNBS - and ICF Macro (2010). Kenya Demographic and Health Survey 2008-09. Calverton, Maryland: KNBS and ICF Macro.
- Kibera UK. (2014). *Maps of Kibera*. Retrieved October 11, 2014, from <http://www.kibera.org.uk/Maps.html>
- Kiragu, K., & Zabin, L. (1993). Contraceptive use among high school students in Kenya. *International Family Planning Perspectives*, 21, 108-113.
- Kirby, D., Lepore, G., & Ryan, J. (2005). *Sexual risk and protective factors: Factors affecting teen sexual behavior, pregnancy, child bearing and sexually transmitted disease: Which are important?: Which can you change?*. Washington DC, U.S.: ETR Associates.
- Kotchik, B. A., Shaffer, A., & Forehand, R. (2001). Adolescent sexual risk behavior: A multisystem perspective. *Clinical Psychology Review*, 21(4), 493-519.
- Kowaleski, J., & Mott, F. L. (1998). Sex, contraception and child bearing among high risk youth: Do different factors influence males and females? *A Journal of Peer-reviewed Research*, 30(4), 163-169.
- Kumar, R. (2011). *Research Methodology, a step by step guide for beginners, 3<sup>rd</sup> edition*. London, U.K.: SAGE publications limited.
- Le, T. N., & Kato, T. (2006). The role of peer, parent, and culture in risky sexual behavior for Cambodian and Lao/Mien adolescents. *Journal of Adolescent Health*, 38(3), 288-296.
- Levy A., (2001). *A Lifetime Portfolio of Risky and Risk-free Sexual Behavior and the Prevalence of AIDS*. University of Wollongong, Australia: Digital commons.
- Lloyd, C. B. (2005). *Growing Up Global: The Changing Transitions to Adulthood in Developing Countries*. Washington D.C., U.S.: The National Academic Press.
- Long-More, M. A., Manning, W. D., Giordano, P. C., & Rudolph, J. L. (2004). Self-esteem, depressive symptoms, and adolescents' sexual onset. *Social Physiology Quarterly*, 67(3), 279-295.
- Looze, M. E. (2006). *Young, Wild and Free? The Social and Cultural Context of Adolescent Risk Behavior*. Radboud University, Nijmegen, Netherlands: Ridderprint.
- Madise, N., Zulu, E., & Ciera, J. (2007). Is poverty a driver of risky sexual behavior? Evidence from national surveys of adolescents in four African countries. *African Journal of Reproductive Health*, 11(3), 83-98.

