

**PREDICTORS OF UPTAKE OF HIV/AIDS PREVENTION
SERVICES AMONG MEN WHO HAVE SEX WITH MEN
AGED 18 YEARS AND ABOVE IN NAIROBI COUNTY-
KENYA**

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(Public Health)

**JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2018

**Predictors of uptake of HIV/AIDS prevention services among men who
have sex with men aged 18 years and above in Nairobi county-Kenya**

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**A Thesis Submitted in Partial Fulfillment for the Degree of Doctor of
Philosophy in Public Health in the Jomo Kenyatta University of
Agriculture and Technology**

2018

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university

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This thesis has been submitted for examination with our approval as University Supervisors

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DEDICATION

I wish to dedicate this work to my husband, Aloysius Otambo, my children Brenda Alukwe, Ivy Jambi, Molly Taka and Teddy Donat.

Whose support I really appreciate.

ACKNOWLEDGEMENT

It is incredible to know that eventually, this Thesis has seen the face of reality. Indeed, this journey would not have been completed without the support and guidance from my supervisors, colleagues, mentors, institutions and family members who have contributed in various ways to the creation and completion of this work.

I wish to thank my supervisors, Prof. Anselimo Makokha and Prof Muhammed Karama for the support and motivation they accorded me all through the study process. For always being there and never disappointing me any time I made a visit to consult and seek their advice.

I take this opportunity to thank the Director KEMRI for the support towards this study, through the KEMRI internal research grant and the permission to conduct this study.

Dr. Phoebe Josiah, I thank you most sincerely for your support. I also wish to extend my sincere appreciation to my colleagues at the Centre for Public Health, Dr. Yeri Kombe, Moses Mwangi, Lilian Nyandieka, David Mathu and Richard Korir for the support and encouragement you provided me to take up this study.

I appreciate the office of the Nairobi County Health Director for the permission to visit the health facilities in the County. I further wish to extend my gratitude to the in-depth interviews study participants at organizations that offer services to MSM in Nairobi County, who willingly provided information used in this study. To the study respondents a big thank you and lastly to Mr. Charles Indongole for looking at this thesis with a hawk's eye.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired immune deficiency syndrome
AOR	Adjusted Odds Ratio
CSW	Commercial sex workers
FGD	Focus Group discussions
FSW	Female Sex Workers
HIV	Human immunodeficiency virus
HTC	HIV testing and counseling
IDU	Injecting drug users
IEC	Information, education, communication
KAP	Knowledge Attitude and Practice
KEMRI	Kenya Medical Research Institute
KII	Key informant interviews
KNASP	Kenya national strategic plan
MARPS	Most at risk persons
VMMC	Voluntary Medical Male circumcision
MSM	Men who have sex with men
MSMGF	Global Forum for Men who have Sex with Men

NACADA	National Campaign against Drug Abuse
NACC	National Aids Control Council
NASCOP	National Aids control programme
NGO	Non-governmental Organization
OR	Odds Ratio
PITC	Provider initiated testing and counseling
PLWH	People living with HIV
SPSS	Statistical Package for Social Sciences
STI	Sexually transmitted infections
SW	Sex Worker
UNAIDS	A Joint United Nations programme for HIV/AIDS
VCT	Voluntary Counseling and Testing

DEFINITION OF TERMS

Acceptability	Adequate to satisfy a need, requirement or standard, satisfactory
Accessibility	(to health): the ability of a person to receive healthcare services which is a function of availability of personnel and supplies and ability to pay.
Adherence	The extent to which a person's behaviors e.g. taking medication or executing lifestyle changes correspond with agreed recommendations from a healthcare provider.
Discrimination	When behaviors or actions are perpetrated that lead to inequality, inequity, or unfairness based on the belonging or perceived belonging of an individual to a particular group, in this case being an MSM which is likely to cause harm to the individual.
Social barriers	Lack of policies, criminalization of being MSM, poverty, cultural norms, denial.
Stigma	Stigma is an attribute that shames an individual or group of individuals in the eyes of others.
HIV prevention Services	HIV/AIDS testing, condom use, use of ARVs, TB drugs, STI testing, Counseling and testing,

ABSTRACT

Globally, gay men and other men who have sex with men are 19 times more likely to be living with HIV than the general population. The prevalence of HIV/AIDS among Men who have sex with men in Nairobi has been reported to be 18.2% which is a public health concern. This study determined factors affecting uptake of HIV/AIDS prevention services among MSM in Nairobi County. This was a cross sectional study that utilized mixed method of data collection. Study population included MSM (n=380), 6 managers who were in-charge of HIV/AIDS programmes in Public and Private Health facilities and Directors in charge of non-governmental organizations that supported MSM health needs. Participants were recruited through snowballing and purposive sampling respectively. Quantitative data was collected through a developed self administered questionnaire while qualitative data was collected through in-depth interviews. Uptake of HIV/AIDS testing as predicted by Pre and Post HIV counseling is 52.80%, other STI testing is reported at 31% and always use of condom is reported to be 22%. Being a student, a sex worker, and unmarried are predictors of HIV/AIDS prevention services uptake. Majority of MSM reported that TB drugs (70.1%), antiretroviral drugs (71.6%), lubricants (79.5%), condoms (84.5%), and other STI treatment services (76.8%) were accessible. Barriers to HIV/AIDS prevention included personal negative attitudes, discrimination (31.6%) and stigma (26.3%) encountered at facility level. Alcohol and illicit drug consumption adversely affected health seeking as alcohol and drug usage accounted for 48.4% and 48.5% respectively. MSM specific health packages and policy guidelines are lacking and there is over reliance on donor funding for MSM health support. In conclusion, uptake of HIV/AIDS prevention services was low. Discrimination and stigma adversely affected HIV/AIDS health seeking practices by MSM, mostly encountered at the facility level. MSM engaged in alcohol and substance use that likely affected HIV/AIDS health seeking behaviour. MSM also engaged in risky behaviours that could negate the HIV/AIDS prevention efforts in Nairobi County. It is recommended that a policy on MSM health should be drawn. There is need for healthcare workers at facility level to be trained on MSM specific health needs.

CHAPTER ONE

INTRODUCTION

1.1 Background

Kenya has the joint fourth-largest HIV epidemic in the world (alongside Mozambique and Uganda) with 1.6 million people living with HIV in 2016. In the same year, 36,000 people died from AIDS-related illnesses, while this is still high it has declined steadily from 64,000 in 2010 (UNAIDS 2017). The first case of HIV in Kenya was detected in 1984. By the mid-1990s, HIV was one of the major causes of illness in the country, putting huge demands on the healthcare system as well as the economy.

In 1996, 10.5% of Kenyans were living with HIV, although prevalence has almost halved since then, standing at 5.9% by 2015. This progress is mainly due to the rapid scaling up of HIV treatment and care (KASF, 2014). In 2016, 64% of people living with HIV were on treatment, 51% of whom were virally suppressed (UNAIDS 2017). Kenya's HIV epidemic is driven by sexual transmission and is generalized, meaning it affects all sections of the population including children, young people, adults, women and men. As at 2015, 660,000 children were recorded as being orphaned by AIDS (UNAIDS, 2017). However, a disproportionate number of new infections happen among people from key populations. In 2014, it was estimated that 30% of new annual HIV infections in Kenya are among these groups (KASF, 2014). Geographic location is also a factor, with 65% of all new infections occurring in nine out of the country's 47 counties – mainly on the west coast of Kenya. In particular, new HIV infections in major cities of Nairobi and Mombasa increased by more than 50% -from a collective total of 4,707 in 2013 to 7,145 in 2015- (MOH 2016). As a result, HIV prevalence ranges from from 0.1% in Wajir to 25.4% in Homa Bay.

Human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) became known in the early 1980s among populations of gay men and other men who

have sex with men (MSM) in Western Europe, North America, and Australia. MSM is a practice that describes same-sex behaviors between men rather than identities, orientations, or cultural definitions. The term includes gay men, bisexuals, MSM who do not identify as gay or bisexual despite their behaviors, male sex workers, some biologically male transgendered persons, and a range of culture- and country-specific populations of MSM (UNAIDS, 2009). For several years now data has emerged that epidemics of HIV among MSM are no longer limited to high-income countries but also in middle-income countries in Asia, Africa, Latin America, the Caribbean, Eastern Europe, and Central Asia (Van Griensven, 2009).

This sexual practice (MSM) is not popular in many societies globally and for this reason acknowledgement of health challenges associated with this practice and the impact thereof has not been in the open (Beyrer *et al.*, 2012). In Kenya there are an estimated 100,000 new infections every year and at least one third of these infections can be attributed to Most at Risk Populations (MARPS), MSM being part of this group (MOPHS, 2010). HIV/AIDS pandemic continues to be the one disease or social conditions that affect all aspects of the political, economic and social development of nations and the international community. It is proved that health is also a social condition, the management of which goes beyond the scope of the health sector to involve other sectors of the economy. This means various sectors of the economy have had to recognize the need to have a vested interest in the health and social lives of their workforce to sustain productivity. However, over time, the effects of HIV/AIDS and other STIs among MSM have not received much attention in many African countries, or the issue is simply being denied or ignored. If this issue continues to be ignored especially in Africa, then gains so far made in the fight against HIV/AIDS can be reversed or can result into totally negative consequences. This concern is valid since sex is proven to be the commonest mode of transmission of HIV. Literature has shown that globally HIV rates among men who have sex with men (MSM) are soaring, according to a Johns Hopkins/World Bank study of HIV epidemics among MSM worldwide in 2010 (WHO, 2011). A report from the Global Forum on MSM & HIV

informs that HIV prevalence rates among MSM were as high as 21.4 percent in Malawi, 13.8% in Peru and 2% in Thailand. HIV prevalence among MSM in Mexico was 26% and in Bolivia was 22% (Trapence *et al.*, 2011). A report in the same forum also showed that increasing HIV care among MSM can lead to declines in HIV epidemics among general populations.

1.2 The statement of the problem

The prevalence of HIV/AIDS among MSM in Kenya is 15% (MOPHS, 2009) and in Nairobi it is 18.2. (Geibel 2012). The burden of HIV/AIDS cannot be over emphasized. They encompass loss of production among the infected and affected, new innovations required to mitigate the scourge, enlargement of bed capacity to accommodate those who are ill with infections associated with HIV/AIDS, a paradigm shift from the traditional health management practices, continuous capacity building for health management practitioners and acquisition of knee bending skills by poor nations to beg for funds from the West to fund HIV/AIDS programmes. MSM do not protect themselves, they spread infections to others therefore putting stress on the existing resources, they infect their partners/spouses, leading to spread of HIV/AIDS in the general population. Lack of adherence to prescribed medication leads to drug resistance. Having many partners result to development of resistant varieties of HIV strains. There is also compassion fatigue among many health care workers supporting HIV/AIDS patients. Although HIV /AIDS prevention services in Kenya have been in existence for several years now information on factors affecting acceptability, accessibility, adherence, and uptake of HIV/AIDS prevention services among men who have sex with men is still scanty. This study determined factors that affected uptake of HIV/AIDS prevention services among MSM in the ongoing efforts to mitigate the effects. This information is crucial in the development of guidelines for MSM towards mitigating the effects of HIV/AIDS in the country both at national and county level.

1.3 Justification

Men who have sex with men have been substantially affected by HIV epidemics worldwide. Epidemics in MSM are re-emerging in many high-income countries and gaining greater recognition in many low-income and middle-income countries. The prevalence of HIV/AIDS among MSM in Nairobi is 18.2% hence the choice of the study region. Better HIV prevention strategies are therefore urgently needed. As long as HIV exists, the risk of HIV transmission among MSM cannot be over emphasized. There is need to strengthen the evidence circle on men who have sex with men and effects of HIV in the general population to help in the development of policies for acceptable public health practice. The data collected to address HIV/AIDS can be improved to inform, develop and advocate relevant policy and program endeavors to mitigate the effects of HIV/AIDS. This study is important as the prevalence of HIV/AIDS among MSM is an increasing phenomenon that can easily reverse the gains already made in the prevention and care of HIV/AIDS in this country. Including them in specific HIV/AIDS care and treatment programmes will help in the sustainability of the interventions. Findings in this study therefore, have important implications for HIV surveillance and health promotion in Kenya. The overall goal is to contribute to the ongoing efforts to understand the response among MSM in Kenya and thus help the country improve the scope, relevance and comprehensiveness with HIV prevention efforts, with an ultimate goal of helping Kenya make more effective HIV/AIDS-related decisions.

1.4 Study questions

1. What is the level of uptake of HIV/AIDS prevention services among MSM in Nairobi County?
2. Are the current HIV/AIDS prevention services accessible and acceptable by SM in Nairobi County?

3. What is the awareness level, attitude and practice by MSM towards HIV/AIDS prevention services in Nairobi County?
4. What are the barriers to HIV/AIDS prevention services among MSM in Nairobi County?

1.5 Objectives

1.5.1 Main objective

To determine factors affecting uptake of HIV/AIDS prevention services among men who have sex with men in Nairobi County.

1.5.2 Specific objectives

1. To assess uptake of HIV/AIDS prevention services among MSM in Nairobi County
2. To determine accessibility to, acceptability of and adherence to HIV/AIDS prevention services among MSM in Nairobi County
3. To determine the awareness, attitude and practice of MSM on HIV/AIDS prevention services in Nairobi County
4. To identify barriers towards HIV/AIDS prevention services among MSM in Nairobi County.

1.6 Study Logical framework

The logical framework (Figure 2.1) was developed to guide the determination of the factors that affect acceptability, accessibility, adherence, and uptake of HIV/AIDS services by the MSM and the probable outcomes.

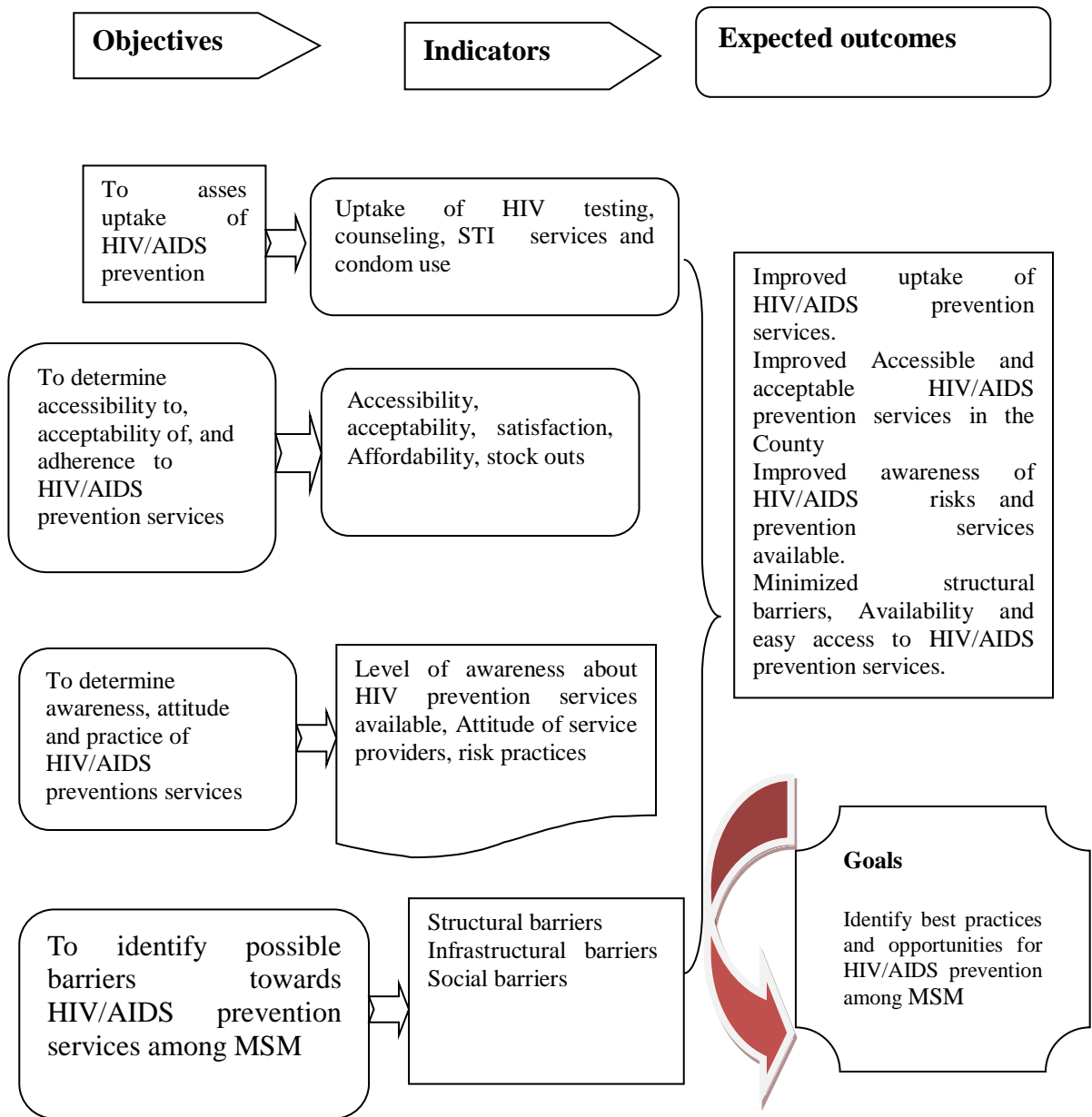


Figure 1.1: Logical Framework

CHAPTER TWO

LITERATURE REVIEW

2.1 An overview of Aids Epidemic

Early in the 1980's the world was drawn to the attention of a rare pneumonia occurring in homosexual men (Hung, *et al.*, 2004). More investigation showed that homosexual men were developing rare forms of cancer. More studies revealed that this disease was not congenital or inherited but appeared to have been acquired. Research now shows that this resulted from infection by a virus. Since then, the acronym AIDS which is used to describe this disease, has become a permanent fixture in our language. To make it worse the AIDS epidemic continues to grow, unlike other major infectious diseases which have been controlled by clinical treatments and public health measures.

2.2 The HIV epidemic amongst MSM in Africa

According to UNAIDS, men who have sex with men is a term used to describe those males who have sex with other males, regardless of whether or not they have sex with women or have a personal or social identity associated with that behaviour such as being gay, bisexual or transgender (UNAIDS, 2009). For several years now studies focusing on MSM and specifically their sexual risk behaviours and HIV prevalence rate, has increased. The knowledge gained from these studies has provided greater insights into the factors that may put MSM at risk for HIV infection and what can be done to address the issue. According to several studies, many MSM in Africa engage in sexual activities with women and many are married to or are in a long-term relationship with a woman (Baral *et al.*, 2007). Studies have also found that knowledge about HIV and other sexually transmitted infections (STIs) are low amongst MSM, while the prevalence of risky behaviour is high (Underhill *et al.*, 2010). Although some studies have found condom use to be high amongst certain MSM populations, other studies have revealed that condoms are often used incorrectly and that condom breakages often occur (Caceres

et al., 2008). Some studies have actually shown that many MSM engage in multiple concurrent sexual relationships and transactional sex (Moreau, 2007; Geibel *et al.*, 2012). Regular substance use, particularly alcohol abuse, has also been found to be common in MSM communities, increasing the risk of HIV infection. The prevalence of STIs have been found to be significantly higher amongst the MSM population, compared to the general male population, with one study revealing that 6% of MSM respondents suffered from an STI, compared to only 1% of men in the general population (Caceres *et al.*, 2008). With regards to testing, literature shows that the HIV testing rate amongst MSM is very low, resulting in many HIV positive MSM not knowing their status. It has also been documented that the HIV prevalence rates of MSM across Africa are significantly higher than the national HIV prevalence rates. Such studies include those carried out in Mombasa, Kenya (24.5%) (Sanders *et al.*, 2007); Nairobi, Kenya 18.2% (Geibel *et al.*, 2011); Blantyre and Lilongwe in Malawi (21.4%) (Baral *et al.*, 2007), Dakar, Senegal (21.8%) (Wade *et al.*, 2010) and Cote D'Ivoire (50.0%) (Vuylsteke *et al.*, 2012). These statistics demonstrate that the HIV prevalence amongst MSM is unacceptably high and that the need for intensified HIV prevention efforts amongst this group should be a priority. Most National Strategic Plans in Africa have not discussed prior HIV care and treatment interventions targeting MSM (Makofane *et al.*, 2013).

2.3 HIV/AIDS, Stigma and discrimination among MSM in Africa

Sex between men remains illusional, feared, and discriminated against in most parts of the world. Many countries have laws banning same sex relations (Beyrer *et al.*, 2012). As of 2012, same sex relations are a criminal offence in 78 countries. In five of these countries (Iran, Mauritania, Saudi Arabia, Sudan, Yemen and parts of Nigeria and Somalia), it is punishable by the death penalty (Semugoma *et al.*, 2012). In January, 2011, a prominent Ugandan gay activist was murdered shortly after winning a lawsuit against a local magazine, which had published his name and photograph identifying him as gay and called for his execution (Gettleman, 2011). It can almost be agreed that where such laws exist governments are unlikely to promote any sort of HIV interventions that are specific to men who have sex with men.

Structural barriers at the policy, cultural, and institutional level include criminalization of homosexuality, high levels of stigma and discrimination, homophobia in health care systems, and poverty. These barriers create an environment where blackmail, extortion, discrimination, and violence against MSM to thrive. MSM are therefore likely to hide their sexual behavior from health care providers and the society that they live in, in order to protect themselves against negative effects. If MSM cannot reveal their sexual behavior to health care providers then this can lead to delayed diagnosis and therefore treatment, leading to poor health outcomes and higher risk of transmitting HIV and other sexually transmitted infections to partners.

2.4 HIV and AIDS situation in Kenya

In Kenya, people between the ages of 15 – 64 are living with HIV, with a national HIV prevalence of 5.6 (KAIS, 2012). Kenya is also experiencing a generalized HIV epidemic driven by discordance between sex partners, unprotected sex, multiple and/or concurrent partnerships, low male circumcision (MC) among some cultural groups and low knowledge of HIV status. Although there is a generalized epidemic in the country, different dynamics and drivers exist among certain populations increasing their HIV risk. Populations at higher risk for HIV in Kenya include sex workers (SWs) and their clients, men who have sex with men (MSM), prisoners, and Injecting Drug Users (IDU). These populations account for one third of new HIV infections in Kenya.

2.5 HIV/AIDS mediating factors among MSM

Factors that impact HIV-transmission risk among MSM include STI prevalence, levels of peer education, knowledge of HIV status within the population and network tendencies for substance use or transactional sex (Beyrer *et al.*, 2012). Additionally, the social stigma surrounding HIV, sexual identities and homosexuality may deter MSM from seeking voluntary HIV counseling and testing (VCT) or other health services (Kalichman *et al.*, 2008, Kalamar *et al.*, 2011) Perceived stigma, including fear of seeking healthcare and refraining from disclosing same-sex practices to a health

professional, and enacted discrimination, including denial of healthcare access based on sexuality, have been associated with increased sexual risk practices (Fay *et al.*, 2011, Poteat *et al.*, 2011). In some studies, Psychological factors have been associated with VCT uptake (Gu *et al.*, 2011) and in others motivation for VCT uptake was driven by knowledge and education rather than sexual risk. (Sherr *et al.*, 2007). Risks for acquisition and transmission include biological risks of HIV transmission during anal sex, inconsistent condom use, genital sexually transmitted infections (STI), and mental health, which has been shown to be associated with elevated HIV risk status mediated through behavior (Baggaley *et al.*, 2010, Jin *et al.*, 2010, Grulich *et al.*, 2010: Chin-Hong *et al.*, 2009; Urbanus, 2009; Jin *et al.* 2007; Abdolrasouli *et al.*, 2009; Wade *et al.*, 2005; Sandfort *et al.*, 2006: Bostwick *et al.*, 2010).

2.6 Models for HIV/AIDS interventions among MSM

2.6.1 Use of Peers among MSM

Empowering MSM and other marginalized groups to protect themselves from HIV is one of the world's most urgent health priorities as reported by Piot (UNAIDS, 2009). In countries where being homosexual is not widely recognized, and where HIV services for gay men are severely lacking, groups of men who have sex with men have made a substantial difference in some areas. In India the use of peers to distribute condoms among men who have sex with men has brought about a significant increase in condom use in the city of Mumbai, where a study found that more than two-thirds of condoms used by men who have sex with men were those handed out by peer educators (Trapence, 2012).

2.6.2 Appointment of MSM in leadership positions

In some countries it has been understood that fighting prejudice and changing public attitudes towards men who have sex with men are important prevention articulates. In Mexico for example, the government appointed an openly gay, HIV-positive man, as

head of its national AIDS council, and he was the driving force behind a large nationwide media campaign to reduce homophobia (Medical News Today, 2007).

2.6.3 Safe spaces

Another successful story has been to introduce ‘safe spaces’ where men who have sex with men can meet talk and receive sexual health services, including testing facilities and treatment. Men who have sex with men have specific STI-related needs but often feel uncomfortable to seek treatment from public health facilities (Elmendorf *et al.*, 2005).

2.6.4 Counseling

Early diagnosis of HIV infection is crucial to HIV prevention among men who have sex with men. A study of MSM with primary HIV infection found that most participants substantially reduced their risk of onward transmission after being diagnosed and received counseling (Fox *et al.*, (2009).

2.6.5 Prevention through the internet and Messaging Technology

The internet is an effective means of reaching out to men who have sex with men, as increasing numbers of gay people are meeting online. Some websites used by men who have sex with men place health advisors in chat rooms, display animated characters to educate people about HIV, and encourage users to be open about their HIV-status (Boulos *et al.*, 2006; Blas, 2007; De Tolly, 2012).

2.7 MSM vulnerability to HIV/AIDS

Vulnerability to HIV refers to an individual’s or community’s inability to control their risk of HIV infection. The higher incidence of HIV observed among MSM as compared with heterosexual populations in similar settings is due to the higher transmissibility of HIV via anal intercourse. Literature shows that there are higher rates of partner

acquisition and concurrent partnerships among MSM as well as a higher density of sexual networks (Baggaley *et al.*, 2010; Beyrer *et al.*, 2012; Grulich *et al.*, 2010; Amirkhanian *et al.*, 2014). The role of transmission during the primary phase of HIV infection also plays a role in transmission rates among MSM (Lewis *et al.*, 2008). A number of cases of HIV and other STIs diagnosed among MSM indicate significant exposure (Berg *et al.* 2011; Heijman *et al.*, 2012; Knussen *et al.*, 2011; Cowan *et al.*, 2008; Kolaric *et al.*, 2011; Folch *et al.*, 2009) coupled with an unmet need for responsive prevention services. In one study, out of 174,209 MSM participating in an MSM Internet Survey (EMIS), 30% reported at least one episode of anal intercourse where a condom was not used with a partner of unknown HIV status (Weatherburn *et al.*, 2013). Sex work has not only increased HIV/STIs but sex workers are also more vulnerable to HIV. Factors that are likely to increase MSM's vulnerability to HIV/STI include:

2.7.1 Biological factors

It's easier for HIV to be transmitted through unprotected anal sex than through unprotected vaginal sex. If a man has another sexually transmitted infection (STI), this can be an extra biological factor that increases his risk of becoming infected with HIV. STIs are relatively common among men who have sex with men, and because men are not always encouraged to be tested for STIs that present rectally, these infections can go undiagnosed and untreated (www.Avert.org).

2.7.2 Behavioral factors among MSM

Certain behavioral characteristics increase the risk of becoming infected with HIV for men who have sex with men. For example, having multiple sex partners or not using condoms consistently. Substance use are part and parcel among MSM. Alcohol and drugs can make it more likely that people will have unprotected sex and a higher number of sexual partners. Having multiple sexual partners is more common among this community, and many do not use condoms consistently. In fact, MSM reporting easy access to condoms in 2012 varied from 29% in upper-middle income countries, to 45%

in high-income countries, meaning that access to condoms worldwide remains inadequate for this group (UNAIDS, 2014). In one study it was found that men who have sex with men using the drug crystal meth were three times more likely to be infected with HIV than non-drug using men who have sex with men (Peck, 2005).

2.7.3 Social/Cultural factors

Many societies are in denial about the fact that sex between men do occur, and it is a taboo subject in many cultures across Africa. As a result, HIV prevention campaigns often only talk about the risks of heterosexual sex, and there is little information available to men who have sex with men, which can give them the false impression that they are not at risk. In countries where sex between men is criminalized, MSM find themselves excluded from sexual health services and may find it hard to access condoms and lubricants to protect themselves from HIV. A certain proportion of sex between men in most countries is commercial. As with female sex workers, male or transgender sex workers may find it difficult to persuade their clients to use condoms, or may be offered more money to have unprotected sex, increasing the risk that they will become infected with HIV. In some countries there are HIV programmes aimed at female sex workers, but none targeting male sex workers. In countries where antiretroviral drugs are widely available, the believe and trust about the effectiveness of this treatment may lead some men who have sex with men to take more risks (Dukers *et al*, 2007). Dependence on one's family for emotional, economic and educational support may deter young men in particular from disclosing their status, which makes it difficult to access them with services designed for men who have sex with men (UNAIDS, 2010). MSM are more likely to experience depression due to social isolation and disconnectedness from health systems, which can make it harder to cope with aspects of HIV such as adherence to medication (WHO, 2011).

2.8 Legal framework of HIV/AIDS in Kenya

In Kenya there are legal frameworks surrounding human rights and HIV and AIDS care that are relevant in management of HIV/AIDS pandemic. They include the following:

2.8.1 The HIV/AIDS Prevention and Control Act 2006

It creates public awareness on causes, modes of transmission, consequences and means of prevention and control of HIV and AIDS. It protects the rights of the infected and affected and outlaws discrimination in all its forms against persons living with HIV and AIDS or those perceived or suspected to have HIV and AIDS (www.kenyalaw.org).

2.8.2 Sexual offences Act 2006

The law prohibits various forms of sexual violence offences committed against men and women. These include rape, attempted rape, sexual assault, indecent acts, defilement, gang rapes, sexual harassment, child pornography, child prostitution, child sex tourism, exploitation of prostitution, incest, deliberate transmission of HIV and AIDS including other life threatening sexually transmitted diseases, and cultural and religious offences (www.kenyalaw.org). This Act is relevant in this context as it covers sexual offences against men and women and HIV/AIDS transmission. MSM are also raped and this is also a risk in terms of HIV/Aids interventions. This is relevant in terms of accessibility of health needs whereby health providers should be aware of this so as not to discriminate against MSM that seek treatment. It is possible that an MSM can contract HIV/AIDS or STI's through rape and not necessarily because he is engaged in sex with men.

2.9 HIV/AIDS Services in Kenya

HIV/AIDS programmes are the tested and timely strategies that have been put in place to mitigate the HIV/AIDS pandemic and in Kenya they have been in existence for more than two decades.

2.9.1 HIV Testing and Counseling

HIV testing and counseling is the main entry point to prevention, care and treatment (Holtgrave & McGuire, 2007). HTC has been in place as a practice recommended by Ministry of Health since 2001 in Kenya. HTC has contributed significantly to the reduction of stigma associated with HIV/AIDS, and the promotion of behavior change. Other models of HTC include mobile, or ‘moonlight’, and door-to-door HTC, among others. These models are carried out by health personnel and healthcare staff mostly in non-governmental organizations.

2.9.2 STI Management

Due to the strong correlation between HIV and sexually transmitted infections (STIs), incorporating STI services into HTC and offering HTC at STI clinics has been highly recommended in Kenya. All persons who test positive for an STI are offered an HIV test, and persons who receive HTC may be offered STI treatment or referred for STI services if they are not available on site.

2.9.3 Male Circumcision

In a randomized controlled trial study in three African countries Kenya included, it was concluded that male circumcision provides approximately 60% protection against the heterosexual acquisition of HIV in men (Weiss *et al*, 2008). In Kenya the Ministry of Health has a policy guideline on male circumcision and HIV prevention. The guidelines emphasizes that male circumcision is promoted and delivered to males of all ages in a manner that is culturally sensitive to minimize stigma that may be associated with circumcision status. They also reiterate that male circumcision does not replace other known effective HIV prevention methods and is always considered as part of a comprehensive prevention package .Male clients receiving HIV negative test results from an HTC service delivery point have the benefits of male circumcision explained to them, and referred to an appropriate VMC site if they wish to undergo the procedure.

2.9.4 Condom Use

HTC service providers promote the use of condoms and are to ensure that they have enough in stock for clients who may need them. They also facilitate referral for other reproductive health services. Condom distribution is coupled with demonstration of the proper use of a condom, and HTC service providers encourage clients and patients to ask questions regarding their use.

2.9.5 Mass Media Campaigns

Mass media campaigns are used to communicate key messages about HIV testing and counseling to an entire population or to specific segments of it. Mass media campaigns to promote HTC may include billboards, television or radio campaigns. They also use newspapers, depending on the readership.

2.9.6 Information, Education and Communication materials

The production and distribution of educational leaflets, pamphlets and posters are beneficial for people who want to carry information about HTC to share with family members or friends. This is usually effective at health facilities where clients or patients may have significant time in a waiting room and could benefit from visual educational materials. Information, education, and communication (IEC) materials addressing all elements of the HTC service package are made available at all HTC service provision sites in Kenya.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Site

The study was based in Nairobi county (Figure 3.1), and it was conducted among Non Governmental Organizations that offered HIV/AIDS health support services among MSM Nairobi is one of the 47 counties of Kenya and it is divided into seventeen constituencies and eighty five wards. The County consists of the city and its surrounding areas and is Located at 1°17'S 36°49'E 1.283°S 36.817°E. Nairobi County occupies 696 square kilometers and it is the most populous city in East Africa, with a current population of about 3 million. The county has three level 4 health facilities, one referral hospital, four major private hospitals and numerous health Centres both public and private. It was chosen for this study based on the prevalence of HIV/AIDS among MSM which is of a public health concern. The study was carried out from June 2014 to March 2015.



Figure 3.1: Nairobi County and its borders

3.2 Study design

This was a cross-sectional study that used mixed methods to collect quantitative and qualitative data (Johnson *et al.*, 2004; Creswell *et al.*, 2007; Poth *et al.*, 2015). By definition, mixed methods is a procedure for collecting, analyzing, and “mixing” or integrating both quantitative and qualitative data at some stage of the research process within a single study for the purpose of gaining a better understanding of the research problem (Figure 3. 2.). The rationale for mixing both kinds of data in this study is grounded in the fact that neither quantitative nor qualitative methods are sufficient, by themselves, to capture the trends and details of a situation. When used in combination,

quantitative and qualitative data complement each other and allow for a more robust analysis, taking advantage of the strengths of each. The two phases of the research were integrated in the findings.

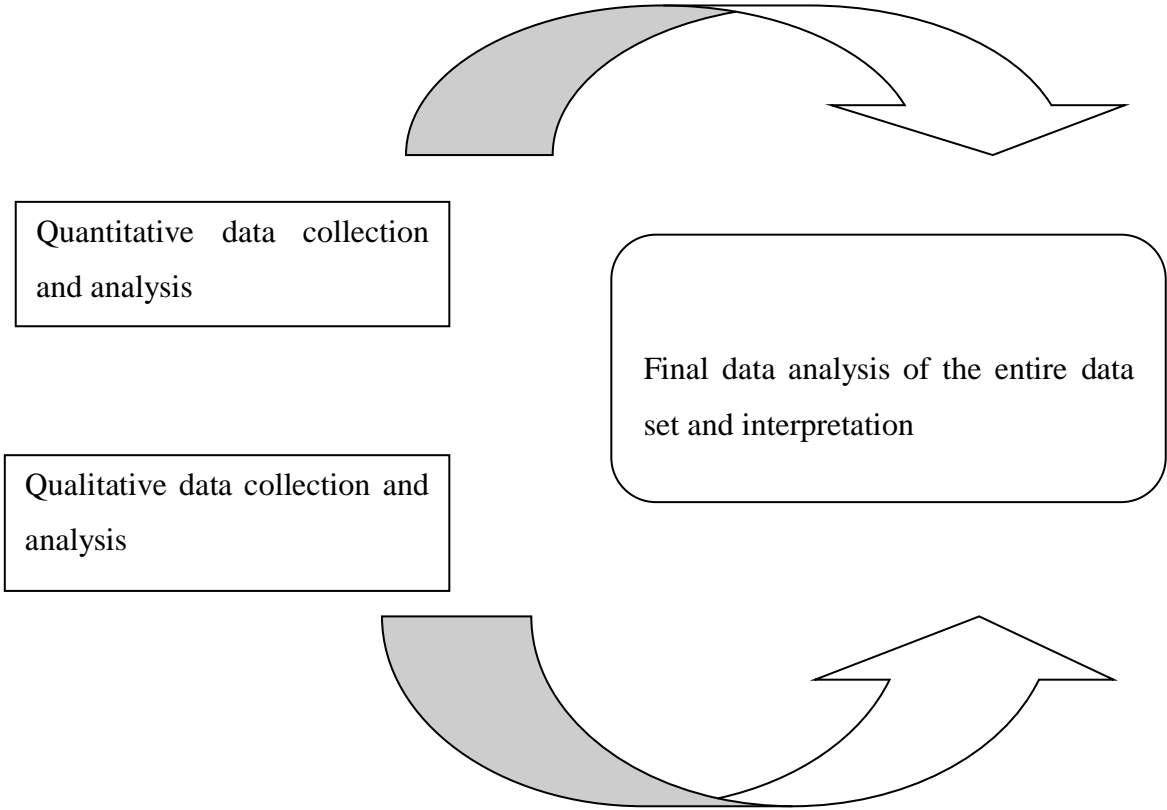


Figure 3.2: Sequential explanatory mixed method design

3.3 Inclusion criteria

- Male, 18 years of age or older, and reporting ever having had oral or anal sex with another man, men who engage in sex with men, married or not, are or are not commercial sex workers and having been a resident in Nairobi County for the previous three months prior to the study.
- Willing to participate in the study

3.4 Exclusion criteria

Participants that resided outside Nairobi County.

All those unwilling to participate

3.5 Sample size determination for quantitative

The following statistical formula recommended by Fisher *et al.*, (1998), for cross sectional studies was used to determine the minimum sample size required:

$$n = \frac{Z^2 P (1-P)}{d^2}$$

Where;

n - Required sample size

Z-1.96 (confidence level at 95%)

P = Prevalence of HIV among MSM which is 15%

d- Level of precision at 5% (standard value of 0.05)

$$n = \frac{(1.96)^2 (0.15) (1-0.15)}{0.05^2}$$

0.05²

n = 196. A minimum of 200 respondents had been targeted but the actual number reached through snowballing was 380 respondents.

3.6 Study population

The study population were MSM aged 18 years and above.

3.7 Study setting

Quantitative data was collected using self administered questionnaires and it targeted MSM. Researchers for data collection were identified MSM who were trained and who utilized snowballing technique to identify subsequent respondents in their net works and to conduct the interviews. The tool for quantitative data collection was pretested to a group of MSM provided by one non-governmental organization that offered HIV/AIDS health support services to validate the framing of questions. After piloting, the tool was then re-organized and stream lined by the research team. On the other hand, qualitative study targeted MSM as well as the programme managers in charge of HIV/IDS prevention services in purposely selected public, and private health facilities and directors in charge of Non- governmental organizations that offered health support services to MSM.

3.8 Recruitment of study participants

This study focused on hard to reach populations therefore snow ball and purposive sampling techniques were employed to recruit respondents and participants respectively. Snowball sampling was applied in this study because it is a useful technique in research concerns with behavior that is perceived to be socially unacceptable by the community or involves criminal activity. The nature of such activities may make it a virtually impossible task to identify all members of the research population openly. Six MSM were purposely selected and requested to be the research assistants. Upon consent they

were trained and were therefore responsible for recruitment of other MSM respondents in their various networks. A total of 380 MSM were reached after the stipulated time period – which was 3 months, decided by the research team elapsed and recruited in to the study after consenting. The managers who were in charge of HIV/AIDS programmes of 6 purposely selected Public and private health facilities and directors of 3 Non-governmental organizations that offered HIV/AIDS health support services to MSM were also recruited in to the study. For focus group discussions that were conducted with MSM, participants were randomly drawn from three purposely selected Non-Governmental Organizations that offered HIV/AIDS health support services to MSM using a visitation register owned by each organisation.

3.9 Data collection

A developed self administered questionnaire was used to collect quantitative data from MSM. Questions asked included social demographic characteristics, uptake of HIV testing, condom utilization, pre and post HIV counseling, STI testing, awareness and practice of HIV prevention services. Questions on accessibility of TB drugs, antiretroviral, lubricants, condoms and other STI treatment services were asked. Acceptability was determined using information collected on perceived barriers encountered at social and facility level by MSM community and also from the perspectives of the HIV/AIDS service coordinators at facility level. These were mostly qualitative questions whose analysis was done thematically. Adherence to prevention services was determined using information collected on pre-test and post HIV counseling, sexual practice risks, alcohol and drug consumption and willingness to utilize HIV/AIDS prevention services.

Four focus group discussions were conducted among MSM that included between 10-12 participants in each group using an interview guide. They were conducted in excluded areas of their choice for their own psychological and physical safety because Kenya is still homophobic towards MSM. The FGDs were moderated by an expert in qualitative studies and assisted by three trained qualitative research assistants who took notes

verbatim and tape recordings. The discussions were conducted on a round table after consent to participate in the study was sought. Questions explored and which were probed hinged on what experiences MSM had faced when accessing HIV/AIDS care and treatment services in public and private health facilities, whether the HIV/AIDS treatment and care services were user friendly, what needed to be done in order for their own health needs to be met within the health care system, and what barriers the MSM had encountered, prior to this study, in seeking healthcare from Nairobi county public and private healthcare facilities. Also included in the qualitative were nine in depth interviews conducted with managers in charge of HIV/AIDS programmes in public and private health facilities and Non-governmental organizations that offered healthcare support services to MSM. The In-depth interviews were carried out in the offices of the selected organizations after arranging for an appointment. Questions hinged on challenges encountered when offering healthcare services to MSM, the attitude of MSM towards HIV/AIDS prevention services, treatment and care offered, and whether the MSM adhered to these services, and the challenges involved in offering these services to MSM, as far as HIV/AIDS interventions were concerned.

3.10 Data analysis

Data analysis for quantitative study was done using SPSS statistical software (Ver.22). The survey data collected using questionnaires were double entered into a computer database designed using MS-Access application. Data cleaning and validation was performed in order to achieve a clean data set which was then exported into a Statistical Package format (SPSS Version 22 for analysis. Back up files were stored in flash discs; this was done regularly to avoid any loss or tampering. All the questionnaires were stored in lockable drawers for confidentiality. For Univariate analysis descriptive statistics such as percentages were used to summarize categorical variables while measures of central tendency were used for continuous variables. For Bivariate analysis Pearson's Chi-square test was used to test for the strength of association between categorical variables. Odds Ratio (OR) and 95% Confidence Interval (CI) were used to estimate the strength of association between independent variables and the dependent

variable. The threshold for statistical significance was set at $\alpha = 0.05$ and a two-sided p value at 95% confidence intervals (CI) reported for corresponding analysis. For Multivariate Analysis, all independent variables identified to significantly associate with HIV prevention services at Bivariate analysis were considered together in multivariate analysis. This was performed using binary logistic regression where backward conditional method was specified in order to identify confounders and effect modifiers. Adjusted odds ratios (AOR) together with their respective 95% Confidence Interval (CI) were used to estimate the strength of association between the retained independent predictors and HIV prevention aspects.