- Magadi, M. A., & Curtis, S. L. (2003). Trends and determinants of contraceptive method choice in Kenya. *Studies in Family Planning*, 34(3), 149-159.
- Magu, D., Wanzala, P., Mutugi, M., Ndahi, L., & Gathara, D. (2012). Sexual risky behaviors among the youth in Kenya. *International Medical Journal*, 1(3), 177-187.
- Majumdar, D. (2006). Social support and risky sexual behavior among adolescents: The protective role of parents and best friends. *The Journal of Applied Social Science*, 23(1), 28-43.
- Markham, C., Peskin, M., Hernandez, B. F., Johnson, K., Addy, R. C., Cuccaro, P., Shegog, R. & Tortolero, S. (2011). Adolescent sexual behavior: Examining data from Texas and the US. *Journal of Applied Research on Children: Informing Policy for Children at Risk*, 2.(2), 16-31.
- Marston, M., Beguy, D., Kabiru, C., & Cleland, J. (2013). Predictors of sexual debut among young adolescents in Nairobi's informal settlements. *International Perspectives on Sexual and Reproductive Health*, 39(1), 22-31.
- Mbuthia, W. (2013). Perceived factors influencing deviant behaviour among the youth in Njathaini community, Nairobi, Kenya, (pp. 61-76). Retrieved August 16, 2016, from <http://ir-library.ku.ac.ke/handle/123456789/9044>.
- McLaughlin, C., & Kaplan, V. (2008). *Risky Business: The Effect of Family Income on Teen Risky Sexual Behavior*. Duke University Durham, North Carolina.
- Millstein, S. G., & Moscicki, A. B. (1995). Sexually transmitted diseases in female adolescents: Effects of psychosocial factors and high risk behaviors. *The Journal of Adolescent Health: official publication of the Society for Adolescent Medicine*, 17(2), 83-90.
- Mmbaga, E. J., Leonard, F., & Leyna, G. H. (2012). Incidence and predictors of adolescents early sexual debut after three decades of HIV interventions in Tanzania: A time to debut analysis. *PLoS Journal*, 7(7), e41700.
- Motsomi, K., Makanjee, C., Basera, T. & Nyasulu, P. (2016). Factors affecting effective communication about sexual and reproductive health issues between parents and adolescents in zandspruit informal settlement, Johannesburg, South Africa. *Pan African Medical Journal*, 25:120 doi:10.11604/pamj.2016.25.120.9208.
- Mtenga S., M., (2015). Prevalence and social drivers of HIV among married and cohabitating heterosexual adults in south-eastern Tanzania: analysis of adult health community cohort data. *Global Health Action*, 10(1), 31-48.
- Mudhovozi, P., Ramarumo, M., & Sodi, T. (2012). Adolescent Sexuality and Culture: South African Mothers` Perspective. *African Sociological Review*, 16(2), 119-138.
- Murray, L., & Lopez, A. D. (1998). Measuring the global burden of disease and risk factors, 1990-2020. *Nature Medicine*, 4(11), 1241-1243.



- National AIDS and STI Control Programme (NASCO) Kenya AIDS Indicator Survey 2012: Preliminary Report. Nairobi, Kenya: NASCO; 2013. [Google Scholar]
- Ndugwa, R. P., Kabiru, C. W., Cleland, J., Beguy, D., Egondi, T., Zulu, E. M. & Jesor, R. (2010). Adolescent problem behavior in Nairobi's informal settlements: Applying problem behavior theory in sub-Saharan Africa. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 88(2), 298-317.
- Ntseane, P., & Preece, J. (2005). Why HIV/AIDS prevention strategies fail in Botswana: Considering discourses in sexuality. *Development Southern Africa*, 22(3), 347-363.
- Nzioka, C. (2001). Perspectives of adolescent boys on the risks of unwanted pregnancy and sexually transmitted infections: Kenya. *Reproductive Health Matters*, 9(17), 108-117.
- Oballa, O. C. (2007). *Experiences And Perception of Youths Towards HIV/AIDS Prevention Campaigns in Kibera Slums: Nairobi, Kenya*. Department of General Practice and Community Medicine, University of Oslo, Norway.
- Ochieng, M. A., Kakai, R., & Abok, K. (2011). Knowledge, attitude and practices of condom use among secondary school students in Kisumu district, Nyanza Province. *Asian Journal of Medical Sciences*, 3(1), 32-36.
- Odimegwu, C. (2005). Sexual behaviour of Nigerian university students. *Journal of child and Adolescent Mental Health*, 17(1).
- Oindo, M. L. (2002). Contraception and sexuality among the youth in Kisumu, Kenya. *African Health Sciences*, 2(1), 33-39.
- Osafo, J., Asampong, E., Langmagne, S. & Ahiedeke, C. (2014). Perceptions of Parents on How Religion Influences Adolescents' Sexual Behaviours in Two Ghanaian Communities: Implications for HIV and AIDS Prevention. *Journal of Religious Health*, 53 (4), 959-971.
- Othero, D. M., Aduma, P., & Opil, C. O. (2009). Knowledge, attitudes and sexual practices of university students for advancing peer HIV education. *East African Medical Journal*, 86(1), 11-15.
- Ounjit, W. (2015). Social and Cultural Dimensions of Adolescent Sexual Relationships in Thailand. *Procedia - Social and Behavioral Sciences*, 171, 606 – 612.
- Parks, K. A., Ya-Ping, H., Collins, L., Radloff, K. L., & King, L. P. (2009). Predictors of risky sexual behavior with new and regular partners in a sample of women bar drinkers. *Journal of Studies on Alcohol and Drugs*, 70(2), 197-205.
- Robinson, S. (2010). Sexual risk taking in adolescence: Examining negative gender beliefs. *Studies by Undergraduate Researchers at Guelph*, 4(1), 7-13.