For qualitative data, analysis was carried out using the six stages of the Framework Method (Gale *et al.*, 2013). Interviews were transcribed verbatim. This data was then explored to identify important and relevant themes of the study. These were subsequently labeled according to their relevance and a series of categories built up to explain the events that were emerging from the study. This data was categorized manually into themes around the core issues relating to uptake, accessibility, acceptability, and adherence of HIV/AIDS prevention services by MSM and any challenges encountered at facility level. Emerging categories were merged to form core categories which were analyzed descriptively and through verbatim reporting.

3.11 Ethical Considerations

Ethical approval to conduct this study was sought from the Kenya Medical Research Institute (KEMRI)'s Scientific and Ethical Review Unit (SERU) under SSC protocol No.2612 as well as permission from the Nairobi County Director of Health. Appointments were made with the managers of public and private health facilities and directors of the non-governmental organizations included in the study to explain the details of the study after which consent from them was sought to carry out interviews. Signed informed consent was sought from the MSM both for quantitative and qualitative participation. Participation was fully voluntary and confidentiality was observed at all times. Although there were no immediate benefits related to the study, the participants

benefited from issuance of HIV/AIDS awareness materials and their participation would help the study team document challenges that faced MSM and HIV programming managers in providing comprehensive HIV services to MSM which was critical in the mitigation of HIV/AIDS in the County besides the fact that policy would only be meaningful if the views of the deserving stakeholders were solicited.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic and behavioural characteristics of MSM

Socio-demographic and behavioural attributes of the study participants are as shown in Table 4.1. Most were young adults as over half of the respondents (59.8%) were aged between 20-29 years old. Participants that had attended college and university level were 33.4% and 29.5%, respectively. About half (52.6%) of the respondents were not married (to either male or female). Regarding religion, most were Christians with Protestants and Catholics constituting 71.9% of the respondents. With respect to occupation, sex workers accounted for 26.2% followed by salaried employees (25.0%). Almost half (48.8%) of the respondents had taken alcohol once a week in the previous one month prior to the study while 12.6% had never taken alcohol. The use of drugs was reported by the majority of respondents with the highest percentage being; Bhang (36.1%) followed by Khat (28.2%). Only 17.6% of the respondents had not used drugs in their life time.

Table 4.1: Socio-demographic and behavioural characteristics of MSM

Variables	n=380	%
Age of participants		
18-19	30	7.9
20-24	120	31.6
25-29	107	28.2
30-34	71	18.7
35-39	27	7.1
40-52	25	6.6
Level of education		
None	11	2.9
Primary	26	6.8
Secondary	104	27.4
College	127	33.4
University	112	29.5

Table 4.1: Continued

Variables	n=380	%
Religion		
Protestant	145	38.2
Catholic	128	33.7
Muslim	69	18.2
Traditionalist	13	3.4
Other	25	6.6
Occupation		
Sex work	102	26.8
Small business	75	19.7
Salaried employee	95	25
Student	65	17.1
Casual labourer	43	11.3
Whether cohabiting with male or female partner		
Married to a female partner	79	20.8
Living with male sexual partner	68	17.9
Married but living alone	33	8.7
Not married to either gender	200	52.6
Ever used alcohol in the previous 4 weeks		
Every day	95	25.0
Once a week	184	48.4
< 1 week	53	13.9
Never	48	12.6
Ever used illicit drugs		
Khat	107	28.2
Bhang	137	36.1
Glue, petrol	11	2.9
Cocaine	33	8.7
Heroin	14	3.7
All	11	2.9
None	67	17.6

4.2 Uptake of HIV/AIDS prevention services among MSM

Table 4.2 shows that majority of respondents (88.2%) had undertaken HIV test. However, only 31.1% of the respondents went for other STIs tests. Condom utilization for every sexual act either for vaginal and/or anal sex was 22.9%.

Table 4.2: Uptake of HIV/AIDS prevention services among MSM

Variable	n=380	%
Ever taken HIV/AIDS test		
Yes	335	88.2
No	45	11.8
Use of condom for vaginal and/or anal sex		
Never	70	18.4
Sometimes	138	36.3
Most of the time	85	22.4
Always	87	22.9
Use of condom at last sex		
Yes	327	86.1
No	53	13.9
Ever taken other STI test		
Yes	118	31.1
No	262	68.9

4.2.1 Uptake of HIV/AIDS Counselling

About half (52.8%) of the respondents who did HIV test got pre-test and post-test counseling while 11.0% got only pre-test counseling, 6.9% got only post-test counseling and 3.6% had no counseling as depicted in Figure 4.1. A quarter of the respondents declined to answer the question on counseling aspect.

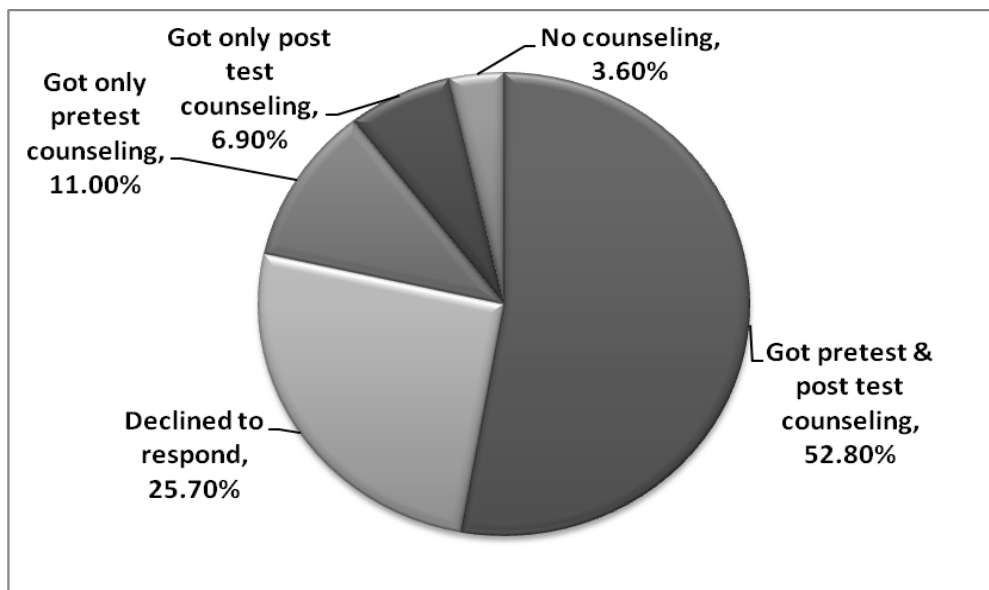


Figure 4.1: Counselling among those who did HIV test

4.2.2 Factors associated with uptake of HIV/AIDS testing and socio-demographics

Associations between selected socio-demographic factors and HIV/AIDS testing were analyzed as presented in Table 4.3. Two of the selected socio-demographic factors were statistically significantly associated with HIV testing. Occupation status was significantly associated with HIV/AIDS testing. A student was 4.14 [95%CI = 1.31 – 13.10, P=0.016] times more likely to be tested for HIV/AIDS compared to a small business owner. Likewise, a higher rate of HIV/AIDS testing was observed among sex workers (93.1%; 7) compared to those having a small business (78.7%; 59). A sex worker was 3.68[95%CI = 1.43 – 9.48, P=0.007] times more likely to be tested for HIV/AIDS compared to someone having a small business. There was a significant association between HIV/AIDS testing and cohabitation with a male or a female partner. A significantly higher rate of HIV testing was observed among participants who were not married (90.5%; 181) compared to those who were married to a female partner (81.0%; 64). A participant who was not married was 2.23[95%CI = 1.07 – 4.65,

P=0.032] times more likely to be tested for HIV/AIDS compared to a participant who was married to a female partner.

Table 4.3: HIV testing in relationship socio-demographic characteristics

Variables	Yes (n=335)		No (n=45)		OR	95% CI		p value
	n	%	n	%		Lower	Upper	
Age of the participants								
18 -19	25	83.3	5	16.7	1.00			
20-24	104	86.7	16	13.3	1.30	0.44	3.89	0.639
25-29	95	88.8	12	11.2	1.58	0.51	4.91	0.426
30-34	63	88.7	8	11.3	1.58	0.47	5.28	0.462
35-39	26	96.3	1	3.7	5.20	0.57	47.69	0.145
40-52	22	88.0	3	12.0	1.47	0.31	6.85	0.626
Level of education								
University	100	89.3	12	10.7	1.94	0.70	5.38	0.200
College	116	91.3	11	8.7	2.46	0.88	6.89	0.086
Secondary	89	85.6	15	14.4	1.38	0.52	3.72	0.519
Primary	30	81.1	7	18.9	1.00			
Religion of the client								
Protestant	124	85.5	21	14.5	1.00			
Catholic	118	92.2	10	7.8	2.00	0.90	4.42	0.087
Muslim	59	85.5	10	14.5	1.00	0.44	2.26	0.998
Traditionalist	11	84.6	2	15.4	0.93	0.19	4.50	0.930
Other	23	92.0	2	8.0	1.95	0.43	8.88	0.389
Occupation								
Small business	59	78.7	16	21.3	1.00			
Salaried employee	85	89.5	10	10.5	2.31	0.98	5.43	0.056
Student	61	93.8	4	6.2	4.14	1.31	13.10	0.016
Casual labourer	35	81.4	8	18.6	1.19	0.46	3.06	0.723
Sex work	95	93.1	7	6.9	3.68	1.43	9.48	0.007
Marital status								
Not married	181	90.5	19	9.5	2.23	1.07	4.65	0.032
Living with male sexual partner	61	89.7	7	10.3	2.04	0.78	5.35	0.146
Married but living alone	29	87.9	4	12.1	1.70	0.52	5.57	0.381
Married to a female partner	64	81.0	15	19.0	1.00			

Multivariable logistic regression was performed adjusting for all factors significantly ($P < 0.05$) associated with HIV testing at Bivariate analyses. One factor was retained in the reduced model as the significant predictor, as presented in Table 4.4. There was also a significant association between HIV testing and occupation. Participants who were students were 4.14 [95% CI = 1.31 – 13.10, $P = 0.016$] times more likely to go for HIV testing compared to small business workers. Likewise, individuals who were sex workers were 3.68 [95% CI = 1.43 – 9.48, $P = 0.007$] likely to go for HIV testing compared to small business workers.

Table 4.4: Factors associated with HIV testing – full and reduced model

Variables	AOR	95% CI		P-Value
		Lower	Upper	
Full model				
Occupation				
Small business	Ref			
Salaried employee	2.22	0.94	5.27	0.070
Student	3.40	1.04	11.13	0.044
Casual laborer	1.04	0.40	2.75	0.930
Sex work	3.28	1.25	8.58	0.015
Cohabiting with male or female partner				
Not married	1.83	0.84	3.95	0.126
Living with male sexual partner	1.77	0.65	4.79	0.265
Married but living alone	1.45	0.43	4.92	0.552
Reduced model				
Occupation				
Small business	Ref			
Salaried employee	2.31	0.98	5.43	0.056
Student	4.14	1.31	13.10	0.016
Casual laborer	1.19	0.46	3.06	0.723
Sex work	3.68	1.43	9.48	0.007

4.2.3 STI testing in relationship to socio-demographic characteristics

Associations between selected socio-demographic factors and STI testing are presented in Table 4.5. Two of the selected socio-demographic characteristics were significantly associated with STI testing, $P < 0.05$. Occupation was significantly associated with STI testing. A significantly lower rate of STI testing was observed among sex workers (21.6%; 22) as opposed to small business operators (44.0%; 33). Sex workers were 0.35[95%CI= 0.18 – 0.68, $P=0.002$] less likely to be tested for STI compared to small business operators. There was also a statistically significant association between STI testing and cohabiting with a male or a female partner. A lower rate of STI testing was observed among the unmarried MSM and those living with a male partner compared to those who were married to a female partner. MSM who were not married were 0.50[95%CI = 0.29 – 0.86, $P=0.012$] less likely to be tested for STI compared to those who were married to a female partner. Participants living with male sexual partners were 0.33[95%CI = 0.16 – 0.68, $P=0.003$] less likely to be tested for STI compared to those who were married to a female partner.

Table 4.5: STI testing in relationship to socio-demographic characteristics

Variables	Yes (n=118)		No (n=262)		OR	95% CI		p value
	n	%	n	%		Lower	Upper	
Age of the participants								
18 -19	8	26.7	22	73.3	1.00			
20-24	37	30.8	83	69.2	1.23	0.50	3.01	0.656
25-29	32	29.9	75	70.1	1.17	0.47	2.91	0.730
30-34	27	38.0	44	62.0	1.69	0.66	4.32	0.275
35-39	7	25.9	20	74.1	0.96	0.30	3.14	0.949
40-52	7	28.0	18	72.0	1.07	0.33	3.52	0.912
Level of education								
University	33	29.5%	79	70.5	0.99	0.44	2.23	0.976
College	40	31.5%	87	68.5	1.09	0.49	2.41	0.838
Secondary	34	32.7%	70	67.3	1.15	0.51	2.60	0.740
Primary	11	29.7%	26	70.3	1.00			
Religion of the client								
Protestant	41	28.3	104	71.7	1.00			
Catholic	40	31.3	88	68.8	1.15	0.69	1.94	0.592
Muslim	22	31.9	47	68.1	1.19	0.64	2.21	0.588
Traditionalist	6	46.2	7	53.8	2.17	0.69	6.86	0.185
Other	9	36.0	16	64.0	1.43	0.58	3.49	0.435
Occupation								
Small business	33	44.0	42	56.0	1.00			
Salaried employee	28	29.5	67	70.5	0.53	0.28	1.00	0.051
Student	19	29.2	46	70.8	0.53	0.26	1.06	0.073
Casual labourer	16	37.2	27	62.8	0.75	0.35	1.63	0.472
Sex work	22	21.6	80	78.4	0.35	0.18	0.68	0.002
Cohabiting with male or female partner								
Not married	57	28.5	143	71.5	0.50	0.29	0.86	0.012
Living with male sexual partner	14	20.6	54	79.4	0.33	0.16	0.68	0.003
Married but living alone	12	36.4	21	63.6	0.72	0.31	1.66	0.438
Married to a female partner	35	44.3	44	55.7	1.00			

Multivariable logistic regression was performed adjusting for all factors significantly ($P < 0.05$) associated with STI testing at Bivariate analyses. Two factors were retained in the reduced model as the significant predictors, as presented in Table 4.6. STI testing was significantly associated with occupation. Sex workers were 0.40[95%CI = 0.20 – 0.78, $P < 0.007$] likely to go for STI testing compared to small businessmen. There was also a significant association between STI testing and cohabiting with a male or female partner. MSM who were living with a male sexual partner were 0.35[95%CI = 0.16 – 0.75, $P = 0.007$] times more likely to go for STI testing. Similarly MSM who were not married were 0.54[95%CI = 0.31 – 0.95, $P = 0.033$] likely to go for STI testing.

Table 4.6: Factors associated with STI testing –reduced model

Variables	AOR	95% C.I		P-Value
		Lower	Upper	
Reduced model				
Occupation				
Small business	1			
Salaried employee	0.54	0.28	1.03	0.059
Student	0.63	0.30	1.30	0.210
Casual laborer	0.87	0.40	1.92	0.734
Sex work	0.40	0.20	0.78	0.007
Cohabiting with male or female partner				
Not married	0.54	0.31	0.95	0.033
Living with male sexual partner	0.35	0.16	0.75	0.007
Married but living alone	0.77	0.33	1.83	0.558
Married to a female partner	1			

4.2.4 Factors associated with uptake of Condom and socio-demographics

Associations between selected socio-demographic factors and condom use were analyzed as presented in Table 4.7. Two socio-demographic factors were statistically significantly associated with condom use, $P < 0.05$. There was a significant association between age of the client and condom use. A lower rate of condom use was observed among participants who were aged between 35-39 years (7.4%; 2) compared to those aged 18 years (30.0%; 9). Participants aged 35-39 years were 0.19 [95% CI = 0.04 – 0.94, $P = 0.045$] less likely to use condoms compared to those aged 18 years. There was also a statistically significant association between occupation and condom use. A higher rate of condom use was observed among students (41.5%; 27) compared to those who were salaried employees (25.3%; 24). A student was 2.10 [95% CI = 1.07 – 4.13, $P = 0.031$] times more likely to use a condom compared to a salaried employee. On the other hand, a lower rate of condom use was observed among participants who were sex workers (11.8%; 12) compared to salaried employees (25.3%; 24). A sex worker was 0.39 [95% CI = 0.19 – 0.84, $P = 0.016$] less likely to use condom compared to a salaried employee.

Table 4.7: Condom use in relationship to socio-demographic characteristic

Variables	Yes (n=87)		No (n=293)		OR	95% CI		p value
	N	%	n	%		Lower	Upper	
Age of the participants								
18-19	9	30.0	21	70.0	1.00			
20-24	31	25.8	89	74.2	0.81	0.34	1.96	0.645
25-29	25	23.4	82	76.6	0.71	0.29	1.75	0.458
30-34	12	16.9	59	83.1	0.48	0.18	1.29	0.143
35-39	2	7.4	25	92.6	0.19	0.04	0.96	0.045
40-52	8	32.0	17	68.0	1.10	0.35	3.46	0.873
Level of education								
University	31	27.7	81	72.3	1.98	0.75	5.20	0.167
College	30	23.6	97	76.4	1.60	0.61	4.20	0.341
Secondary	20	19.2	84	80.8	1.23	0.45	3.35	0.685
Primary	6	16.2	31	83.8	1.00			
Religion of the client								
Protestant	33	22.8	112	77.2	1.00			
Catholic	23	18.0	105	82.0	0.74	0.41	1.35	0.329
Muslim	19	27.5	50	72.5	1.29	0.67	2.48	0.447
Traditionalist	2	15.4	11	84.6	0.62	0.13	2.92	0.543
Other	10	40.0	15	60.0	2.26	0.93	5.51	0.072
Occupation								
Salaried employee	24	25.3	71	74.7	1.00			
Small business	17	22.7	58	77.3	0.87	0.43	1.77	0.694
Student	27	41.5	38	58.5	2.10	1.07	4.13	0.031
Casual labourer	7	16.3	36	83.7	0.58	0.23	1.46	0.245
Sex work	12	11.8	90	88.2	0.39	0.19	0.84	0.016
Cohabiting with male or female partner								
Not married	52	26.0	148	74.0	1.78	0.91	3.50	0.092
Living with male sexual partner	18	26.5	50	73.5	1.83	0.82	4.08	0.141
Married but living alone	4	12.1	29	87.9	0.70	0.21	2.33	0.561
Married to a female partner	13	16.5	66	83.5	1.00			

Multivariable logistic regression was performed adjusting for all factors significantly ($P < 0.05$) associated with condom use at Bivariate analyses. One factor was retained in the reduced model as the significant predictor, as presented in Table 4.8. There was a significant association between condom use and occupation. Participants who were students were 2.10[95%CI = 1.07 – 4.13, $P=0.031$] times more likely to use a condom compared to salaried employees. Likewise, sex workers were 0.39[95%CI = 0.16 – 0.78, $P=0.010$] likely to use a condom compared to salaried employees.

Table 4.8: Factors associated with Condom use – full and reduced model

Variables	AOR	95% CI		p value
		Lower	Upper	
Full model				
Age of the participants				
18-19	1.00			
20-24	0.75	0.30	1.90	0.544
25-29	0.82	0.31	2.14	0.685
30-34	0.47	0.16	1.37	0.167
35-39	0.24	0.05	1.30	0.097
40-52	1.49	0.44	5.07	0.522
Occupation				
Salaried employee	1.00			
Small business	0.82	0.39	1.70	0.586
Student	1.97	0.94	4.11	0.071
Casual labourer	0.58	0.22	1.49	0.254
Sex work	0.36	0.16	0.78	0.010
Reduced model				
Occupation				
Salaried employee	1.00			
Small business	0.87	0.43	1.77	0.694
Student	2.10	1.07	4.13	0.031
Casual labourer	0.58	0.23	1.46	0.245
Sex work	0.39	0.19	0.84	0.016

4.3 Accessibility to, Acceptability of and Adherence to HIV/AIDS Prevention Services among MSM

4.3.1 Accessibility to HIV/AIDS prevention services by MSM

Majority (84.5%) of the respondents indicated that condoms were accessible when needed and 70.1% revealed that circumcision services were available in the area of residence (Table 4.9). TB drugs were accessible (70.5%), antiretroviral drugs (71.6%), lubricants (79.5%), IEC materials on HIV/AIDS prevention (70.8%), trainings in HIV/AIDS prevention (68.7%), health facilities when required (72.1%) and STIs drugs (76.8%).

Table 4.9: Accessibility to HIV/AIDs prevention services by MSM analyze in respect to the various accessibility components

Variable	n=380	%
Accessibility to condoms when needed		
Yes	321	84.5
No	42	11.1
Do not use	17	4.5
Availability of circumcision services in area of operation or residence		
Yes	270	71.1
No	40	10.5
Don't know	70	18.4
TB drugs easily accessible when needed		
Yes	268	70.5
No	45	11.8
Don't know	67	17.6
Antiretroviral drugs easily accessible		
Yes	272	71.6
No	48	12.6
Don't know	60	15.8
Accessibility to lubricants when needed		
Yes	302	79.5
No	62	16.3
Don't know	16	4.2
Access to IEC materials on HIV/AIDS		
Yes	269	70.8
No	111	29.2
Access to trainings in HIV/AIDS		
Yes	261	68.7
No	119	31.3
Easy access to health facilities when required to see a doctor		
Yes	274	72.1
No	106	27.9
Accessibility to treatment for STIs		
Yes	292	76.8
No	47	12.4
Don't know	41	10.8

4.3.2 Factors associated with accessibility to condoms

Associations between selected socio-demographic factors and access to condom were analyzed as presented in Table 4.10. Three of the selected socio-demographic factors were statistically significantly associated with access to condom, ($P < 0.05$). There was a significant association between access to condom and age of the client. A significantly higher proportion of clients accessing condom was observed among participants aged 20-24 (87.5%; 105) and 25-29 years (90.7%; 97) compared to those who were aged 40 years and above (52.0%; 13). A participant aged 25-29 years was 8.95 [95% CI = 3.23 – 24.81, $P < 0.001$] times more likely to access a condom compared to a participant aged 40 years and above. Likewise, participants aged 18 years, 20-24 years, 30-34 years and 40 years and above were 3.69 [95% CI = 1.12 – 12.14, $P = 0.031$], 6.46 [95% CI = 2.49 – 16.75, $P < 0.001$], 4.11 [95% CI = 1.53 – 11.06, $P = 0.005$] and 7.38 [95% CI = 1.76 – 30.97, $P = 0.006$], respectively, times more likely to access a condom compared to a participant aged 40 years and above. Level of education was significantly associated with access to condom. A significantly higher proportion of participants indicating that they were able to access condom were observed among those with primary school education (94.6%; 35) compared to those with university education (79.5%; 89) as the highest level of education. Participants with primary school education were 4.52 [95% CI = 1.01 – 20.21, $P = 0.048$] times likely to access a condom compared to those with university as the highest level of education. Cohabiting with a male or female partner was statistically significantly associated with access to condom, ($P < 0.05$). A significantly higher proportion of participants accessing condom was observed among participants who were not married compared to those who were married to a female partner. A participant who was not married was 4.95 [95% CI = 2.55 – 9.60, $P < 0.001$] times more likely to access condoms compared to a participant who was married to a female partner. Similarly, a higher proportion of those cohabiting with male partners were more likely to access condoms in comparison to those who were married to female partners.

Table 4.10: Access to condom in relationship to socio-demographic characteristics

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participants								
18 -19	24	80.0	6	20.0	3.69	1.12	12.14	0.031
20-24	105	87.5	15	12.5	6.46	2.49	16.75	<0.001
25-29	97	90.7	10	9.3	8.95	3.23	24.81	<0.001
30-34	58	81.7	13	18.3	4.11	1.53	11.06	0.005
35-39	24	88.9	3	11.1	7.38	1.76	30.97	0.006
40-52	13	52.0	12	48.0	Ref			
Level of education								
University	89	79.5	23	20.5	Ref			
College	114	89.8	13	10.2	2.27	1.09	4.72	0.029
Secondary	83	79.8	21	20.2	1.02	0.53	1.98	0.950
Primary	35	94.6	2	5.4	4.52	1.01	20.21	0.048
Religion of the client								
Protestant	124	85.5	21	14.5	Ref			
Catholic	110	85.9	18	14.1	1.03	0.52	2.04	0.921
Muslim	55	79.7	14	20.3	0.67	0.32	1.40	0.285
Traditionalist	12	92.3	1	7.7	2.03	0.25	16.46	0.506
Other	20	80.0	5	20.0	0.68	0.23	2.00	0.481
Source of Income								
Salaried employee	80	84.2	15	15.8	Ref			
Small business	57	76.0	18	24.0	0.59	0.28	1.28	0.182
Student	54	83.1	11	16.9	0.92	0.39	2.16	0.849
Casual laborer	39	90.7	4	9.3	1.83	0.57	5.88	0.311
Sex work	91	89.2	11	10.8	1.55	0.67	3.57	0.302
Married/Cohabiting with male or female partner								
Not married	181	90.5	19	9.5	4.95	2.55	9.60	<0.001
Living with male sexual partner	59	86.8	9	13.2	3.40	1.47	7.90	0.004
Married but living alone	29	87.9	4	12.1	3.76	1.20	11.82	0.023
Married to a female partner	52	65.8	27	34.2	Ref			

Multivariable logistic regression was conducted to determine factors predictive to access to condom by adjusting all the factors significantly associated with access to condom at Bivariate level, $P < 0.05$. Three factors were retained as the significant predictors using backward conditional method as shown in table 4.11. Age of the client was a significant predictor of access to condom. Respondents aged 20-24 years, 25-29 years, 30-34 years and 35-39 years were 3.83[95%CI = 1.23 – 11.88], $P=0.021$, 6.35[95%CI = 2.00 – 20.15, $P=0.002$], 3.35[95%CI = 1.10 – 10.25, $P=0.034$] and 6.08[95%CI = 1.31 – 28.15, $P=0.0021$] times likely to access condom compared those aged 40 years and above. Level of education was a significant predictor of access to condom. Respondents with less than secondary school education were 5.25[95%CI = 1.05 – 26.29, $P=0.043$] times likely to access condom compared those with university education as the highest level of education. Cohabiting with a male or female partner was significant predictor of access to condom. A participant who was not married was 4.73[95%CI = 2.22 – 10.08, $P < 0.001$] times likely to access condom compared to a participant who was married to a female partner.

Table 4.11: Factors associated with accessibility to condom by MSM - reduced model

Variables	Statistics (95% C.I)			
	AOR	Lower	Upper	P-Value
Age of the participants				
18 -19	1.93	0.48	7.74	0.352
20-24	3.82	1.23	11.88	0.021
25-29	6.35	2.00	20.15	0.002
30-34	3.35	1.10	10.25	0.034
35-39	6.08	1.31	28.15	0.021
40-52	Ref			
Level of education				
University	Ref			
College	1.77	0.77	4.08	0.181
Secondary	0.68	0.31	1.47	0.321
Primary	5.25	1.05	26.29	0.043
cohabiting with male or female partner				
Not married	4.73	2.22	10.08	<0.001
Living with male sexual partner	3.30	1.34	8.12	0.009
Married but living alone	3.75	1.12	12.48	0.031
Married to a female partner	Ref			

4.3.3 Factors associated with accessibility to ARVs

Level of education was significantly associated with access to ARVs. A higher proportion of participants indicating that they were able to access ARVs were observed among those with primary school education (86.5%; 32) compared to those with university education (65.5%; 72) as the highest level of education. Participants with

primary school education were 3.56[95%CI = 1.28 – 9.85, P=0.010] times likely to access ARVs compared to those with university as the highest level of education. Religion of the participant was also significantly associated with access to ARVs. A higher proportion of participants indicating that they were able to access condom were observed among those who were Catholics (79.7%; 102) compared to protestants (65.5%; 95). Catholic participants were 2.06[95%CI = 1.19– 2.58, P=0.015] times likely to access ARVs compared to protestant. There was also a significant association between occupation and access to ARVs, (P<0.05). A sex worker was 4.37[95%CI = 2.14– 8.91, P<0.001] times more likely to access ARV compared to a salaried employee. Cohabiting with a male or female partner was significantly associated with access to ARVs, (P<0.05). A higher proportion of participants accessing ARVs were observed among participants who were living with a male sexual partner (82.4%; 56) compared to those who were married to a female partner (55.7%; 44). A participant who was living with a male sexual partner was 3.71[95%CI = 1.73 – 7.98, P=0.001] times more likely to access ARVs compared to a participant who was married to a female partner.

Table 4.12: Accessibility to ARVs in relationship socio-demographic characteristic

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participant								
18-19	24	80.0	6	20.0	Ref			
20-24	86	71.7	34	28.3	0.63	0.24	1.68	0.359
25-29	78	72.9	29	27.1	0.67	0.25	1.81	0.432
30-34	50	70.4	21	29.6	0.60	0.21	1.67	0.323
35-39	20	74.1	7	25.9	0.71	0.21	2.47	0.595
40-52	14	56.0	11	44.0	0.32	0.10	1.05	0.060
Level of education								
University	72	64.3	40	35.7	Ref			
College	89	70.1	38	29.9	1.30	0.76	2.24	0.341
Secondary	79	76.0	25	24.0	1.76	0.97	3.18	0.063
Primary	32	86.5	5	13.5	3.56	1.28	9.85	0.015
Religion of the client								
Protestant	95	65.5	50	34.5	Ref			
Catholic	102	79.7	26	20.3	2.06	1.19	3.58	0.010
Muslim	51	73.9	18	26.1	1.49	0.79	2.82	0.219
Traditionalist	9	69.2	4	30.8	1.18	0.35	4.04	0.787
Other	15	60.0	10	40.0	0.79	0.33	1.89	0.594
Occupation								
Salaried employee	58	61.1	37	38.9	Ref			
Small business	45	60.0	30	40.0	0.96	0.52	1.78	0.889
Student	45	69.2	20	30.8	1.44	0.74	2.80	0.290
Casual laborer	35	81.4	8	18.6	2.79	1.17	6.67	0.021
Sex work	89	87.3	13	12.7	4.37	2.14	8.91	<0.001
Cohabiting with male or female partner								
Not married	148	74.0	52	26.0	2.26	1.31	3.90	0.003
Living with male sexual partner	56	82.4	12	17.6	3.71	1.73	7.98	0.001
Married but living alone	24	72.7	9	27.3	2.12	0.88	5.14	0.096
Married to a female partner	44	55.7	35	44.3	Ref			

Multivariable logistic regression was performed adjusting for all factors significantly ($P < 0.05$) associated with access to ARVs at Bivariate analyses. Two factors were retained in the reduced model as the significant predictors of access to ARVs, as presented in Table 4.13. Access to ARVs was significantly associated with occupation. Sex workers were 3.93[95%CI = 1.91 – 8.11, $P < 0.001$] times likely to access ARVs

compared to salaried employee. Likewise, casual laborers were 2.47[95%CI = 1.02 – 5.99, P=0.045] times likely to access ARVs compared to salaried employee. There was also a significant association between HIV testing and cohabiting with a male or female partner. Participants who were living with a male sexual partner were 2.98[95%CI = 1.34 – 6.60, P=0.007] times more likely to access ARVs compared to married to a female partner.

Table 4.13: Factors associated with accessibility to ARVs - Multivariate

Variables	95% C.I			
	AOR	Lower	Upper	P-Value
Source of Income				
Salaried employee	Ref			
Small business	1.00	0.53	1.88	0.996
Student	1.20	0.60	2.39	0.609
Casual laborer	2.47	1.02	5.99	0.045
Sex work	3.93	1.91	8.11	<0.001
Cohabiting with male or female partner				
Not married	2.06	1.15	3.69	0.015
Living with male sexual partner	2.98	1.34	6.60	0.007
Married but living alone	1.84	0.73	4.63	0.196
Married to a female partner	Ref			

4.3.4 Factors associated with accessibility to lubricants

Associations between selected socio-demographic factors and access to lubricants are in Table 4.14. Four of the selected socio-demographic factors were significantly associated with access to lubricants, (P<0.05). There was a significant association between access to lubricants and age. A significantly lower proportion of clients accessing lubricants was

observed among participants aged 40 and above years (44.0%; 11) compared to those who were aged 18 years (83.3%; 25). A participant aged 40 years and above was 0.16[95%CI = 0.05 – 0.54, P=0.004] less likely to access a lubricant compared to a participant aged 18 years. Level of education was also significantly associated with access to lubricants. A higher proportion of participants indicating that they were able to access lubricants was observed among those with primary school education (91.9%; 34) compared to those with university education (74.1%; 81) as the highest level of education. Participants with primary school education were 3.96[95%CI = 1.13 – 13.87, P=0.031] times more likely to access lubricants compared to those with university level of education. There was also a significant association between occupation and access to lubricants, P<0.05. Among those able to access lubricants was a higher proportion of sex workers (89.2%; 91) compared to salaried employees (75.8%; 72). A sex worker was 2.64[95%CI = 1.21– 5.78, P=0.015] times likely to access lubricants compared to a salaried employee. Cohabiting with a male or female partner was also significantly associated with access to lubricants, (P<0.05). A higher proportion of participants accessing lubricants was observed among participants who were married but living alone (87.9%; 29) compared to those who were married to a female partner, (59.5%; 47). A participant who was married but living alone was 4.94[95%CI = 1.58– 15.40, P=0.006] times more likely to access lubricants compared to a participant who was married to a female partner.

Table 4.14: Accessibility to lubricants in relationship socio-demographic characteristic

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participant								
18-19	25	83.3	5	16.7	Ref			
20-24	99	82.5	21	17.5	0.94	0.32	2.75	0.914
25-29	92	86.0	15	14.0	1.23	0.41	3.70	0.717
30-34	52	73.2	19	26.8	0.55	0.18	1.64	0.281
35-39	23	85.2	4	14.8	1.15	0.27	4.81	0.848
40-52	11	44.0	14	56.0	0.16	0.05	0.54	0.004
Level of education								
University	83	74.1	29	25.9	Ref			
College	103	81.1	24	18.9	1.50	0.81	2.77	0.195
Secondary	82	78.8	22	21.2	1.30	0.69	2.45	0.413
Primary	34	91.9	3	8.1	3.96	1.13	13.87	0.031
Religion of the client								
Protestant	113	77.9	32	22.1	Ref			
Catholic	107	83.6	21	16.4	1.44	0.78	2.66	0.239
Muslim	57	82.6	12	17.4	1.35	0.64	2.81	0.430
Traditionalist	8	61.5	5	38.5	0.45	0.14	1.48	0.190
Other	17	68.0	8	32.0	0.60	0.24	1.52	0.283
Occupation								
Salaried employee	72	75.8	23	24.2	Ref			
Small business	50	66.7	25	33.3	0.64	0.33	1.25	0.191
Student	52	80.0	13	20.0	1.28	0.59	2.75	0.532
Casual laborer	37	86.0	6	14.0	1.97	0.74	5.26	0.176
Sex work	91	89.2	11	10.8	2.64	1.21	5.78	0.015
Married/cohabiting with male or female partner								
Not married	168	84.0	32	16.0	3.57	1.99	6.43	<0.001
Living with male sexual partner	58	85.3	10	14.7	3.95	1.76	8.86	0.001
Married but living alone	29	87.9	4	12.1	4.94	1.58	15.40	0.006
Married to a female partner	47	59.5	32	40.5	Ref			

Multivariable logistic regression was conducted to determine factors predictive to access to lubricants by adjusting all the factors significantly associated with access to condom at bivariate level, $P < 0.05$. Three factors were retained as the significant predictors using backward conditional method. Age of the client was a significant predictor of access to lubricants. Respondents aged 40 years and above were 0.14[95%CI = 0.03 – 0.55, $P = 0.005$] less likely to access lubricants compared those aged 18 years. Occupation was also a significant predictor of access to lubricants. Sex workers were 2.27[95%CI = 1.42 – 5.96, $P = 0.001$] times more likely to access lubricants compared to salaried employee. Likewise, casual laborers were 1.78[95%CI = 1.09 – 5.23, $P = 0.023$] times more likely to access lubricants compared to salaried employee. Cohabiting with a male or female partner was a significant predictor of access to lubricants. Participants who were not married or married but living alone or cohabiting with a male partner were more likely to access lubricants compared to those married to a female partner.

Table 4.15: Factors associated with accessibility to lubricants - Multivariate

Variables	95% C.I			
	AOR	Lower	Upper	P-Value
Age of the participant				
18-19	Ref			
20-24	0.83	0.27	2.51	0.740
25-29	1.19	0.38	3.79	0.765
30-34	0.57	0.17	1.87	0.354
35-39	1.07	0.24	4.81	0.931
40-52	0.14	0.03	0.55	0.005
Source of Income				
Salaried employee	Ref			
Small business	1.25	0.60	1.97	0.066
Student	1.33	0.43	1.86	0.164
Casual laborer	1.78	1.09	5.23	0.023
Sex work	2.27	1.42	5.96	0.001
Cohabiting with male or female partner				
Not married	2.40	1.21	4.76	0.012
Living with male sexual partner	2.73	1.15	6.48	0.022
Married but living alone	4.80	1.44	16.00	0.011
Married to a female partner	Ref			

4.3.5 Factors associated with accessibility to treatment for STIs

Associations between selected socio-demographic factors and access to treatment for STIs are presented in Table 4.16. Four of the selected socio-demographic factors were significantly associated with access to treatment with STI, ($P < 0.05$). There was a significant association between access to treatment with STI and age of the client. A higher proportion of clients indicating that they could access treatment with STI was observed among participants aged 20-24 and 35-39 years (88.9%; 14) compared to those who were aged 40 years and above (56.0%; 14). Level of education was also significantly associated with access to treatment with STI. A higher proportion of participants indicating that they were able to access treatment with STI was observed among those with primary school education (97.3%; 36) compared to those with university education (73.2%; 82) as the highest level of education. Participants with primary education were 13.17[95%CI = 1.73 – 100.34, $P = 0.013$] times more likely to access to treatment with STI compared to those with university as the highest level of education.

There was also a significant association between occupation and access to treatment STI treatment, ($P < 0.05$). Among participants who indicated that they were able to access STI treatment, a significantly higher proportion were sex workers (91.2%; 93) compared to salaried employees (70.5%; 67). A sex worker was 4.32[95%CI = 1.91–9.75, $P < 0.001$] times likely to access to treatment with STI compared to a salaried employee. Cohabiting with a male or female partner was also significantly associated with access to treatment with STI, ($P < 0.05$). A significantly higher proportion of participants accessing STI treatment were observed among participants who were married to a male partner (85.3%; 58) compared to those who were married to a female partner, (58.2%; 46). A participant who was married to a male was 4.16[95%CI = 1.86–9.32, $P = 0.001$] times likely to access to treatment with STI compared to a participant who was married to a female partner.

Table 4.16: Accessibility to STI treatment in relationship socio-demographic characteristic

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participants								
18-19	24	80.0	6	20.0	3.14	0.95	10.36	0.060
20-24	100	83.3	20	16.7	3.93	1.56	9.90	0.004
25-29	79	73.8	28	26.2	2.22	0.90	5.45	0.083
30-34	51	71.8	20	28.2	2.00	0.78	5.15	0.149
35-39	24	88.9	3	11.1	6.29	1.49	26.44	0.012
40-52	14	56.0	11	44.0	Ref			
Level of education								
University	82	73.2	30	26.8	Ref			
College	93	73.2	34	26.8	1.00	0.56	1.78	0.998
Secondary	81	77.9	23	22.1	1.29	0.69	2.40	0.426
<Secondary	36	97.3	1	2.7	13.17	1.73	100.34	0.013
Religion of the client								
Protestant	111	76.6	34	23.4	Ref			
Catholic	99	77.3	29	22.7	1.05	0.59	1.84	0.877
Muslim	53	76.8	16	23.2	1.01	0.51	2.00	0.967
Traditionalist	11	84.6	2	15.4	1.68	0.36	7.98	0.511
Other	18	72.0	7	28.0	0.79	0.30	2.04	0.624
Occupation								
Salaried employee	67	70.5	28	29.5	Ref			
Small business	48	64.0	27	36.0	0.74	0.39	1.42	0.367
Student	50	76.9	15	23.1	1.39	0.67	2.88	0.371
Casual laborer	34	79.1	9	20.9	1.58	0.67	3.72	0.296
Sex work	93	91.2	9	8.8	4.32	1.91	9.75	<0.001
Married/Cohabiting with male or female partner								
Not married	161	80.5	39	19.5	2.96	1.68	5.22	<0.001
Living with male sexual partner	58	85.3	10	14.7	4.16	1.86	9.32	0.001
Married but living alone	27	81.8	6	18.2	3.23	1.20	8.70	0.020
Married to a female partner	46	58.2	33	41.8	Ref			

Multivariable logistic regression was performed adjusting for all factors significantly ($P < 0.05$) associated with access to treatment with STI at Bivariate analysis. Three factors were retained in the reduced model as the significant predictors of access to treatment with STI, as presented in Table 4.17. Participants with primary school education were 9.59[95%CI = 1.19 – 77.24, $P=0.034$] times likely to access to treatment with STI compared to those with university education. Access to STI treatment was also significantly associated with occupation. Sex workers were 2.97[95%CI = 1.26 – 7.03, $P=0.013$] times more likely to access to treatment with STI compared to salaried employee. Participants who were not married, married but living alone and those living with a male sexual partner were more likely to access STI treatment compared to those married to a female partner.

Table 4.17: Factors associated with Accessibility to treatment for STIs - Multivariate

Variables	95% C.I			
	AOR	Lower	Upper	P-Value
Level of education				
University	Ref			
College	0.98	0.53	1.81	0.956
Secondary	1.10	0.54	2.21	0.799
Primary	9.59	1.19	77.24	0.034
Source of Income				
Salaried employee	Ref			
Small business	0.69	0.34	1.40	0.307
Student	1.04	0.49	2.24	0.911
Casual laborer	1.14	0.45	2.89	0.776
Sex work	2.97	1.26	7.03	0.013
Cohabiting with male or female partner				
Not married	2.78	1.50	5.14	0.001
Living with male sexual partner	3.09	1.32	7.25	0.010
Married but living alone	2.93	1.04	8.25	0.042
Married to a female partner	Ref			

4.3.6 Adherence HIV/AIDS prevention services

The proportion that was willing to adhere to utilization of VCT services were 93% while seeking of treatment if diagnosed with HIV/AIDS was 54.9%. Majority reported that they were willing to consistently take ARV's, (95%), and use of prevention measures during a sex debut was 96.3% as seen from Table 4.18.

Table 4.18: Willingness to adhere to HIV/AIDS prevention services

Adherence to up take of various services	Yes	No
Willing to use VCT services if needed	354 (93%)	26 (6.8%)
Use of KY gel	188 (49.5)	192 (50.5%)
Willing to consistently take ARVs if diagnosed with HIV/Aids	361 (95%)	19 (5%)

4.3.6.1 Factors associated with adherence to HIV/AIDS prevention services

Associations between selected socio-demographic factors and willingness to use VCT services if needed were analyzed and presented in Table 4.19. None of the selected socio-demographic factors was statistically significantly associated with willing to use VCT services if needed, $P > 0.05$.