- Rombo, D. O. (2009). Marital risk factors and HIV infection among women: A comparison between Ghana and Kenya. Retrieved September 2, 2016, from the University of Minnesota Digital Conservancy, <http://hdl.handle.net/11299/56005>.
- Room, R., & Rossow, I. (2001). The share of violence attributable to drinking. *Journal of Substance Use, 6*(4), 218-228.
- Roudsari, R. L., Javadnoori, M., Hasanpour, M., Hazavehei, S. M. M., & Taghipour, A. (2013). Socio-cultural challenges to sexual health education for female adolescents in Iran. *Iran Journal of Reproductive Medicine, 11*(2), 101-110.
- Rudatsikira, E., Maposa, D., Mukandavire, Z., Muula, A. S., & Siziya, S. (2009). Prevalence and predictors of illicit drug use among school-going adolescents in Harare, Zimbabwe. *Annals of African Medicine, 8*(4), 215-220.
- Santelli, J. S., Brener, N. D., Lowry, R., Bhatt, A., & Zabin, L. S. (1998). Multiple Sexual Partners Among U.S. Adolescents And Young Adults. *30*(6).
- Santelli, J. S., Lowry, R., Brener, N. D., & Robin, L. (2000). Adolescent sexual behavior: Estimates and trends from four nationally representative surveys. *Family Planning Perspectives, 32*(4), 156-165.
- Santelli, J. S., Lowry, R., Brener, N. D., & Robin, L. (2013). The association of sexual behaviors with socioeconomic status, family structure and race/ethnicity among US adolescents. *American Journal of Public Health, 90*(10), 1582-1588.
- Schmitt, D. P. (2004). The big five related to risky sexual behavior across 10 world regions: Different personality associations of sexual promiscuity and relationship infidelity. *European Journal of Personality, 18*, 301-319.
- Selikow, T. A., Ahmed, N., Flisher, A. J., Mathews, C., & Mukoma, W. (2009). I Am not "umqwayito": A qualitative study of peer pressure and sexual risk behavior among young adolescents in Cape Town, South Africa. *Scandinavian Journal of Public Health, 37*(2), 107-112.
- Silas, J. (2013). Poverty and risky sexual behavior: Evidence from Tanzania. Retrieved September 2, 2016, from <http://dhsprogram.com/pubs/pdf/WP88/WP88.pdf>.
- Skinner, L. (2004). Risky sexual behavior, culture and public health: 'Disco funerals' in Western Kenya. Retrieved June 3, 2016, from <http://betterhealthforall.org>
- Smith, D. J. (2007). Modern marriage, men's experimental sex, and HIV risk in South Eastern Nigeria. *American Journal of Public Health, 97*(6), 997-1005.
- Taylor, M., Fitzgerald, M. L., & Rew, L. (2000). Sexual Abuse, Alcohol and Other Drug Use, and Suicidal Behaviors in Homeless Adolescents. *Comprehensive Paediatric Nursing, 24*(4), 225-240.