Table 4.19: Willing to use VCT services if needed in relationship socio-demographic characteristic

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participants								
18-19	26	86.7	4	13.3	Ref			
20-24	109	90.8	11	9.2	1.52	0.45	5.17	0.499
25-29	101	94.4	6	5.6	2.59	0.68	9.86	0.163
30-34	67	94.4	4	5.6	2.58	0.60	11.07	0.203
35-39	26	96.3	1	3.7	4.00	0.42	38.25	0.229
4-52	25	100.0	0	0.0	UD	UD	UD	UD
Level of education								
University	108	96.4	4	3.6	3.27	0.78	13.81	0.107
College	120	94.5	7	5.5	2.08	0.57	7.53	0.266
Secondary	93	89.4	11	10.6	1.02	0.31	3.44	0.968
Primary	33	89.2	4	10.8	Ref			
Religion								
Protestant	137	94.5	8	5.5	Ref			
Catholic	119	93.0	9	7.0	0.77	0.29	2.06	0.606
Muslim	61	88.4	8	11.6	0.45	0.16	1.24	0.122
Traditionalist	12	92.3	1	7.7	0.70	0.08	6.08	0.747
Other	25	100.0	0	0.0	UD	UD	UD	UD
Occupation								
Salaried employee	92	96.8	3	3.2	Ref			
Small business	70	93.3	5	6.7	0.46	0.11	1.98	0.294
Student	59	90.8	6	9.2	0.32	0.08	1.33	0.117
Casual laborer	36	83.7	7	16.3	0.17	0.04	.68	0.013
Sex work	97	95.1	5	4.9	0.63	0.15	2.72	0.539
Cohabiting with male or female partner								
Not married	186	93.0	14	7.0	0.71	0.23	2.22	0.555
Living with male sexual partner	62	91.2	6	8.8	0.55	0.15	2.04	0.372
Married but living alone	31	93.9	2	6.1	0.83	0.14	4.75	0.831
Married to a female partner	75	94.9	4	5.1	Ref			

Associations between selected socio-demographic factors and willingness to consistently take ARVs if diagnosed with HIV/AIDS were analyzed and presented in Table 4.20. None of the selected socio-demographic factors was statistically significantly associated with willing to consistently take ARVs if diagnosed with HIV/AIDS, $P>0.05$.

Table 4.20: Willing to consistently take ARVs if diagnosed with HIV/AIDS in relationship socio-demographic characteristic

Variables	Yes		No		OR	95%CI		P-Value
	n	%	n	%		Lower	Upper	
Age of the participant								
18-19	29	96.7	1	3.3	Ref			
20-24	110	91.7	10	8.3	0.38	0.05	3.08	0.365
25-29	104	97.2	3	2.8	1.20	0.12	11.93	0.879
30-34	68	95.8	3	4.2	0.78	0.08	7.83	0.834
35-39	0	0.0	27	100.0	UD	UD	UD	UD
40-52	2	8.0	23	92.0	0.40	0.03	4.65	0.462
Level of education								
University	108	96.4	4	3.6	0.75	0.08	6.93	0.800
College	123	96.9	4	3.1	0.85	0.09	7.88	0.889
Secondary	94	90.4	10	9.6	0.26	0.03	2.11	0.208
Primary	36	97.3	1	2.7	Ref			
Religion								
Protestant	137	94.5	8	5.5	Ref			
Catholic	124	96.9	4	3.1	1.81	0.53	6.16	0.342
Muslim	65	94.2	4	5.8	0.95	0.28	3.27	0.934
Traditionalist	11	84.6	2	15.4	0.32	0.06	1.70	0.182
Other	24	96.0	1	4.0	1.40	0.17	11.72	0.755
Occupation								
Small business	70	93.3	5	6.7	Ref			
Salaried employee	94	98.9	1	1.1	6.71	0.77	58.76	0.085
Student	60	92.3	5	7.7	0.86	0.24	3.10	0.814
Casual worker	40	93.0	3	7.0	0.95	0.22	4.20	0.949
Sex worker	97	95.1	5	4.9	1.39	0.39	4.97	0.617
Cohabiting with male or female partner								
Not married	191	95.5	9	4.5	1.13	0.34	3.79	0.841
Living with male sexual partner	65	95.6	3	4.4	1.16	0.25	5.35	0.853
Married but living alone	30	90.9	3	9.1	0.53	0.11	2.53	0.428
Married to a female partner	75	94.9	4	5.1	Ref			

4.4 Awareness, Attitude and Practice

4.4.1 Awareness of HIV/AIDs prevention among MSM

Table 4.21 illustrates the distribution of awareness about HIV/AIDs prevention among MSM. Almost all respondents (95.5%) had heard of HIV/AIDS and most (82.6%) knew someone who was infected with HIV/AIDS. About one third (37.9%) and a quarter (26.6%) of the respondents indicated that condom use and abstinence were methods of HIV/AIDS prevention, respectively. More than half (59.2%) agreed with the statement that healthy looking persons could transmit HIV. Most (90.5%) reported that HIV could be transmitted by injecting with a used needle. Similarly, majority (81.8%) indicated that other STIs could be acquired from both male and female partners. Bivariate and multivariate analysis did not show any significant associations on awareness with the socio-demographic characteristics.

Table 4.21: Awareness of HIV/AIDs prevention among MSM

Variable	n=380	%
Heard of existence of HIV/AIDs		
Yes	363	95.5
No	17	4.5
Knows someone who is/has been infected with HIV/AIDs		
Yes	314	82.6
No	66	17.4
Known Prevention methods for HIV/AIDs intervention		
Abstinence	101	26.6
Being faithful	18	4.7
Condom use	144	37.9
Condom use with lubricant	28	7.4
PrEP	5	1.3
All	77	20.3
Don't know	7	1.8
Agreement with mentioned statements		
Can get HIV/AIDs thru mosquito	52	13.7
Can get HIV/AIDs thru sharing a meal	7	1.8
Healthy looking person can transmit HIV	225	59.2
All	11	2.9
None	85	22.4
Injection with a used needle can transmit HIV/AIDs		
Yes	344	90.5
No	19	5
Don't know	17	4.5
Awareness on STI symptoms		
Genital discharge	30	7.9
Burning pain on urination	16	4.2
Genital ulcers or sores	36	9.5
Swellings in groin area	270	71.1
Multiple	15	3.9
Don't know	13	3.4
Acquisition of STIs from the following partners		
Male partners	28	7.4
Female partners	30	7.9
Both partners	311	81.8
Don't know	11	2.9

4.4.2 Attitude and Practice of HIV/AIDs prevention by MSM

The practice of MSM towards HIV/AIDS prevention is summarized in Table 4.22. Most of the respondents (97.4%) ever had vaginal and/or anal sex. Almost half of the respondents (49.5%) had used KY gel as lubrication while 3.7% used cooking fat. Majority of the respondents had sex with regular partner (72.9%) and casual sex partner (80.3%) in the previous 12 months. A significantly higher proportion (86.1%) indicated that they had used condom at their last sex than those who had not.

Table 4.22: Practice of HIV/AIDs prevention among MSM

Variable	n=380	%
Ever had vaginal and anal sex		
Yes	370	97.4
No	10	2.6
Had sex with regular sexual partner in the previous 12 months		
Yes	277	72.9
No	103	27.1
Had casual sex partner in the previous 12 months		
Yes	305	80.3
No	75	19.7
Number of regular partners in the previous 12 months		
None	103	27.1
One	192	50.5
2 to 10	49	12.9
> 10	36	9.5
Number of casual partners in the previous 12 months		
None	75	19.7
One	188	49.5
2 to 10	78	20.5
> 10	39	10.3
Type of lubrication used		
KY gel	188	49.5
Cooking fat	14	3.7
Vaseline	90	23.7
Lotion	17	4.5
Saliva	20	5.3
All of the above	51	13.4

4.4.3 Factors associated with MSM sexual practices

Level of education was significantly associated with having anal and vaginal sex. Participants with university as the highest level of education were 0.15[95%CI = 0.03 – 0.86, P=0.033] likely to ever had anal and vaginal sex compared to those with lower than secondary school education.

Table 4.23: Had anal and vaginal sex in relationship socio-demographic characteristic

Variables	Yes		No		OR	Statistics 95%CI		
	n	%	n	%		Lower	Upper	P-Value
Age of the participant								
18 -19	27	90.0	3	10.0	Ref			
20-24	116	96.7	4	3.3	0.31	0.07	1.47	0.140
25-29	105	98.1	2	1.9	0.17	0.03	1.08	0.060
30-34	71	100.0	0	0.0	UD	UD	UD	UD
35-39	26	96.3	1	3.7	0.35	0.03	3.54	0.371
40-52	25	100.0	0	0.0	UD	UD	UD	UD
Level of education								
University	110	98.2	2	1.8	0.15	0.03	0.86	0.033
College	127	100.0	0	0.0	UD	UD	UD	UD
Secondary	100	96.2	4	3.8	0.33	0.08	1.39	0.131
Primary	33	89.2	4	10.8	Ref			
Religion of the client								
Catholic	124	96.9	4	3.1	Ref			
Protestant	145	100.0	0	0.0	UD	UD	UD	UD
Muslim	66	95.7	3	4.3	1.41	0.31	6.48	0.660
Traditionalist	11	84.6	2	15.4	5.64	0.93	34.30	0.061
Other	24	96.0	1	4.0	1.29	0.14	12.07	0.822
Occupation								
Salaried employee	93	97.9	2	2.1	Ref			
Small business	73	97.3	2	2.7	1.27	0.18	9.26	0.811
Student	64	98.5	1	1.5	0.73	0.06	8.18	0.796
Casual laborer	43	100.0	0	0.0	UD	UD	UD	UD
Sex work	97	95.1	5	4.9	2.40	0.45	12.66	0.303
Marital status								
Not married	196	98.0	4	2.0	0.38	0.09	1.57	0.182
Living with male sexual partner	67	98.5	1	1.5	0.28	0.03	2.57	0.260
Married but living alone	32	97.0	1	3.0	0.59	0.06	5.45	0.638
Married to a female partner	75	94.9	4	5.1	Ref			

4.5 Barriers towards HIV/AIDS prevention services by MSM in Nairobi County

4.5.1 Social barriers encountered on daily interaction as an MSM

Discrimination was mentioned by the highest proportion (38.2%) of the respondents as the main social problem faced on daily interaction by MSM followed by stigmatization (17.6%), (Figure 4.2). Those who reported having experienced, at some point in their lives, violence, denial, rejection, stigma and discrimination constituted 26.6%.

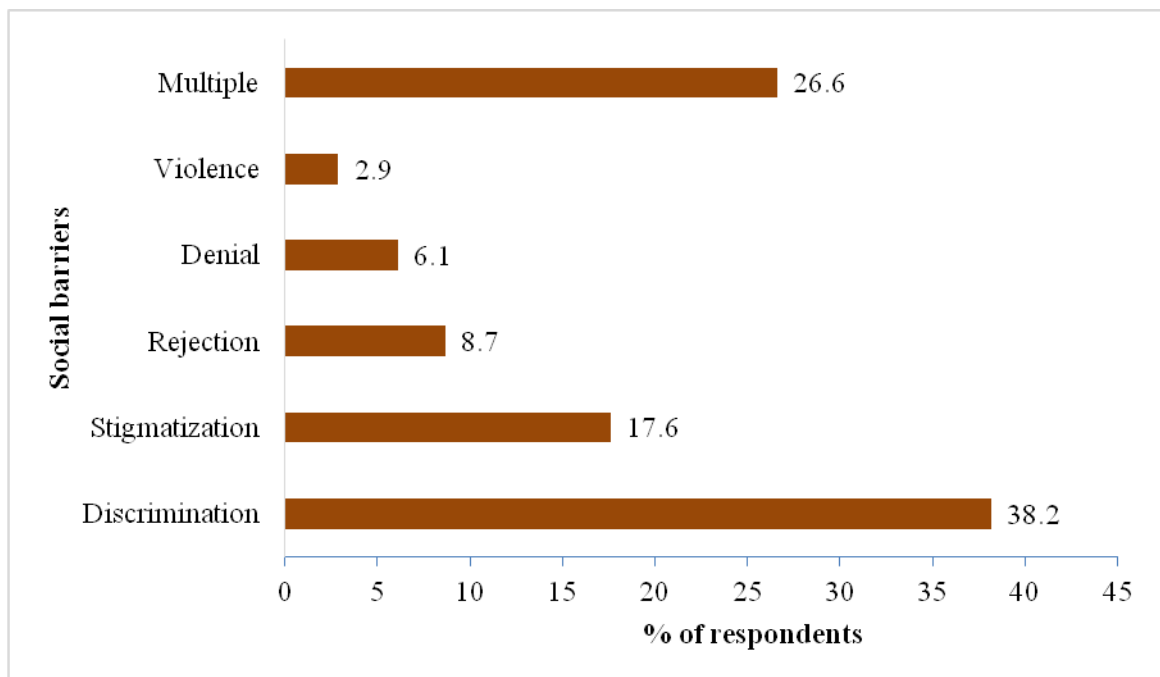


Figure 4.2: Type of social barriers encountered by MSM

4.5.2 Barriers encountered by MSM when seeking health services at facility level

Discrimination and stigma from health workers were reported by more than half of the respondents (53.2%) as barriers encountered when seeking treatment in health facilities (Figure 4.3)

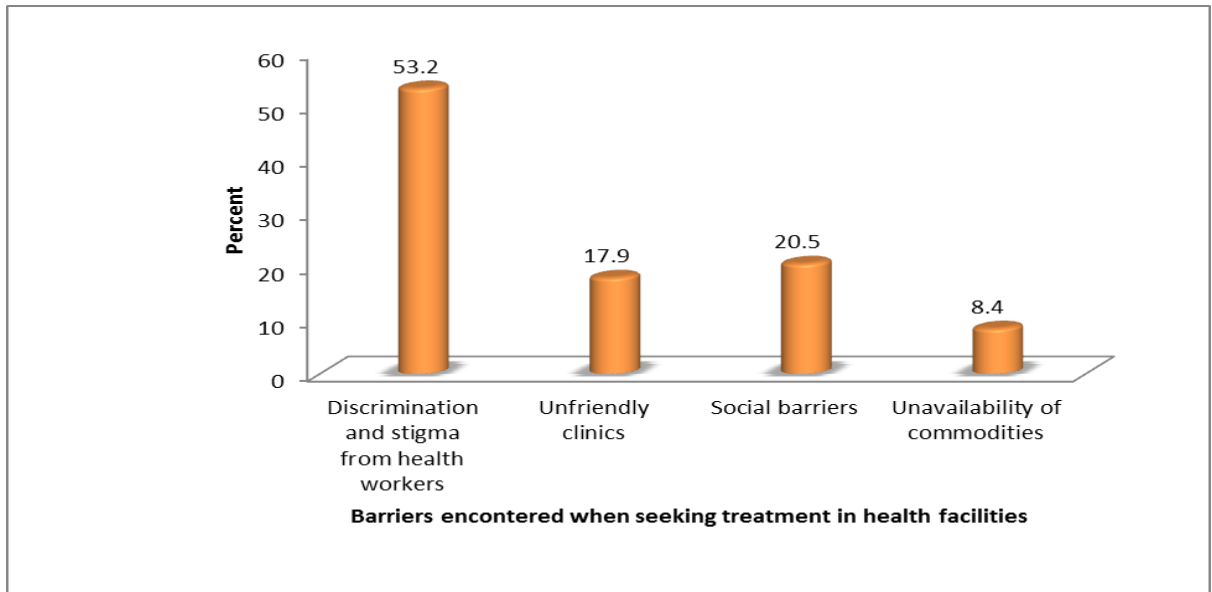


Figure 4.3: Barriers encountered when seeking treatment in health facilities

4.6 Qualitative Results

4.6.1 Acceptability of HIV/AIDS AIDS prevention services at health facilities

In this study it was established that NGOs offered health services to about 13,000 MSM in Nairobi County. The MSM had registered with them for treatment and psychosocial support. Some NGOs involved in health service delivery for the MSM relied on foreign donor funding and after donor withdrawal or reduced funding level the MSM went without essential health services such as screening for other STIs, HIV/AIDS, and psychosocial support and provision of condoms and lubricants.

“At the (facility X) which was funded by APHIA+, we had an MSM stationed there as a focal person for MSM health issues. There you could go and be treated very well, given all the medication, condoms and lubricants but when APHIA+ left, the programme died, we no longer go there because even the nurses changed their attitude towards us and to us this is really not acceptable” , FGD

While some NGOs handled more than 13,000 MSM, the Nairobi County health facilities reported to have handled only up to 2,222 MSM patients. These NGOs worked also in consultation with public health institutions some of whose health workers were reported to have lacked medical ethical conduct in handling MSM health challenges. The county government was aware of these challenges and was working with the national government to minimize the challenges to enhance acceptability by MSM population but still on a small scale.

“The County Health Sector has realized the need to scale-up the uptake of HIV/AIDS preventive measures among this MSM population. What the County has done with the support of the National Government is to sensitize the Health Workers how to deal with MSM because Health workers are also stigmatized, most of them have not dealt with MSM.”, KI

However on the ground, in the 6 County Health Facilities visited, only one facility had a comprehensive health care program that was friendly to MSM specific health needs.

4.6.2 Adherence to HIV/AIDS prevention services

The services available and for which strict adherence is required include strict utilization of antiretroviral medicines, utilization of condoms and conventional lubricants, tuberculosis drugs meant for those infected and diagnosis and treatment of HIV/ANDS and/or STI's. Results from qualitative established some non conformity characteristics by the MSM. For instance some engaged in unprotected anal sex with clients in return for more money as noted in one group.

“For me I use condom on women and not with men. Condom use reduces pleasure. Pleasure and money are more important so the risks of not using protection are an afterthought.” FGD

Some MSM often interrupted their psychosocial- support and treatment in NGO establishments by disappearing for a while only to reappear with advanced anal disorders such as warts, anal discharges and other health complications:

“Some of them are hard-core. They don’t want to be told and even if you schedule them for follow-up clinic they will not come and will come later when they develop problems. Some even come when they have stopped taking medicine. Adherence to treatment is a big challenge for us”, KI, NGO

Some MSM took partial screening tests and did not go for subsequent ones including pre and post treatment counseling. Some MSM absented themselves from the NGO support institutions, they did not adhere to medical prescriptions where required and some were unable to purchase the prescribed medicines, a factor that often affected their treatment durations and regimen. One of the in-charge of a NGO involved in provision of HIV/AIDS services to MSM who served as Key Informant during In-depth Interviews presented cases of non adherence in the following manner:

“Challenges are numerous: it is sometimes difficult to make a follow up because MSM disappear for a while only to come back when having health issues. Most of them take alcohol and drugs which make them forget to take their medication for those who are positive. Most of them are unwilling to visit government hospitals when faced with a health challenge because of their fear of being noticed and therefore stigmatized. Some of them are not willing to utilize VCT services as often as is required. Another case we have seen is that of peer pressure whereby non-positives quickly become positive to “belong.” KI from NGO.

4.6.3 Awareness of HIV/AIDS prevention services

From the qualitative data, on the question of “what are the HIV/AIDS prevention strategies do you know of” in the focus group discussions solicited following answers:

“Proper condom use, abstinence, faithfulness to partners, applying the principle of no condom no sex, control of alcohol use and having negotiation powers”“but abstaining is difficult; this is meant for nuns and monks” FGD.

They also knew the importance of using a condom but pleasure but money was more important:

“Kukula sweet na karatasi sio tamu (eating a sweet with its wrapper on is not sweet) and that is why some clients put on condom but before climax they remove” said a participant.

On probing more on why the prevalence of HIV/AIDS is still high among MSM, one participant had this to say:

“Some clients pay more, sometimes MSM take alcohol that impairs their reasoning and sometimes lack of negotiation powers with the client plays a major role. The Government should make sure that condoms with lubricants are available like a soda of coca cola, they should both be in one complete sachet”, “some lack information and others have given up because they will die anyway,” FGD

4.6.4 Behavioural Practices of MSM

I sought to explore on the practice by asking specific questions. Some men were introduced to the practice in schools and others were born that way.

“Some of us are born this way. I started feeling something wrong with me when I was in class 3-4. I was attracted to boys more than girls”. FGD

To some it is a choice but to others it is economically motivated.

“MSM is a practice; some do it because they were introduced in school through rape and some want money. I was raped in form one and so I decided to revenge but I soon realized that anal sex is sweeter than vaginal sex.”FGD

To some it is lack of awareness of the risks associated with anal sex. The pleasure for anal sex is a motivator for MSM practice.

“Anal muscles are firm and dry compared to vaginal sex. In fact it is not easy to get HIV/AIDS through anal sex because there are no fluids. Vaginal fluids contribute to the risk of HIV/AIDS; in fact we do not like those fluids, MSM are interested in quick sex, women are complicated and expensive” FGD.

4.6.5 Barriers to HIV/AIDS prevention services

The qualitative study explored the extent to which discrimination, the level of social stigma, attitude of health workers, violation of human rights and confidentiality of patients’ diagnosis had a bearing on HIV/AIDS health service provision and their implications. In the quantitative study discrimination accounted for 31.6% of possible impediments to accessibility and when combined with social stigma over half of the respondents (53.2%) attributed inaccessibility to these two factors. From the focus group discussions, the majority of the respondents who visited health facilities actually visited private clinics instead of public hospitals and attributed this tendency to relatively better services offered provided the service had been paid for. However, even those who visited private health facilities, some of them complained of what they termed as unfriendly staff and some shied away complaining about their human rights being infringed by health workers. Some respondents deliberately refused to seek health services due to discrimination.

“I had a health problem, an anal wart and then I went to a public health facility. After the nurse realized I was gay, she called other nurses, laughing, to come and see, like a movie, like drama” , “Even in hospitals, a nurse told me to go for prayer otherwise I will go to hell, the nurses just gossip about us and you are on the line waiting we feel very bad”, FGD

It was noted from interviews the MSM did not attend public health facilities unless they had been referred to, preferring to be discrete about their networks and activities. They reported being kept in long queues while other patients were being attended to, including those who had arrived after them. Anal warts are the major source of concern if treatment is not available.

“There was a time we were called to go to a referral hospital for training and we were treated very well and told that our health issues would be treated differently. But that was not the case because when I visited for treatment, I was told to go to casualty area and pay, the queue was so long and I was in pain, I just left,” FGD

“Actually I learned that they operated on two MSM that had anal warts and the doctors told them that they were tired. Cases of anal warts are very high and there is fear of disclosure so many go unreported and people just die. Sometimes they are presented late. We see these cases in MSM friendly organizations but they do not have the capacity to handle this and private health facilities are expensive”, FGD

Social Stigma was considered by the respondents as the second most serious barrier to accessing health facilities. They experienced social stigma from health workers in the public health facilities that some of them visited on referral.

“The challenge is that these people (MSM) are marginalized and they fear seeking health care in facilities because of stigma and the law because legally they are not accepted within our society.” KII

4.6.6 Barriers as perceived by service providers at facility level

Exploration was done to identify HIV/Aids programmes available, any challenges faced by the facility programme managers in providing HIV/AIDS prevention services to MSM and whether in their opinion the health facilities in the county government was ready to deal with health needs of MSM. It was noted that there are no HIV/AIDS treatment programmes that are specific to MSM health needs.

“The hospital has no HIV preventive program specifically for MSM. The hospital HIV program is for general population.” KI

The public health facilities have challenges that impede MSM healthcare options. The health care providers at facility level are faced with cultural unacceptability and compassion fatigue. Some health workers fear stigma upon themselves from fellow workers.

“Since they served among the general population, the health providers, nurses and counselors might hurt the MSM when giving a general healthy talk on HIV because services are not tailored for MSM. There is lack of procedure/protocol to guide MSM health services. A good example is of a gay person who was deported from UK. He had anal discharge resistance to several available treatments. This shows that some cases require special clinic and protocol on how to manage them because they are special/isolated health needs different from that of general population. MSMS or gayism is not recognized and accepted by everyone in the community including health workers. The MSM fear the stigma associated with disclosure and some health providers fear the stigma of associating with the gay persons” KI

Because of stigma attached to the MSM practice they preferred being attended to at night.

“The challenges were that for this specific group of people they preferred being seen at night. They did not have the courage to come to the clinic during the day for the fear of being identified as gay or lesbian. The workers’ attitudes were in kind of conflict. Most of the health workers in the facility are Christian and they felt offering services to this group of people conflicted with their faith.” KI

Overall the health care system at the county level is not ready to cater for the needs of MSM health because there are no policies to guide MSM health needs.

“The Kenya health system is not ready in handling the MSMs health issues. There is a lot of reliance on donor funding for HIV/AIDS programs in the country. The HOPE clinic in our facility is funded by CDC/PEPFAR. The clinic is currently managing 15,000 HIV positive clients. If the donors pull-out there would be a disaster.” KI from Public Health Facility

4.6.7 MSM personalized experiences and their perspectives

Personal experiences by MSM were sought to have an in-depth understanding of their perspectives which is key for uptake of HIV/AIDS prevention services. The areas concerned included the experience with health workforce in the public health facilities, the law enforcers, with the organizations that offered support services and the Society. On the question of what experiences they had had with the law enforcers, responses included:

“My transgender friend was stripped naked in a police station for the officers to determine his gender and which cell to lock him in” FGD

“Also in many government health facilities the personnel are not familiar with the anal warts so it is a challenge and this makes it difficult to report cases. You see for

cases like gonorrhoea it affects both straight and gay people so it is not entirely associated with gay people” FGD

There is need for the county government to come up with HIV/AIDS prevention programme for the under age groups probably in schools.

“The government should also come up with a programme on the underage MSM. Sensitization to the Health workers to recognize the rights of the MSM to access health care, The government should also involve MSM in health delivery systems”. FGD

Culture glues societies and communities together creating some form of order but some Cultures are contributing to HIV/AIDS risk:

“Where I come from, when boys undergo circumcision, in the third week of nursing the wound, they are brought girls to have sex with you just before you heal, to endure the pain as a man, and for cleansing and in this practice condom is nowhere, in some cases being infected with gonorrhoea is considered as passage to adulthood,” FGD

CHAPTER FIVE

DISCUSSION

5.1 Social demographics and behavioural characteristics of MSM

This study provided some insights into the relationship between HIV/AIDS, STI testing, condom use, accessibility of prevention services and individual socio-demographic factors. The majority of participants were aged below 29 years depicting the younger age group. They were unmarried and engaged in sex work. Education, age, being a sex worker and unmarried were significant motivators for HIV/AIDS, STI testing and condom use.

Education is distinct from household income in that school-based safe-sex campaigns and greater knowledge about HIV/AIDS increases with more schooling. Higher household income provides individuals with increased access to health care, enables clients to afford the cost of testing and increases the clients' ability to transport themselves to and from testing sites. However because of homophobia MSM are likely to source for testing centers that are far from their settings. Our findings were congruent with previous research suggesting that individuals with higher household incomes were more likely to have had VCT (Simbayi *et al.*, 2004; Siziya *et al.*, 2008). Other Recent studies have also shown that HIV testing rate among MSM is strongly associated with factors such as age, education level, and unprotected sexual intercourse (Song *et al* 2011; Wei *et al.*, 2011). In this study HIV testing was observed among unmarried MSM.

In comparison, some studies have found that older MSM are more likely to have a higher HIV prevalence (Liu *et al.*, 2006), while others have suggested that they may have entered heterosexual marriages and so have reduced their homosexual activities (Ruan *et a.,l* 2009) meaning they are now in a trusted relationship and therefore there is no need for testing or using a condom. On the other hand the youth are still adventuring

and therefore perceive the risk of HIV and that could be the reason why HIV testing is observed more in the unmarried group in this study. A point to note however is that Married MSM are more likely to have unprotected sex with their female partners (i.e. wives) than with unmarried MSM; therefore, MSM could act as a potential route of HIV transmission to the general female population (Ruan *et al.*, 2009; He Q *et al* 2006; Guo *et al* 2010; Cho *et a.l.*, 2011). Findings in this study suggest that it is important to scale up HIV testing programmes that specifically target MSM aged 20–35 years. As MSM are likely to enter marriage at this age, HIV/AIDS educational programmes should include both male-to-male and male-to-female components in order to address bisexual behaviours.

Condom use was low among this group who are predominantly young. This finding is similar to another study where the majority MSM were in the age group ranging between 17-32 and were not married and low condom use was cited (Ntata *et al.*, 2008). Alcohol and substance has also been reported. Young MSM can be aware of repercussions around issues of same-sex behaviour. Therefore many of them are likely to keep their sexual behaviour secret but this of course may reduce their access to relevant information about HIV and the risks of unprotected sex – especially if they are faced with stigma and discrimination by health-care workers. This can also make them more likely to engage in risk-taking behaviours. Some MSM look out for social spaces such as gay hot spots to socialize without fear of experiencing homophobia. Many such environments may encourage the consumption of alcohol or drugs, which can lower sexual inhibitions and affect risk perception (Bourne, 2012). Use of stimulants has been found to be a direct predictor of sexual risk behaviour (Stein *et al.*, 2005). Young people also undergo a phase of experimentation no matter the risk involved, particularly in the presence of peers, and which may involve alcohol or other drugs (Steinberg *et al.*, (2008). For some young MSM, the awareness of an attraction to people of the same sex may be confusing, especially if they do not see their same sex attraction appreciated in the wider social setting.

Young people may also be vulnerable to sexual abuse or exploitation by other males, and therefore vulnerable to HIV/AIDS. There is evidence that most MSM begin having sexual intercourse while still in their youth than adult MSM (Halkitis *et al.*, 2011; Balthasar *et al.*, 2009). Most of such young people are unaware of the risks of infection and of how to protect themselves (Kubicek *et al.*, 2010). Quite a number of the participants in this study were students. Sex education in schools often provides inadequate information about HIV/AIDS and generally does not address sexual health risks relevant to MSM (Mumtaz *et al.*, 2011). In this study some MSM engaged in sex work and this has been cited in other studies (Chinaglia, 2008). Commercial sex is often associated with an increased likelihood of being younger, unemployed, having less education, using drugs and engaging in high-risk sexual practices (Schwartlander *et al.*, 2011; Carballo *et al.*, 2012; Chinaglia *et al.*, 2008; Chemnasiri *et al.*, 2010; Van Hiep, 2012). Commercial sex can lead to higher rates of HIV among young MSM. There is need for continuous awareness programmes about HIV/AIDS risks among young MSM.

Greater proportion of clients accessing condom was observed among participants aged 25-29 years compared to those who were aged 40 years and above. Men who are above 30 years tend to settle in permanent relationships where trust is established and this could be the reason why accessibility to condoms is more associated with being younger than 40 years. Equally participants indicating that they were able to access condom were also observed among those with primary level of education compared to those with university education. This proportion may comprise of sex workers who have been exposed to health information. Accessibility to ARVs was associated with having lower than university education. This could be explained by the fact that ARV's are not provided free in the institutions of higher learning unless one is living positively and therefore enrolled in a prevention program from a health facility. Equally high proportions of participants indicating that they were able to access lubricants were observed among those with lower than secondary school education and sex workers.

Sex workers are economically empowered and exposed to health information so they are able to purchase lubricants.

There was a significant association between access to treatment for other STIs and age of the client. High proportion of clients indicating that they could access treatment for other STIs was observed among participants aged 35-39 years. This is because they are knowledgeable about the risks of STI's and need for protection to their sexual partners. On practice, level of education was significantly associated with having anal and vaginal sex. There is less control and more autonomy for adventures in Institutions of higher learning and this could give room for bisexual practices.

5.2 Uptake of HIV/AIDS Prevention Services by Men who have sex with men

It was noted from this study that there were no health programmes that specifically targeted MSM's health needs. The programmes available were for the general population. Majority of the Non Governmental Organizations that supported MSM health needs relied on foreign donor funding without any financial exit strategies on their part and MSM soon found themselves without treatment facilities that they had been used to following donor withdrawal. There is need for long term planning and budgetary provision for sustainable health delivery for MSM registered in these institutions so that their treatment requirements are not pecked on foreign donor funding priorities. This may require close liaison with the county government, if need be, for financial support since these non state actors handle the largest number of this difficult to reach group. Since one of the findings in this study was that those MSM who did not take alcohol and drugs stood to benefit from HIV/AIDS prevention measures, the NGOs and Civil Society Organizations should include rehabilitation programs in their health interventions for affected cases of alcoholism and drug addiction where such programs may not exist. There is also need for these NGOs to spread their wings to the rural settings in order to capture missed opportunities of service provision to MSM in these settings.

It was also noted in this study that as MSM tried to access public health facilities on their own, they came face to face with health personnel who carried their prejudices to their places of work, especially nurses with whom they had first contacts. Some of the MSM often decided not to disclose the nature of their medical issues especially those related to anal disorders for fear of being asked how the disorders started and therefore were attended to like any other patients. In the process some of the health workers unwittingly engaged in medical practices that verged on discrimination, stigma and unethical medical conduct without regard to constitutional human rights and other legal health treatment service safeguards. Lack of disclosure of essential medical information by MSM may have led to wrong prescriptions and often caused statistical inaccuracies that were not conducive to effective MSM targeted health management in private and public health delivery systems.

The MSM on their part displayed attitudes that reflected a worrying degree of non-conformity to HIV/AIDS prevention norms. Although the majority of the MSM were of secondary education and above, their knowledge of STI symptoms was very low as a result of which less than one third went for testing while consistent condom use was only done by less than one quarter of them. This was so because condom use between sexual partners was subject to negotiation resulting in a number of them engaging in unprotected anal sex under the influence of alcohol and drug addiction. A widespread use of improvised lubricants whose post- sex chemical reactions were unknown was also noted in this study. There is need for provision of lubricants among this population. Pre and post- treatment follow ups and counseling were handled by MSM as if such requirements were discretionary rather than mandatory for effective management of their health conditions. This non conformity creates gaps in HIV intervention.

5.2.1 HIV/AIDS Testing

In this study HIV/AIDS testing at last sex was significantly reported. This means that a good proportion of the respondents could be on treatment. However, the pre-test and

post-test counseling predicts the actual proportion of those respondents who are likely to be on treatment.

The global road map for mitigation of effects of HIV/AIDS is targeted at 90-90-90 i.e. 90% of knowledge of HIV/AIDS status, 90% of those aware of their HIV/AIDS status to be put on treatment and 90% of suppression of the HIV/AIDS virus for those who are taking ARVs. This ambitious target may not come to fruition in Kenya if there are no ambitious specific HIV/AIDS health programmes for vulnerable populations like MSM. Some studies have found that testing has not resulted in reduced risk behaviors among those testing negative (Weinhardt *et al.*, 1999).

For instance less risk reduction behaviours were noted among US men who tested HIV-negative in the RESPECT 2 trial, as well as in studies in Zimbabwe and Kenya (Sherr *et al.*, 2007; Corbett *et al.*, 2007; Huchko *et al.*, 2011). Whether or not HIV testing itself reduces behavioral risk, it underlies the effectiveness and implementation of nearly all other prevention strategies and is the gateway to the offering of services tailored to client needs. Evidence shows that most people who become aware of their HIV status reduce the risk of transmission to others. Furthermore, many MSM are unaware of their HIV serostatus (CDC, 2010) as was seen in this study, those who did both pre and post HIV testing was half. Accurate knowledge of serostatus is probably a key driver of whether community-adopted prevention strategies - such as serosorting - conferred protection or increased the risk of HIV transmission and acquisition. As with any medical test or investigation, individuals need to be able to make an informed decision about whether to undergo an HIV test. Such services can offer opportunities for identifying MSM who would benefit from the offer of a test and referral to other prevention services e.g. counseling and support. Knowledge of one's HIV status therefore is crucial for access to antiretroviral therapy and HIV testing is thus recommended to be easily accessible and offered in an inclusive and non-discriminatory manner in order to be acceptable and accessible for MSM. It is suggested that at least annual HIV testing for MSM, and every three months for men having anal sex without a condom with new or multiple partners should be adhered to (Lorenc *et al.*, 2011). Equally Centers for Disease Control and

Prevention guidelines recommend annual screening for MSM who themselves or whose sex partners have had more than one sex partner since their most recent HIV test (Branson *et al.*, 2006).

5.2.2 Counseling connected to HIV testing

In this study over half of MSM had had pre and post- test counseling. However, others went for pre-test counseling for HIV and never returned for post test. Pre-test counseling and post-test counseling is a predictor of HIV treatment commencement and it is crucial choice because the pretest counseling prepares the individuals to live with their newly discovered status should the result turn out to be positive, while the post test includes feedback on how they are to cope with the challenges of living with HIV/AIDS.

Those who only received pre-test counseling were probably fearful or kept postponing. Those who went for post test needed help desperately while those who never went for counseling may have been some of those who had problems with adherence discussed in this report. In as much as most respondents reported that HIV/AIDS counseling services were accessible, this opportunity was not fully utilized. Counselling for MSM living with HIV should be a part of care programs both as an immediate post-test counseling service, and also as a longer-term service to people living with HIV in addition to support groups. Its intensity and content should be adapted to the needs and preferences of the target group locally.

Equally to be emphasized is that HIV counseling and testing is actually an integrated process in which individuals make an informed decision about undergoing an HIV test and provides a good opportunity for reflection on their risk situation and health promotion. In situations where counseling is part of HIV testing, brief pre-test counseling or discussion carried out by a trained counselor, covering the benefits of testing and the practical arrangements for taking the test and receiving results, has been shown to be effective in helping to increase testing uptake. HIV testing and counseling

should therefore emphasize individual risk assessment, and counselors should be trained to address sexuality issues and allow for discussion of individual risk reduction strategies and sexual health promotion, irrespective of a positive or negative test result. Counselling for MSM living with HIV should focus on risk reduction, stigma and health promotion strategies. Minimizing sex with condom usage among MSM living with HIV can reduce their risk of acquiring other STIs, including Hepatitis C. Counselling also can support men by reducing stigma and introducing risk and harm reduction strategies (Prochaska *et al.*, 1994; McBride *et al.*, 2003).

Overall, sex between men occurs in every culture and society but its extent and public acknowledgement varies from region to region. Indeed most men engage in such practices without talking about it. Hence the MSM remain some of the most difficult groups to reach for HIV/AIDS intervention programs. It is also true that expedition of the uptake of services (including prevention services) is a big challenge in settings where same-sex behaviour is strongly rejected by communities. Traditional and cultural values expect men to marry and raise children, and frontline health workers have little or no skills in relation to open discussion of anal sex practices, diagnosis of rectal STIs, and support of specific prevention needs for MSM. Structural factors such as criminalization of same sex practices, societal stigma and hetero-normative policies create barriers for MSM to access prevention and healthcare services (Berg *et al.*, 2013)

5.2.3 Screening for sexually transmitted infections (STI) and requirements

In this study, awareness of different types of STI varied while uptake of STI testing was not optimal as less than one third went for testing and those found sick treated. Evidence suggests that STIs, particularly those that cause genital lesions, increase the risk of HIV infection. (Freeman *et al.*, 2006). Therefore, STI diagnosis and treatment have the potential to be key HIV prevention strategies by preventing infections (Aral & Peterman, 2002; Detels, 2001). Routine STI screening of asymptomatic individuals will reduce the period in which infected individuals might remain both untreated and unknowingly able to transmit the infection to others. The use of rapid tests, which are

progressively becoming widely available for some infections can increase test uptake (Lee *et al.*, 2010).

Regular comprehensive screening offered to asymptomatic MSM includes anal/penile inspection and sampling of the urethra, pharynx, rectum and blood for syphilis, gonorrhea, Chlamydia, Hepatitis B (for unvaccinated men) and C screening is performed as indicated by the individual risk or local epidemiological circumstances. Testing for Herpes simplex virus type 2 (HSV-2) should also be performed if clinically indicated (Brown *et al.*, 2006; Politch *et al.*, 2012). These tests should preferably be performed in combination with HIV testing for men not yet diagnosed (Baeten *et al.*, 2011). MSM living with HIV should be offered voluntary screening for Hepatitis C and other STIs annually or more often if clinically indicated. Bacterial and viral STIs can increase the efficiency of HIV transmission (Chin-Hong *et al.*, 2009). Anal human papilloma virus infection is also associated with HIV acquisition in men who have sex with men. Urethritis increases seminal viral load in HIV-positive MSM, and increased virus numbers in semen are associated with high transmission risk in heterosexual men.

Incidences of STIs are a clear marker of history of sexual risk and are predictive of future acquisition of HIV infection, thus diagnosis of STIs in MSM offers opportunities to identify high-risk men for prevention services. Treatment of STIs primary benefits the men's health, offers opportunities for discussion of sexual risks and strategies for risk reductions, and is likely to reduce the infectiousness of HIV-positive men. It is therefore recommended that MSM living with HIV should be offered voluntary screening for Hepatitis C and other STIs annually or more often if clinically indicated (White *et al.*, 2014; Scott *et al.*, 2010).

5.2.4 Condoms and lubricants as HIV/AIDS prevention commodities

This study has revealed low condom utilization rates among MSM even when they were accessible. Only a small percentage stuck to the principle of no condom no sex while those who used them sometimes compromised into engaging in unprotected sex

for financial gain or because of influence of alcohol. This probability was strengthened by the fact that the use of the condom was subject to negotiation in a situation where some clients decided unilaterally while others had to agree with sex partners before use. Most of them also used different types of materials to facilitate sexual pleasure instead of the conventional KY Gel. This agrees with one study where it was reported that stigmatizing societal climates are associated with internalized homo-negativity, which influences sexual risk behaviour for HIV/STIs as well as HIV testing uptake (Ross *et al.*, 2013).

Condom use when having anal sex with a partner of unknown viral burden or infection status is a key component of HIV and STI prevention. Condoms prevent contact between semen and rectal mucosa, as well as between rectal fluid and the penile mucosa, thereby preventing the transmission of HIV. Correct and consistent condom utilization has been shown to reduce both HIV and STI transmission probabilities in observational studies (Holmes *et al.*, 2004). The male condom therefore is a long-standing biomedical preventive tool that has been one of the cornerstones of HIV prevention programs since the on-set of HIV/AIDS. Its use has been found to be highly effective in reducing HIV incidence, as high as 95% when used consistently and correctly (Anderson, 2003). However, most persons do not use condoms consistently or correctly, so effectiveness falls to about 70% (Foss *et al.*, 2004).

In one study, out of 174 209 MSM participating in an MSM Internet Survey (EMIS), 30% reported at least one episode of anal intercourse where a condom was not used with a partner of unknown or sero-different HIV status during the previous 12 months (Weatherburn *et al.*, 2013). Because consistent condom use has not reached sufficiently high levels in many regions including Kenya, despite widespread and often aggressive promotion, some suggest that there is a lack of evidence of effectiveness in preventing generalized HIV epidemics (Potts *et al.*, 2008). Yet, condoms clearly cannot be abandoned as a potentially effective strategy. Experience from Uganda with the “ABC” strategy (abstinence, be faithful, use condoms) highlights the importance of strong

government commitment and a comprehensive approach to sexual behavior change that incorporates condom use.

There was an argument that suggested that condoms alone do not provide complete protection against all STIs as they reduce but do not always eliminate mucosal contact and smear infections. It is therefore suggested that condom-compatible lubricants probably provide additional prevention benefits (when used with condoms) because they reduce condom breakage and rectal trauma (Stone *et al.*, 1999). Furthermore, men without access to water-based lubricants might use petroleum jelly, body cream, or saliva, (Butler *et al.*, 2009) increasing the risk of condom failure and transmission of viral infections (Baral *et al.*, 2009) as also noted in this study. Regular use of lubricant without condoms has been associated with an increased risk of STIs, (Gorbach *et al.*, 2012) and the use of hyperosmolar formulations might increase risk for HIV infection (Russo *et al.*, 2010). The importance of condom-compatible lubricant use needs to be taken into account as a part of condom promotion interventions for MSM. Sub-optimal lubricant use is common among MSM, and correct use of lubricant should be included in prevention messages (Weatherburn, 2013). One of the most important prevention responses is to make high-quality condoms, along with water-based lubricants, available and accessible to men who have sex with men in one sachet.