- TwaTwa, J. M. (1997). The role of the environment on the sexual activity of school students in Tororo and Pallisa districts of Uganda. *Health Transition Review*, 7, 67-81.
- Ubale, M., Martin, D., & Wee S. (2013). Examining and suggesting remedy to the effects of urban informal sector in urban residential property market in Bauchi Nigeria. *International Journal of Physical and Human Geography*, 2(1), 31-46.
- Uchudi, J., Magadi, M., & Mostazir, M. (2011). A multilevel analysis of the determinants of high risk sexual behavior (multiple sexual partners) in sub-Saharan Africa. *Journal of Biosocial Science*, 44(3), 289-311.
- Ugoji, F. N., (2014). Determinants of risky sexual behaviours among secondary school students in Delta State Nigeria. *International journal of adolescence and youth*, 19, 408-418.
- Undie, C. (2011) Addressing Sexual Violence and HIV Risk Among Married Adolescent Girls in Rural Nyanza, Kenya. *Promoting healthy, safe and productive transitions to adulthood*, 19, 1-4.
- United Nations. (1990). *Patterns of First Marriage: Timing and Prevalence*. United Nations, department of international economic and social affairs, New York, U.S.: United Nations 1990.
- United Nations Programme on HIV/AIDS (UNAIDS). (2004). *Seen but not heard: Very young adolescents aged 10-14 years*. Geneva, Switzerland.
- United Nations Programme on HIV/AIDS (UNAIDS). (2006). *Report on the global AIDS epidemic 10*(Annex 2), 508, Geneva, Switzerland.
- Widman, L., Bradley, S.C., Helms, S.W., & Prinstein, M.J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health*, 58(3), 323-329.
- Weinstock, H., Berman, S., & Cates, W. J. (2004). Sexually transmitted diseases among American youth: Incidence and prevalence estimates. *Perspectives on Sexual and Reproductive Health*, 36(1), 6-10.
- World Health Organization. (2014). *Health for the World's Adolescents*. [https://apps.who.int/adolescent/second-decade/files/1612\\_MNCAH\\_HWA\\_Executive\\_Summary.pdf](https://apps.who.int/adolescent/second-decade/files/1612_MNCAH_HWA_Executive_Summary.pdf).
- World Health Organization. (2011). *The Abuja Declaration: Ten years on*. Retrieved August 16, 2016 from [who.int/healthsystems/publications/abuja\\_report\\_aug\\_2011.pdf](http://who.int/healthsystems/publications/abuja_report_aug_2011.pdf).
- Yadeta, T. A., Bedane, H. K. & Tura, A. K. (2014). Factors Affecting Parent-Adolescent Discussion on Reproductive Health Issues in Harar, Eastern Ethiopia: A Cross-Sectional Study. *Journal of Environmental and Public Health*, Volume 2014. Retrieved October 21, 2017 from <http://dx.doi.org/10.1155/2014/102579>.

## APPENDICES

### **Appendix I: Participant's Information and informed consent form.**

#### **Introduction**

My name is **KENNEDY MASILA KIMEI** a student at **Moi University AMREF Campus** undertaking a study titled **RISKY SEXUAL BEHAVIOR IN ADOLESCENTS IN KIBERA INFORMAL SETTLEMENT** in partial fulfillment of the requirements for Master of Science in Public Health Moi University.

You are invited to take part in the above research and before you decide whether or not you will take part, please read this information on why the research is being done and what it will involve. You may ask questions. Your participation is voluntary. If you take part, you will remain with the information sheet and sign a consent form.

#### **The purpose of the research**

To establish the factors which contribute to risky sexual behavior among adolescents living in Kibera informal settlement. Studies have found that a substantial proportion of adolescents are having sex as early as 11 years and increasing steadily through 17 years of age. This research is aimed at understanding attitudes and perception of Kenyan adolescents towards premarital sex, unwanted pregnancies and risky sexual behavior in order to design appropriate sexual and reproductive health interventions for adolescents.

#### **The process of the research**

In this research, we shall ask questions to adolescents living in Kibera, so that we can have a broader understanding of adolescents' sexual behavior and how such behaviors influences risky sexual behavior. You are invited to participate because you are a key person in this process and your views are very important. You may choose not to answer any of the questions or withdraw at any time without giving a

reason. If you take part, we will guide you through a discussion for about 30 minutes.

**What are the benefits of the research?**

The study will be able to develop a good plan to understand the factors that influence risky sexual behaviour among adolescents hence will help to identify areas amenable to intervention.