5.3 Factors affecting accessibility to, acceptability of and adherence to HIV/AIDS prevention services

5.3.1 Accessibility to HIV /AIDS prevention services

Findings show that condoms , TB drugs, ARVs Lubricants, IEC materials, STIs and HIV counseling services are not lacking in Naiarobi County. Even health facilities were accessible when there was need. However there were impediments to accessibility to HIV prevention services by MSM that included discrimination especially in health facilities and social stigma. The majority of the respondents who sought services in health facilities visited private clinics instead of public hospitals. They attributed this

tendency to relatively more friendly services offered in such clinics, provided they had been paid for. However, even those who visited private health facilities, some of them complained of what they termed as unfriendly clinics with a few of them complaining about their human rights being infringed by health workers while others could not access the health services due to discrimination. Some of the MSM reported that they did not attend public health facilities unless they had been referred to them, preferring to be discrete about their networks and activities.

The result of such experiences did not augur well for MSM's desperate desire to access treatment including counseling sessions since discrimination was being practiced irrespective of whether they visited private or public health facilities. This evidence of discrimination is in total disregard of section 5.1.1 of the Kenya Health Policy 2012-2030. This Policy gives directions to ensure significant improvement in overall health status in Kenya in line with the country's long-term development agenda, Vision 2030, the Constitution of Kenya 2010 and global commitments. It demonstrates the health sector's commitment, under the government's stewardship, to ensuring that the country attains the highest possible standards of health, in a manner responsive to the needs of the population. According to this article one of the guiding principles was *that "there shall be no exclusion in the provision of health care services and that focus shall be on inclusiveness, non discrimination, social accountability and gender equality"*. The HIV Prevention and Control Act 2006 also protects the rights of HIV/AIDS infected and affected people and outlaws discrimination against persons living with HIV/AIDS or suspected to having HIV/AIDS. What is needed is sensitization of the health workers to treat MSM like any other Kenyan although at the time of this study it was reported that a few nurses had been sensitized in workshops in Nairobi County. Social Stigma was considered by the respondents as the second most serious barrier to accessing health facilities. They experienced social stigma from health workers in the public health centers and public hospitals that some of them visited on referral. Although their sexual orientation remained guarded, disclosure of their status as MSM by some of them elicited unanticipated resentment among health workers, especially nurses who derided

them by calling other nurses to witness their anal warts during examination and thereafter laughed and engaged in gossip as the MSM left the health facilities.

Protecting the dignity and rights of MSM in healthcare settings and beyond allows for a safe environment for individuals to receive optimal care to protect themselves and their partners. There were also reported cases of threatened violence from some community groups around the health facilities who viewed the MSM sexual identities with disdain and whom they knew simply as homosexuals, whenever the MSM went to specified institutions in large numbers to collect condoms and lubricants. The study established that the MSM social interactions with health providers needed to be improved so that the MSM and the health providers could take one another in confidence in matters of person- focused treatment and care since the MSM were poised to remain in their social networks for long as some of them had been MSM for over five years. The type of occupational participation in this study contrasted sharply with what (Dowset *et al*, 2006) found after reviewing study reports on MSM social networks and behaviour in India, Malaysia, Indonesia and Thailand. The MSM in some of these places had substantive income from various occupations including fishermen, factory workers, truck drivers and military recruits among others compared to this study which comprised of students, casual labourers, small scale business men, sex workers and a few salaried employees.

Most MSM in this study therefore belonged to low income earners group. This means they can hardly meet treatment costs in private facilities. It is critical to note that preventive interventions focus on the proximal causes of HIV infection i.e., sexual behavior. However, structural factors also drive HIV transmission, mainly through marginalization of at-risk populations that limits access to treatment and prevention resources, and also by shaping the general socio-environmental context in which HIV risk and preventive practices are produced as alluded in other studies (Sumartojo, 2000 and Beryer *et al.*, 2012). Structural interventions that work by altering the context in which health is produced have a long history in public health and typically involve regulatory, funding and other policy-style mechanisms to enhance the availability,

acceptability and accessibility of preventive services or behaviors (Blankenship *et al.*, 2006). Stigma and cultural opposition to same-sex relations can be blamed for rising epidemics. Until these issues are addressed, it will be difficult to reduce HIV infection levels among men who have sex with men negating the gains the country has made so far in HIV/AIDS/ mitigation.

Good clinical outcomes depend on access and adherence to HIV/AIDS health care services (Scanlon *et al.*, 2013). Where there are laws that criminalize same-sex sexual relations, governments are unlikely to promote any sort of HIV interventions aimed at men who have sex with men. As a result, men who have sex with men living in countries with high homophobic tendencies including Kenya, are unaware of their risk of HIV, can be turned away from HIV services, are fearful of accessing HIV testing, and find it difficult to get hold of condoms and lubricants. (UNAIDS, 2014).

A huge proportion of men who have sex with men worldwide have reported experiencing violence due to their sexual orientation. In some areas, it is public officials or even healthcare workers that are impediments to access to crucial services. The fear of being identified as homosexual deters many men from accessing these services, avoiding healthcare check-ups and treatment in order to keep their orientation secret. (UNAIDS, 2014) According to recent surveys, nearly 20 % of MSM report that they are afraid to access health services and 1 in 10 do not have access to prevention services, including condoms. Cairns *et al.*, 2014 and Smith *et al.*, 2009 in their studies cited illegality, reproductive pressure, hostile attitudes, and denouncements from the political and religious class and overall social exclusion as impediments: Huang *et al.*, (2014) however, found that inaccessibility was determined by fear of needles and lack of awareness of venues that provided HIV/AIDS testing venues. Zhao, (2015) in another study found out that inaccessibility was associated with fear of testing positive and perceiving no risk for HIV.

5.3.2 Acceptability of HIV/AIDS prevention services

The study established that the NGOs offered health services to about 13,000 MSM in Nairobi County. The MSM had registered with them for HIV/AIDS prevention services and psychosocial support. Some of these organizations however experienced constraints which were highlighted during FGDs with the NGOs key informant representatives and a representative of the County Health Management Technical Team.

Some NGOs involved in health service delivery for the MSM registered with them relied on foreign donor funding and after donor withdrawal or reduced funding, the MSM went without essential health services such as screening for STI, Hepatitis, HIV/AIDS, and psychosocial support and provision of condoms and lubricants.

Those NGOs which did not have their own clinics linked the MSM to public health facilities where the MSM were supposed to be attended, often at the level of nursing. Since the NGOs handled a large number of MSM they often run out of stock of essential commodities whenever demand exceeded supply. The study revealed that the health needs of over 13,000 MSM were therefore being provided by non state actors, mostly NGOs in consultation with public health institutions some of whose members were reported to have lacked medical ethical conduct and also needed enhanced training in handling MSM health disorders.

This situation was further aggravated by inadequate medical supplies, lapses in treatment follow ups, incorrect record keeping because the MSM who did not want to reveal their sexual identity were treated as any other patient and no proper attendance figures of those affected could be established. The Nairobi County estimated the number of MSM who attended its medical facilities as out- patients to be between 1,042 to 2,222 patients.

In all the 6 County Health Facilities visited, only one facility had a comprehensive program for MSM health needs. In this regard the services need to be improved so that it

did not fall below the acceptability threshold defined in the study. With the high quality hospitals and personnel available, all that the MSM need is to take advantage of them and avail themselves for diagnosis, treatment and counseling but the atmosphere must be acceptable to the MSM health needs.

It is important to note that Sexual health counseling provided by clinicians frequently addresses only heterosexual behaviour, in part because training curricula do not include issues around same-sex behaviours and homosexuality. Insensitivity or discrimination on the part of health-care providers, exacerbated by lack of training and awareness, can deter MSM from seeking not only HIV testing and counseling but also treatment for other STIs, especially if they feel they will need to disclose their same-sex behaviour to service-providers. This reluctance may be especially strong for MSM who do not identify as gay.

5.3.3 Adherence to HIV/AIDS prevention services

Although quantitative findings show that MSM were willing to adhere to HIV/AIDS prevention services, qualitative findings state otherwise. The MSM engaged in unprotected anal sex with clients in return for more money ignoring advice from the health workers that the principle of no condom no sex should be adhered to; they indulged in unprotected sex after getting drunk.

Adherence to always use condom was associated with pleasure, economical needs and lack of bargaining power especially for receptive partners other than sexual risks as per the qualitative findings. They often interrupted their psychosocial-support and treatment in NGO establishments due to the influence of drugs and alcohol. They took partial screening tests and didn't go for subsequent ones including pre and post treatment counseling as the counselors lost track of their whereabouts. They often refused to take STI screening tests when confirmed HIV positive. Available data showed less than one third availed themselves for screening.

They absented themselves from the NGO medical care institutions without taking medical prescriptions where required and buying the prescribed medicines, a factor that often affected their treatment durations and regimen. The identification of these factors is consistent with another study finding on heterosexuals (Duby *et al.*, 2014) that individuals who engaged in heterosexual anal sex were more likely to engage in other risk behaviours such as unprotected sex, alcohol and substance use and trading sex. In some studies age, and lack of social support has been associated with adherence to HIV/AIDS treatment. (Gordilloa *et al.*, 1999).

5.4 Awareness, Attitudes and Practice of HIV/AIDS Prevention Services

The majority of MSM were aware of risk issues surrounding HIV/AIDS including knowledge on STI symptoms and protection practices that reflected knowledge implications relating to HIV/AIDS prevention. The majority were aware that re-use of unsterilized injection was a serious source implying that they knew HIV could be caused through blood contact. Unfortunately a small proportion indicated that mosquito bite could cause HIV/AIDS. This means continuous sensitization is a key focus.

Contracting STI from either partner was acknowledged by the majority again pointing to the importance of both partners taking an HIV/AIDS test. Where the majority of MSM did not take HIV/AIDS tests, prevention of HIV/AIDS could not be effective if vulnerable groups did not avail themselves for STI diagnosis. On protection, condom use was ranked first with a majority of MSM. Lubricants were being used by almost half of the respondents as a facilitation device rather than a protective one. Lubricants were not only meant to be used to reduce friction but to protect the users from tearing the anal lining of the receptive anal sex partners or injuring insertive sex organs and hence subjecting the process to possible blood and body fluid contact.

No findings on incorrect use of condoms or condom breakages as (Caceres *et al.*, 2008) also alluded were established. Since attitudes determined practices these two were examined simultaneously. Planning of prevention strategies among this group require knowledge of sources of HIV/AIDS infections.

Despite almost 3 decades of heavy promotion of condoms to reduce the sexual transmission of HIV, consistent condom use remains an elusive goal in most populations. Reasons for the lack of condom use include physical discomfort, decreased sexual pleasure, and power imbalances that result in the inability of the receptive partner to negotiate condom use. Microbicides incorporated into gels, creams, foams, and suppositories that could be applied to the genital and rectal mucosa before intercourse have been proposed as an alternative and more acceptable prevention tool.

Some of the respondents identified use of lubricants as a form of reducing friction and not as a protective device while others used KY gel, and other products, some of whose chemical after effects on anal lining had not been established ranging from lotions to cooking oils, while some respondents reported having used avocados. The feeling that any substance that could reduce friction was usable did not have medical support and had to do with their availability rather than their health safety. This was despite the fact that these respondents had reported that proper lubricants were readily available.

The majority of respondents reported that they had had sex with at least one regular and one casual sexual partner throughout the year. There was serious effort to stick to one partner by the majority of respondents thus confirming the virtues of abstinence and faithfulness to sexual partners. Many MSM had multiple partners with a likelihood of engaging in concurrent sexual encounters and this poses HIV risk (Muraguri *et al.*, 2012). Some of the MSM also had female sex partners. It has been established that those who engage in long term relations with female partners did so to conceal their true sexual orientation as shown by (Beyrer *et al.*, 2012). Engaging in multiple partners increases the risk of acquiring HIV/AIDS. Though in our study, bisexuality was not a predictor of HIV incidence, the bridging effect to the female sex partners of MSM is a

serious concern as there is no good intervention methods made available to protect female sex partners of MSM from contracting HIV (Lau *et al.*, 2008). A sizeable proportion engaged in anal both insertive and receptive sex.

On issues of awareness and practice, it is important to consider that throughout the HIV epidemic, MSM have engaged in sophisticated decision-making about what they consider to be risky. Some men decide it is ok not to use a condom if they are the top (insertive partner), if they are having oral sex or if their or their partner's viral load is undetectable. MSM may make these decisions because the scientific evidence of HIV risk is cloudy, or simply because they are comfortable with some level of risk. HIV prevention programs should help MSM to make realistic and healthy choices based on factual information.

Additionally the AIDS prevention among MSM has overwhelmingly focused on sexual risk alone. Other health problems among MSM are not only important in their own right, but also may interact to increase HIV risk. HIV prevention could be more effective by addressing the broader health concerns of MSM while also focusing on sexual risks.

The level of knowledge of HIV/AIDS by MSM and their attitudes towards various aspects of HIV/AIDS could influence their health related practices that could either facilitate or hinder the uptake of HIV/AIDS prevention determined. Globally, most new HIV infections occur through sexual contact, and transmission occurs more commonly from persons unaware they have HIV, as PLWHA who are aware of their serostatus are more likely to increase their use of condoms during sexual intercourse and adopt behavioral changes to reduce the likelihood of HIV transmission (Rosenberg *et al*, 2013; Agha *et al*, 2012). Early initiation of ART reduces HIV transmission (Cohen et al 2011; Tanser *et al*, 2013) and is now an essential component of comprehensive prevention strategies. HIV testing is the entry point for individualized HIV care and treatment, and undiagnosed HIV infections undermine the effectiveness of HIV programs (Gardner *et al.*, 2011; Hull *et al.*, 2012; McNairy *et al.*, 2012; Micek *et a.l*, 2009).

Men who have sex with men and who are living with HIV/AIDS should be diagnosed as early as possible after acquiring HIV infection, so that they can be linked to prevention and treatment services, and initiated on ART. The test-and-treat strategy for HIV prevention suggests that expanded HIV testing and early initiation of treatment could significantly decrease HIV transmission, and there are indications that the HIV epidemic could be lessened substantially by increasing the number of HIV-positive persons who are aware of their status. In spite of the individual and public health benefits of HIV testing, a high proportion of PLHIV remain undiagnosed (Anand *et al.*, 2009; Cherutich *et al.*, 2012; Were *et al.*, 2006; Ferrand *et al.*, 2010). A comprehensive prevention strategy from HIV diagnosis to appropriate care and treatment for all PLWHA is needed, as well as a prioritization of services for PLHIV (UNICEF, 2011; Kidder *et al.*, 2013).

5.5 Barriers to HIV/AIDS prevention services among MSM in Nairobi County

In this study, barriers are both personal and structural mostly hinged on personal behaviours, stigma and discrimination. MSM expressed willingness to avail themselves for HIV/AIDS prevention services in health facilities in place and adopt specific health care practices. This was an expression of opportunity that needed to be exploited in prevention of HIV/AIDS by health service providers. But inherent in this willingness were barriers that could negate HIV/AIDS prevention efforts in Nairobi County. Culture was cited in this study as a barrier and this has also been cited in other literature (Morgan *et al.*, 2003). MSM who disclosed their orientation, through choice or necessity, reported family rejection, public humiliation, harassment by authorities, and ridicule by health-care workers. This concern has also been cited by (Geibel *et al.*, 2008; Niang *et al.*, 2003); elsewhere, low self-esteem, and loss of family and community cohesion are thought to mediate an association between social oppression and sexual risk-taking behaviour (Diaz *et al.*, 2004). The aforementioned perceptions can easily negate HIV/AIDS prevention efforts. There is need to prioritize the needs and rights of vulnerable populations, so that no one is left behind.

Antiretroviral therapy has made it possible to reduce viral loads to undetectable levels in some individuals, and there is evidence that people who have knowledge of their own undetectable viral load and/or do not perceive HIV as a threat due to an increase in the availability of effective therapies may not use condoms consistently (Halkitis *et al.*, 2004). Gagnon and Godin (2000) found that perceptions that HIV infection can be successfully treated lessened some men's concern over infection and their subsequent intentions to use condoms. A study conducted by Martin *et al.*, (2001) with HIV-positive gay men reported that those with undetectable viral loads reported more episodes of unprotected anal intercourse at follow-up than did those with detectable viral loads. In another study, reduced concern about HIV stemming from advances in HIV treatment was associated with increased sexual risk-taking (Crawford *et al.*, 2003). Other factors that have been identified as perceived barriers to condom use include drug and/or alcohol use before or during sexual activity (Peterson *et al.* 2003; Timpson *et al.* 2003; Halkitis *et al.*, 2004; Essien *et al.*, 2002). Additional factors include beliefs that unprotected intercourse is more sensually exciting and gratifying and that condoms disturb the love-making process and reduce sexual pleasure (Peterson *et al.*, 2003; Davidovich *et al.*, 2004); sex on the spur of the moment (Peterson *et al.*, 2003); lack of knowledge about effective use of condoms (Peterson *et al.* 2003); HIV conspiracy beliefs (Essien *et al.* 2002, Bogart & Thorburn, 2005); and that unprotected intercourse enhances trust and intimacy in relationships (Davidovich *et al.*, 2004).

These sentiments were also cited in the qualitative findings. Additional barriers to condom use and HIV prevention behaviours include the perceptions that known and/or trusted partners as well as monogamous relationships are 'safe', rendering condom use unnecessary, or that if a person has already had sex without a condom it is too late to protect against HIV, making future HIV prevention behaviours useless (Peterson *et al.*, 2003; Thorburn *et al.* 2005). There are also barriers to treatment and care services among HIV-positive MSM. While these are distinct from barriers to prevention services, they increase the virulence among sexual networks of MSM and consequently increase the likelihood of HIV transmission (Vernazza *et al.*, 1999) indirectly serving as a barrier

to HIV prevention among this population. Since MSM are more likely to have multiple sexual partners as found out in this study, more effective treatment and care services may help decrease HIV transmission among the sexual networks of this community (Bingham *et al*, 2003). Other barriers include medical miss-communication, low levels of healthcare provider cultural competency, mistrust, embarrassment, (Siegel *et al*, 1997) and sexual prejudice (Malebranche *et al*, 2004) which is also strengthened by qualitative findings in this study.

5.6 Study Limitation

The study focused on a special group of people classified as Most at Risk Persons in social study terms. Snowballing was used to recruit respondents for the quantitative data while purposive sampling was used to recruit participants for qualitative data and therefore results obtained from these sampling combinations may not be generalized. Besides, the study took place only in one out of forty seven counties in Kenya and resultant data cannot be regarded as representing national data. Self reported information about the sexual behavior and service uptake may lead to recall bias. Since this study was a sensitive one, some respondents may not have given accurate responses for fear of being stigmatized since MSM may seem to be an unacceptable social behaviour. Lastly, because this was self administered interviews, some behaviors might have been underreported or over reported. Despite these limitations, the present study generated valuable information to enhance the effectiveness of HIV prevention programs among the MSM community.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

1. Uptake of HIV/AIDS testing was low as predicted by those who undertook pre-test and post-test HIV/AIDS counseling. Additionally, uptake of STI testing and always use of condom during sexual contact was quite low. Factors significantly associated with uptake of HIV prevention services were age, level of education, occupation and marital/cohabitation status of the respondents.
2. Accessibility to, acceptability of and adherence to HIV/AIDS Prevention services were low. This results into MSM missing out on treatment opportunities.
3. Although awareness of HIV/AIDS risks scored high, negative attitudes by MSM undermined the efforts of prevention requirements. They used unconventional methods for lubrication purposes. They engaged in multiple sexual partners which is an HIV risk. As much as they are aware, they did not seem to understand the HIV/AIDS risks associated with their practice.
4. Barriers to HIV and AIDS prevention services among MSM included lack of economic empowerment, Attitude towards condom utilization as sexual pleasure was priority among MSM, alcohol and substance use, stigma and discrimination, over reliance on NGOs for provision of health support services to MSM and lack of prioritizing MSM targeted health needs.

6.2 Recommendations

1. To ensure high uptake of HIV/AIDS prevention services among MSM there is need for establishment of one stop shop to offer laboratory tests, supply medications, condoms, lubricants, offer of voluntary HIV counseling and testing, post-exposure prophylaxis, the management of STIs, provision of antiretroviral

drugs and link to care and support services in the public health facilities that are MSM friendly so that there is no over reliance on Non Governmental Organizations.

2. Increase in uptake of HIV/AIDS prevention services requires accessibility, acceptability and adherence of the HIV/AIDS prevention services by MSM. There is therefore a need for the County Government to develop a comprehensive healthcare package that is acceptable to MSM to cater for their health needs. Critical is the need to sensitize health professionals to provide health services equally and to prioritize the needs and rights of MSM health to reduce bridging of HIV/AIDS risks to the general public.

3. Scientific prove of HIV/AIDS and the risks associated is still clouded and therefore those who are in charge of prevention programs should assist Men who have sex with men to make realistic and healthy choices based on informational facts. Although awareness in this study was reported as high, there was no significance association with uptake of HIV/AIDS prevention services. There is therefore need for continuous sensitization programmes on the HIV/AIDS health risks that can translate awareness to safe sexual health practices among MSM.

4. In this study, barriers to health seeking and adherence was heightened by stigma, discrimination and lack of targeted HIV/AIDS prevention programmes. Specific education and training is needed for healthcare providers to build their awareness and effectiveness when dealing with the specific prevention and health needs of MSM. Some MSM have unique healthcare needs because of societal stigma related to homosexuality and gender non-conformity. There is therefore need to develop a policy to guide the treatment, care and support for MSM HIV/AIDS and other STI health needs and therefore invest in stigma and discrimination elimination.

6.3 Further Research

Distribution of Men who have sex with men is in all counties of Kenya. There is need to conduct research using a larger sample size in order to determine factors associated with accessibility to HIV/AIDS preventions services in other counties and how this opportunity can be utilized to scale up suitable intervention programmes specific to MSM health as a key concern for HIV/AIDS mitigation in the devolved Government.

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APPENDICES

Appendix 1: Informed Consent Form for Individual Interviewees

Introduction

KEMRI is a government institution that carries out medical study to find better ways of preventing and treating illness for everybody's benefit. Sometimes study involves asking questions to participants, about what they know, feel or do. All studies in KEMRI are authorized by the Institutional Review Committees to ensure participatory study is agreeable to all – (participants and interviewers to ensure that the participant's rights are respected).

What the study is all about

This study is about acceptance and accessibility of HIV/AIDS prevention programmes among Men who have Sex with Men. The major reason is to bring your ideas on board for policy guidelines. The Researchers are: Mrs. Prisca Otambo, Research Officer, KEMRI; Prof. Muhammed Karama, Principal Research Officer, KEMRI and Prof. Anselimo Makokha, Professor at JKUAT.

Why should I participate?

For policy to be meaningful the views of the necessary stakeholders are useful. You are one of the stake holder in this study.

How long will the interviews last?

The interviews will take about 45 minutes and will be facilitated by 2 Researchers

Risks and benefits of the study

The study has no risks to the participants. The study team will be collecting information and data on acceptability, accessibility and adherence of HIV programming among MSMs. The interviews will be carried out in safe places and all information will be kept confidential. Data will also be collected from HIV programming service providers. There are no direct benefits to the participants however, your participation will help the study team document challenges that face MSMs and HIV programming managers in providing comprehensive HIV programmes to MSMs which is critical in the mitigation of HIV/AIDS in this country. You will be reimbursed fare and provided with refreshments. Feel free, calm and sincere because this information will not be accessed by unauthorized persons.

Right to Participate

Participation is voluntary and you can choose not to participate, it is your right.

Study groups

The study groups will comprise of:

- Key informants in Non-Governmental Organizations (NGOs) involved in HIV programming.
- Key informants in charge of HIV Programming in Public and private health facilities
- Men who have sex with men

Data security and confidentiality

All the information gathered by the study team will be used in confidence for the sole purpose of this study only. No names of individuals will be written down at any time. Data will be kept in folders, which will be locked in cabinets for storage throughout the study period. Computer documents will have passwords only accessible to the study

team. The strict data management procedures are intended to ensure confidentiality of the study subjects.

The findings

Results will be disseminated in conferences and publications

Problems and questions:

If you ever have questions about this study, you should contact Mrs. Priscah Otambo, Principal Investigator, (Mobile 0727872403 or landline 020-2725016/7 ext. 246, Or the Secretary of the KEMRI Ethical Review Committee and a team of professionals who review the study to protect your rights at 020-2722541, 020-2726781, or 0733 400 003

Should you agree to participate in the study, please sign your name below, indicating that you have read and understood the nature of the study, your responsibilities as a study participant, the inconveniences associated with voluntary participation in the study and that all your questions and concerns concerning the study have been answered satisfactorily. You will receive a copy of this signed consent form to take away with you.

Your statement of consent and signature:

- I have been given the chance to ask any questions I may have and I am content with the answers to all of my questions.
- I know that my records will be kept confidential and that I may leave his study at any time.
- I have been told the name, phone number and address of the person to contact in case of a concern, and this information has also been given to me in writing.
- I agree to take part in this study as a volunteer, and will be given a copy of this informed consent form to keep.

Participant name (print) Optional Participant signature and date

Name of Research officer conducting consent signature and date

NOTE: You are not giving up any legal rights by signing this informed consent document.

“I certify that I have followed study specific procedures described in SOP for obtaining Informed Consent”

Appendix 2: Consent Form for Focus Group Discussions

Introduction

KEMRI is a government institution that carries out medical study to find better ways of preventing and treating illness for everybody's benefit. Sometimes study involves asking questions to participants, about what they know, feel or do. All studies in KEMRI are authorized by the Intuitional Review Committees to ensure participatory study is agreeable to all – participants and interviewers, to ensure that the participant rights are respected.

What the study is all about

This study is about acceptance of HIV/AIDS intervention programmes by homosexuals. The major reason is to bring your ideas on board for policy guidelines and the participants are: Mrs. Prisca Otambo, Research Officer, KEMRI; Prof. Muhammed Karama, Principal Research Officer, KEMRI and Prof. Anselimo Makokha, Professor at JKUAT.

Why should we participate?

For policy to be meaningful the views of the necessary stakeholders are useful. You are among the stakeholders in this study.

How long will the interviews last?

The interviews will take about 45 minutes and will be facilitated by 2 Assistant Researchers. We request to tape your voices that will help us during transcription but your identity will remain confidential.

Risks and benefits of the study

The study has no risks to the participants. The study team will be collecting information and data on acceptability, accessibility and adherence of HIV programming among MSMs. The interviews will be carried out in safe places and all information will be kept confidential. Data will also be collected from HIV programming service providers.

There are no direct benefits to the participants however; your participation will help the study team document challenges that face MSMs and HIV programming managers in providing comprehensive HIV programmes to MSMs which is critical in the mitigation of HIV/AIDS in this country. However, you will get refreshments and be reimbursed with fare. Feel free, calm and sincere because this information will not be accessed by unauthorized persons. Remember it is your right to be what you are. I also seek permission to tape your voices for transcription purposes. If you allow me I can take pictures of you but will conceal your faces.

Right to Participate

Participation is voluntary and you can choose not to participate, it is your right.

Study groups

The study groups will comprise of:

- Key informants in Non-Governmental Organizations (NGOs)
- Key informants in charge of HIV programming in public and private health facilities
- Men who have sex with men

Data security and confidentiality

All the information gathered by the study team will be used in confidence for the sole purpose of this study only. No names of individuals will be written down at any time. Data will be kept in folders, which will be locked in cabinets for storage throughout the

study period. Computer documents will have passwords only accessible to the study team. The strict data management procedures are intended to ensure confidentiality of the study subjects.

Findings

Findings will be disseminated in conferences and publications

Problems and questions

If you ever have questions about this study, you should contact Mrs. Priscah Otambo, Principal Investigator, (Mobile 0727872403 or landline 020-2725016/7 ext. 246, Or the secretary of the KEMRI Ethical Review Committee (a team of professionals who review the study to protect your rights) at 020-2722541, 020-2726781, or 0733 400 003.

Please you are free to ask any question before the interview starts.

Signed:.....

Date:

Appendix 3: Consent Form for Key Informant Interviews - (KII)

Introduction

KEMRI is a government institution that carries out medical study to find better ways of preventing and treating illness for everybody's benefit. Sometimes study involves asking questions to participants, about what they know, feel or do. All studies in KEMRI are authorized by the Intuitional Review Committees to ensure participatory study is agreeable to all – (participants and interviewers, to ensure that the participants' rights are respected).

What the study is all about

This study is about acceptance and accessibility of HIV/AIDS prevention programmes by men who have sex with men. The major reason is to bring your ideas on board for policy guidelines and the participants are: Mrs. Prisca Otambo, Research Officer, KEMRI; KEMRI, Prof. Muhammed Karama, Principal Research Officer, KEMRI and Prof. Anselimo Makokha, Professor at JKUAT.

Why should we participate?

For policy to be meaningful the views of the necessary stakeholders are useful. You are one of the stakeholders in this study.

How long will the interviews last?

The interviews will take about 45 minutes and will be facilitated by 2 Assistant Researchers. We request to tape your voices that will help us during transcription but your identity will remain confidential.

Risks and benefits of the study

The study has no risks to you as a participant. The study team will be collecting information and data on acceptability, accessibility and adherence of HIV programming among MSM.

There are no direct benefits to you however; your participation will help the study team document challenges that face MSM and HIV programming managers in providing comprehensive HIV programmes to MSM which is critical in the mitigation of HIV/AIDS in this country.

Right to Participate

Participation is voluntary and you can choose not to participate, it is your right.

Study groups

The study groups will comprise of

- Key informants in Non-Governmental Organizations (NGOs),
- Key informants Public and private Health facilities

Data security and confidentiality

All the information gathered by the study team will be used in confidence for the sole purpose of this study only. No names of individuals will be written down at any time. Data will be kept in folders, which will be locked in cabinets for storage throughout the study period. Computer documents will have passwords only accessible to the study team. The strict data management procedures are intended to ensure confidentiality of the study subjects.

The findings:

Results will be disseminated in conferences and through publications

Problems and questions

If you ever have questions about this study, you should contact Mrs. Priscah Otambo, Principal Investigator, (Mobile 0727872403 or landline 020-2725016/7 ext. 246, Or the secretary of the KEMRI Ethical Review Committee (a team of professionals who review the study to protect your rights) at 020-2722541, 020-2726781, or 0733 400 003.

Please you are free to ask any question before the interview starts.

Appendix 4: Questionnaire

Introduction

KEMRI is a government institution that carries out medical study to find better ways of preventing and treating illness for everybody's benefit. Sometimes study involves asking questions to participants, about what they know, feel or do. All studies in KEMRI are authorized by the Institutional Review Committees to ensure participatory study is agreeable to all – (participants and interviewers, to ensure that the participant's rights are respected).

What the study is all about

This study is about acceptance of HIV/AIDS intervention programmes by MSM. The major reason is to bring your ideas on board for policy guidelines that are friendly to your needs.

Social Demographic characteristics, Acceptability, Adherence, Knowledge, Attitude and

Practices

Please answer the following questions by putting a tick (✓) against your preferred answer or answers.

Q							
1	Where do you live? (write your area of residence e.g Kayole)						
2	How old are you?	18 years [1]	20-24 [2]	25-29 [3]	30-34 [4]	35-39 [5]	40+ [6]
3	What is your level of education	None [1]	Primary [2]	Secondary [3]	college [4]	University (5)	
4	What is your Religion	Protestant [1]	Catholic [2]	Muslim [3]	Traditionalist [4]	Other [5]	None [6]
5	What is your main source of income	Sex work [1]	Small business [2]	Salaried employee [3]	Student [4]	Casual laborer [5]	Any other [6]
6	Are you currently cohabiting with either male or female	Currently married, living with a female spouse [1]	Currently living with a male sexual	Currently married, living with no one	Not married, but living with a male sexual	Not married, not cohabiting [5]	

	partner?		partner [2]	(alone) [3]	partner [4]		
7	What is your Sexual orientation	Homosexual [1]	Bisexual [2]	Gay[3]	MSM[4]	Any Other(5)	
8	What influenced you into this practice	Through Peer influence [1]	Influence by older or superior person [2]	Parent or a relative [3]	Rape [4]	Born this way [5]	Influence by other students in secondary school
9	Have you been forced to engage in sex	Yes [1]	No [2]				
10	What Type of sex are you engaged in? Tick all that applies	Mutual masturbation [1]	Oral sex [2]	Anal sex [3]	Anal Receptive sex[4]	Anal Insertive sex (5)	Vaginal (6)
11	What Type of partners / clients do you engage with? Tick all that applies	Kenyan black men [1]	Kenyan white men [2]	Foreign men (whether black or	All [4]		

es				white) [3]			
12	What Social problems do you face in your daily interaction as an MSM?	Discrimination [1]	Stigmatization [2]	Rejection [3]	Denial [4]	violence [5]	All (6)
13	How long have you been engaged in sex with other men	Less than 2years [1]	More than 2years [2]	More than 3years [3]	More than 4years [4]	More than 5years [5]	
14	Are you registered with any MSM friendly organization ?	Yes [1]	No [2]				
15	Have you used Alcohol in the last 4 weeks?	Every day [1]	Once a week [2]	Less than once per week [3]	Never [4]		
16	Have you ever used the mentioned	Khat [1]	Bhang [2]	Glue, petrol [3]	Cocaine	Heroin [5]	[6] All

	drugs?				[4]		
17	Have you ever heard of HIV/AIDS?	Yes[1]	No[2]				
18	Do you know anyone who is infected with HIV or has died of AIDS?	Yes [1]	No [2]				
19	Which prevention methods do you know of in HIV/AIDS interventions?	Abstinence [1]	Being faithful to one uninfected partner [2]	Condom use [3]	Condom use with lubricant [4]	PrEP [5]	All (6)
20	Which of the mentioned statements do you agree with?	HIV/Aids can be transmitted by mosquito bites [1]	HIV/Aids can be transmitted by sharing a meal with an infected	A healthy-looking person can transmit HIV/Aids	All [4]	None [5]	

			person [2]	[3]			
21	Can an Injection with a used needle transmit HIV/AIDS ?	Yes [1]	No[2]	Do not know (3)			
22	Can a person get HIV through taboo, curse or witchcraft?	Yes[1]	No[2]	Do not know (3)			
23	Can having sex with a virgin cure HIV/AIDS?	Yes[1]	No[2]	Do not know (3)			
24	If one has HIV and spreads it around through unprotected sexual intercourse	True[1]	false[2]				

	with different people, the amount of virus will reduce and that person will live longer						
25	Should people infected with HIV/AIDS be isolated?	Yes[1]	No[2]				
26	Are you willing to use VCT services if available?	Yes[1]	No[2]				
27	Are you willing to share a meal with an HIV positive person?	Yes[1]	No[2]				

28	Are you willing to care for a male relative infected with HIV/AIDS?	Yes[1]	No[2]				
29	Have you voluntarily taken HIV/AIDS test?	Yes[1]	No[2]				
30	Have you been required to take HIV test?	Yes[1]	No[2] (if no go to Q33)				
31	Did you go for the results of the test?	Yes[1]	No[2]				
32	If you ever had HIV test, which of the mentioned statements apply?	Received pre-test and post-test counseling [1]	Received only pre-test counseling [2]	Received only post-test counseling [3]	Received no counseling [4]		
33	Have you	Yes [1]	No [2]				

	had virginal sex						
34	Ever had anal sex?	Yes[1]	No[2]				
35	Have you used a condom for virginal sex?	Never [1]	Sometimes [2]	Most of the time [3]	Always [4]		
36	Have you used a condom for anal sex?	Never [1]	Sometimes [2]	Most of the time [3]	Always [4]		
37	Have you used lubrication?	KY gel (1)	Cooking Fat (2)	Vaseline (3)	Lotion (4)	Saliva (5)	All (6)
38	Which of the mentioned are challenges/effects of anal sex?	Penile ulcers/soreness [1]	Urethral discharge [2]	Anal warts [3]	Anal discharge [4]	Anal bleeding [5]	All [6]
39	Have you had sex with regular	Yes[1]	No[2]				

	sexual partner in last 12 months						
40	Have you had a casual sexual partner in the last 12 months	Yes [1]	No [2]				
41	How many regular partners have you had in the last 12 months?	One [1]	More than one [2]	Less than 10 [3]	More than 10 [4]	None[5]	
42	How many Casual partners have you had in the last 12 months?	One [1]	More than One [2]	Less than 10 [3]	More than 10 [4]		
43	Did you use a Condom at last sex?	Yes[1]	No[2] – Go to Q 45				

44	If used condom Who suggested condom use that time?	Myself [1]	My partner [2]	Joint decision [3]			
45	Are you willing to go for treatment if diagnosed with HIV/AIDS?	Yes [1]	No [2]				
46	Are you willing to use preventive measures(condom, lubricants etc) during sexual intercourse?	Yes[1]	No[2]				
47	Are you willing to consistently take ARV's if diagnosed with HIV/AIDS?	Yes [1]	No [2]				
46	Are you willing to	Yes [1]	No [2]				

	adhere to TB medication if diagnosed?						
48	What type of Sex partner do you interact with?	Male [1]	Female[2]	Both[3]			
49	As far as HIV/AIDS is concerned, which in your opinion do you think is safe practice	Unprotected Anal sex [1]	Unprotected Vaginal sex [2]	Both are safe [3]	Consistent use of Condom[4]	None is safe [5]	I do not know (6)
50	What STI symptoms do you know of?	Genital discharge [1]	Burning pain on urination [2]	Genital ulcers or sores [3]	Swellings in groin area [4]	All [5]	Do not know of any[6]
51	Have you ever been tested for STI?	No [1]	Yes [2]				
52	Do you think you can get STIs from the following	Male partner(s)/customers	Female partner(s) [2]	Both partners	Do not know [4]		

	partner(s)?	[1]		[3]			
53	What do you prefer in seeking for treatment of any sort?	Self-management [1]	Private Hospital [2]	Herbalist [3]	Public Hospital [4]	Spiritualist [5]	All [6]
54	What are the challenges of engaging in sex with other men	Discrimination [1]	Social Stigma [2]	Violation of human rights [3]	Attitude from health workers [4]	Unable to access healthcare [5]	All [6]
55	What barriers have you encountered when seeking treatment in our health facilities	Discrimination and stigma from Health workers. [1]	Unfriendly clinics [2]	Social barriers [3]	Unavailability of commodities eg lubricants, condoms (specify) [4]		
56	Would you welcome introduction of HIV/AIDS programmes at national level specific to MSM?	Yes [1]	No [2]				

Please allow me to ask you a few more questions on accessibility to treatment and care.
Thank you for your patience.

(B) Questions on accessibility

1. Do you know your HIV status 1.[Yes] 2.[No]
2. Do you access Condoms when you need them 1.[Yes] 2.[No] 3.[I do not use condoms]
3. Are Circumcision services available in your area of operation or residence? 1.[Yes] 2. [No] 3.[I don't know]
4. Are TB drugs easily accessible 1.[Yes] 2.[No] 3.[I do not know]
5. Are anti-retroviral drugs easily accessible? 1.[Yes] 2.[No] 3.[I do not know]
6. Do you access lubricants when you need them? 1.[Yes] 2.[No] 3.[I do not use them]
7. Do you access IEC materials on HIV/AIDS 1.[Yes] 2.[No]
8. Do you access trainings in HIV/AIDS prevention? 1.[Yes] 2.[No]
9. Do you easily access health facilities when you require to see a doctor? 1.[Yes] 2.[No]
10. Do you access treatment for STIs 1.[Yes] 2.[No] 3.[Not applicable]

That is all. Thank you very much for your valuable time.

Appendix 5: Focus Group Discussion guide

This study is about acceptance of HIV/AIDS intervention programmes by MSMs. The major reason is to bring your ideas on board for policy guidelines that are friendly to your needs.

We want to thank you mostly sincerely for availing yourself for this interview. This discussion will take approximately one hour. We will sit in a circle and we have one participant contributing per time. One of the researchers will take notes to ensure accuracy and your voices will also be tape recorded so that important information is not missed out during transcription. Your voices will only be used for the purpose of this study and your identity will be concealed. We will address each question per time. Do you have any concerns? We can start now. *(This will be administered after the consent form has been read to them and they have consented to participate)*

- 1 What are the HIV/AIDS prevention services that you know of? (7 min)
2. What experiences have you faced when accessing HIV/AIDS care and treatment services ? (10 min)
- 3 Are the HIV/AIDS treatment and care services user friendly? (7 min)
- 5 How can the government assist to ensure that you enjoy health intervention programmes that affect your community? (10 min)
- 6 What do you think needs to be done in order for your own needs to be met within the health care system? (10 min)
7. How can the community be engaged in order to improve men's uptake of HIV/Aids care and treatment services. (10 min)
8. What works for you in terms of accessibility in HIV/Aids intervention programmes?

9. What barriers have you encountered in seeking healthcare from Kenya public healthcare facilities?

(All these questions were probed)

Appendix 6: Key Informant Interview guide

Target group: Organizations (Ministry of Health, NGO's, and CBO's,) that offer prevention, treatment and care services to MSMs.

This study is about acceptance of HIV/AIDS intervention programmes by MSMs. The major reason is to bring your ideas on board for policy guidelines that are friendly to their needs.

Name of Organization /department-----

(Answers to these questions were probed)

1. Do you offer HIV/AIDS prevention services to MSMs and if so for how long have you been offering such services to MSMs
2. What kind of HIV/AIDS prevention, treatment and care services do you offer to MSMs
3. What are the challenges you encounter when offering these services
4. How many MSMs do you serve
5. How do you evaluate the impact of uptake of these services
6. In your opinion what is the attitude of MSMs towards HIV/AIDS prevention services, treatment and care you offer
7. In your opinion how can these services be improved and do the MSMs adhere to these services
8. What are the challenges involved in offering these services to MSMs
9. AS far as HIV/Aids interventions are concerned, is there any progress for specific groups like MSMs in this country.
10. How prepared is the Kenya Health System to handle health requirements of MSMs?

Appendix 7: Ethical approval



KENYA MEDICAL RESEARCH INSTITUTE

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KEMRI/RES/7/3/1

March 31, 2014

**TO: PRISCAH C. N OTAMBO,
PRINCIPAL INVESTIGATOR**

**THROUGH: DR. CHARLES MBAKAYA,
ACTING DIRECTOR, CPHR,
NAIROBI**

*Forwarded with
compliments to
[Signature] 08/04/2014*

Dear Madam,

**RE: SSC PROTOCOL NO. 2612 (RESUBMISSION3): FACTORS AFFECTING ADOPTION
OF HIV PREVENTION STRATEGIES AMONG MEN WHO HAVE SEX WITH MEN IN
NAIROBI COUNTY-KENYA. (VERSION 3.0)**

Reference is made to your letter dated March 14, 2014. The ERC Secretariat acknowledges receipt of the revised proposal on 21st March 2014.

This is to inform you that at the Committee determines that the issues raised at the during the 220th B meeting of the KEMRI Ethics Review Committee held on 29th October 2013 are adequately addressed and the **subsequent ERC meeting of 18th February 2014** are adequately addressed.

Consequently, the study is granted approval for implementation effective this **31st March 2014** for a period of one year. Please note that authorization to conduct this study will automatically expire on **March 30, 2015**.

If you plan to continue data collection or analysis beyond this date, please submit an application for continuation approval to the ERC Secretariat by **February 16, 2015**. The regulations require continuing review even though the research activity may not have begun until sometime after the ERC approval.

You are required to submit any proposed changes to this study to the SSC and ERC for review and the changes should not be initiated until written approval from the ERC is received.

In Search of Better Health

Please note that any unanticipated problems resulting from the implementation of this study should be brought to the attention of the ERC and you should advise the ERC when the study is completed or discontinued.

Work on this project may begin.

Yours faithfully,



**DR. ELIZABETH BUKUSI,
ACTING SECRETARY,
KEMRI/ETHICS REVIEW COMMITTEE**