**Are there any risks involved?**

No risk foreseen.

**Will what you say in this study be kept confidential?**

Whatever information you give for this research will be kept strictly confidential unless asked to be released for legal purposes. No individual's names will be recorded or reported. This data will be kept anonymous and securely for five years after completion of the project.

**What will happen to the results of the research study?**

The results of this research will be shared with people working in and together with the health sector and published for reference in future studies and activities.

**Contact for Further Information**

For further information, Please do not hesitate to contact the lead investigator:

**Principle Investigator: KENNEDY MASILA KIMEI. 0721668856**

**kennmasila@yahoo.com**

**Co-investigator: Molyne Odwar- molynedarlys06@yahoo.com. 0726764768**

**Co-investigator: Aanita Nyapala- anita.nyapala@gmail.com. 0715925505**

**Consent Form**

I the undersigned have been informed that the purpose of this research is to establish the factors which contribute to risky sexual behavior among adolescents living in Kibera informal settlement.

I have been informed that the information I give will be solemnly used for this research and if it gets published my identity will be treated with confidentiality and my name will not be used.

I have also been informed that I can refuse to participate in this research or withdraw from the study and such an action will not have any consequences on me and neither do I have to give any explanations for doing so.

I fully understand these conditions and have agreed to participate in this research voluntarily and share my experiences and perceptions on Risky Sexual Behavior.

Signature.....

Date.....

**Assent for children below the age of 18 years of age.**

Signature.....

Date.....



8. Including you, how many people live in your house?

- [1] 1 [2] 2 [3] 3 [4] 4 [5] 5 [6] 6 [7] 7 [8] 8 [9] 9 [10] 10  
[11] >10

9. What is your religion?

- [1] Catholic [2] Protestant [3] Christian Other  
[4] Muslim [5] None [6] Other Religion

10. How important is religion in the family in reducing risky sexual behavior

- [1] Not Important [2] Somewhat Important [3] Very Important  
[4] Essential

### **ECONOMIC FACTORS**

1) What is the main source of your income?

- [1] None  
[2] Parents/ guardians  
[3] Salary/Wage  
[4] Partner

2) If the source of your income is your parent/guardian, what is their employment status?

- [1] Permanent employment. [2] Casual employment.  
[3] Self-employment. [4] Unemployed  
[5] Student/ still in school

a. How much is the monthly allowance you receive from your parent/guardian?

- [1] 1-----3000 [2] 3001---6000 [3] 6001---9000  
[4] 9001---12000 [5] 12001---15000 [6] >15000  
[7] None

3) If the main source of your income is you partner, what is his/her employment status?

- [1] Permanent employment. [2] Casual employment.  
[3] Self-employment. [4] Unemployed  
[5] Student/ still in school



b. How much is the monthly allowance you receive from your Partner?

- [1] 1-----3000                      [2] 3001---6000                      [3] 6001---9000  
 [4] 9001---12000                      [5] 12001---15000                      [6] >15000  
 [7] None

2)

a. What is your employment status?

- [1] Permanent employment.                      [2] Casual employment.  
 [3] Self-employment.                      [4] Unemployed (not in school)  
 [5] Student/ still in school

b. How much is your monthly income?

- [1] < 3000                      [2] 3001---6000                      [3] 6001---9000  
 [4] 9001---12000                      [5] 12001---15000                      [6] >15000  
 [7] None

c. If employed before, how much was your monthly income?

- [1] < 3000                      [2] 3001---6000                      [3] 6001---9000  
 [4] 9001---12000                      [5] 12001---15000                      [6] >15000  
 [7] None

3) Does your household have any of the following items listed below? (Please circle all that apply)

- [1] Radio                      [2] Television                      [3] Bicycle                      [4] Motorcycle  
 [5] Car                      [6] Telephone/Mobile

4) What fuel do you use for your cooking?

- [1] Firewood                      [2] Charcoal                      [3] Kerosene                      [4] Electricity/Gas  
 [5] Other (specify) .....

5) What is the education level of your parents/guardian?

- [1] Primary                      [2] Secondary                      [3] College/ University  
 [4] Never attended school

- 6) What is the education level of your partner?  
 [1] Primary [2] Secondary [3] College/University  
 [4] Never attended school [5] No partner

**SOCIAL FACTORS**

**A. Knowledge on sex education**

1. Have you ever received sex education?

- [1] Yes [2] No

a) If yes from whom

- [1] Parents/Guardian [2] School [3] NGO  
 [4] Media [5] Others.....

2. When did you last receive sex education?

- [1] < 1 year ago [2] 1-2 years ago [3] ≥3 years ago

b) What are some of the topics covered during the education?

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

c) Did the sex education cover all your questions?

- [1]Yes [2] No

d) What are some of the areas that were not covered?

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

e) Have you ever used a family planning method?

- [1] Yes [2] No

[I]If yes which one did you use?

- [1] Pills [2] IUCD [3] Injectable/Depo [4] Male condom  
 [5] Female condom [6] Emergency contraceptives [7] Safe days

[

II] If no why?

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

**B. Attitude**

Below are some statements about sexual behavior. There are also rankings from 1 to 5 on how you feel about these statements. Please tick below the number that best describes your feelings about the statements.

	[1]	[2]	[3]	[4]	[5]
There is no problem with having multiple sexual partners					
Casual sex is a risky sexual behavior					
Inconsistent/lack of condom use is a risky sexual behavior					
There is no problem of being sexually active early in life					

[1] Strongly Disagree [2] Agree [3] Neutral [4] Disagree [5] Strongly agree

**C. Negative peer pressure**

I. How many of your friends smoke cigarettes on a regular basis?

.....  
 .....

II. How many of your friends drink alcohol at least once a week?

.....  
 .....

III. How many of your friends have ever used bhang?

.....  
 .....

IV. How many of your friends have ever had sexual intercourse?

.....  
 .....

V. Have your friends ever influenced you into engaging in sexual activity?

[1] Yes

[2] No

## CULTURAL ISSUES

1. In your own culture, are the following cultural practices practiced?

Polygamy	[1] Yes	[2] No
Female genital mutation	[1] Yes	[2] No
Early marriage	[1] Yes	[2] No
Widowhood related rituals	[1] Yes	[2] No
Sexual cleansing		

### A. Behavioral practices/sexual debut

1. Where did you first hear about sex?

- [1] From a friend      [2] From Media/Internet      [3] Parents/guardian

2. At what age were you when you first heard about sex?

.....

3. Have you ever had sexual intercourse?

- [1] Yes      [2] No

4. At what age were you when you first engaged in sex?

.....

5. Why did you engage in sex?

[1] To show love

[2] Curiosity

[3] Partner insisted/ would not take 'no' for an answer

[4] Threatened

[5] Promised money/gifts

[6] Others.....

6. How frequent do you engage in sexual intercourse?

- [1] Always    [2] Most of the time    [3] Sometimes    [4] Never

7. Did you consume alcohol on your latest occasion of sexual intercourse?

- [1] Yes      [2] No

8. If No, what made you to have sex?

- [1] I wanted to earn some money      [2] For fun      [3] I was raped

[4] I was under influence of alcohol/drugs

[5] Others.....

9. How many sexual partners have you had altogether?"

[1] 1                      [2] 2                      [3] > 3

10. Do you use drugs/alcohol?

[1] Yes                      [2] No

11. Does your partner use drug(s)/alcohol?

[1] Yes                      [2] No

12. If yes which ones?

[1] Bhang                      [2] Alcohol                      [3] Others

specify

.....  
.....

13. How often is your partner drunk, stoned or high when you and he/she are having sex?

[1] Never                      [2] Sometimes

[3] Most of the time                      [4] Always

14. How often are condoms used when you and your partner(s) have sex?

[1] Always    [2] Most of the time    [3] Sometimes    [4] Never

[6] Others.....