UTILIZATION OF CONDOMS AMONG HIV POSITIVE WOMEN ATTENDING THE COMPREHENSIVE CARE CENTRE OF THIKA LEVEL 5 HOSPITAL

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Utilization of condoms among HIV positive women attending the comprehensive care centre of Thika level 5 hospital

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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 dedicate this thesis to my family. My dear parents, the Late Gerald King'ori and Mrs. Irene King'ori who made me what I am today; my brothers and sisters for their support, daily inspiration and hope during the course of this study.

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May the almighty God bless you all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABBREVIATIONS/ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
AOR	Adjusted Odds Ratio
ART	Anti-Retroviral Treatment
CCC	Comprehensive Care Center
CCU	Consistent Condom Use
CDC	Center for Disease Control
CI	Confidence Interval
FGDS	Focus Group Discussions
FP	Family Planning
HAART	Highly Active Anti-retroviral Therapy
HIV	Human Immunodeficiency Virus
IDI	In- depth Interview
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KAIS	Kenya AIDS Indicator Survey
KDHS	Kenya Demographic and Health Survey
KEMRI	Kenya Medical Research Institute
MOH	Ministry of Health

NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Programme
NCAPD	National Coordination Agency for Population and Development
OR	Odds Ratio
PID	Pelvic Inflammatory Disease
PLWHA	People living with HIV/AIDS
PT	Preventive Therapy
SPSS	Statistical Package for Social Sciences
SSA	Sub Saharan Africa
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infection
TL5H	Thika Level 5 Hospital
UNAIDS	United Nations Program on HIV/AIDS
UNFPA	United Nations Population Fund
UNIFEM	United Nations Development Fund for women
USA	United States of America
VCT	Voluntary Counselling and Testing
WHO	World Health Organization

DEFINITION OF TERMS

Assess	Organized, systematic and continuous process of collecting data from HIV positive women.
Condom	Latex or rubber tubular sheath used during sexual intercourse to form a two way barrier that prevents the passage of genital fluids and their contents, including organisms, between sex partners.
Condom use	Refers to the correct enclosure of the penis and vagina in a male/ female condom respectively before and during sexual intercourse.
Consistent condom use	Regular use of condoms by HIV positive women without failure in every coitus throughout sexual acts after confirming positive HIV status.
Knowledge	Individuals level of awareness as represented by their answers to administered simple questions
Sero-discordant couples	One partner is HIV infected while the other partner is uninfected. These couples are a high risk population for HIV transmission.

ABSTRACT

Condoms offer protection against HIV transmission when used correctly and consistently. Many HIV infected people do not use condoms regularly, thus leading to new HIV infections. Condom use is considered to be low in Kenya and HIV prevalence is higher among women than men. Utilization of condoms among HIV positive women has not been studied. This study was aimed at investigating the extent to which HIV positive women presenting at the Comprehensive Care Centre (CCC) of Thika Level 5 Hospital, utilize condoms during sexual engagement. A descriptive cross-sectional study design that utilized a combination of Qualitative & Quantitative approaches was employed. A pre-tested structured questionnaire, Focus Group Discussion (FGDs) and In-depth Interviews (IDIs) were used to collect data which was entered in MS- Excel database. Data cleaning was done manually before descriptive analysis to ensure completeness and quality. Statistical Package for Social Sciences (SPSS v.21) was used for analyses. Pearson's Chi-square test and odds ratio with corresponding 95% confidence interval were computed to assess the association between condom use and independent variables (p-value < 0.05). These include: type and number of partners, sexual partner's HIV status, disclosure of HIV status to partner, knowledge and perceptions on condom use. Further, binary logistic regression analysis was performed to identify variables independently associated with condom use. Consistent condom use among sexually active HIV positive women was found to be 57.4% (95%CI: 52.7% - 62.1%). The stepwise logistic regression revealed that attending tertiary education [AOR=2.54; 95%CI=1.30-4.95; P=0.006], disclosing HIV status [AOR=2.27; 95%CI=1.27-4.06; P=0.005], having a HIV negative partner [AOR=4.23; 95%CI=1.99-8.98; P<0.001], not taking alcohol [AOR=1.72; 95%CI=1.10-2.69; P=0.017], never encountered resistance to use condom by partners [AOR=1.87; 95%CI=1.15-3.03; P=0.011] and perceived risk of contracting STIs [AOR=2.11; 95%CI=1.12-3.97; P=0.021] as factors independently associated with consistent condom use. This study shows that there is still low prevalence of consistent condom use among HIV positive women. The factors identified to influence condom use were; advanced level of

education, disclosure of sero positive status to partner, sero discordant partnership and perceived risk of contracting STIs. The main barriers to condom use identified were; alcohol use, resistance of condom by partner, lack of negotiation skills, fear of mistrust by partner, non- disclosure of sero positive status to partner, condom spoils pleasure and religion. Programs should focus on interventions to increase condom use among HIV positive women with emphasis on need for disclosure. In addition, more education and sensitization of HIV positive women would reduce barriers associated with alcohol use; misconceptions associated condom use and impart skill for women to negotiate condom use with their male partners.

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Human-immuno deficiency virus (HIV) is one of the world's leading pandemics worldwide (WHO, 2010). An estimated 35.3 million people are living with (KAIS, 2012). Sub Saharan Africa (SSA) remains the most affected region with an estimate of 25 million people living with HIV by the year 2012 (KAIS, 2012). Moreover, there are 1.6 million new infections of the virus and 72% of world AIDS related deaths are from SSA (UNAIDS, 2008).

In Kenya, more than 1.4 (5.6%) million people are living with HIV and 60% of the infected are women (KAIS, 2012). In addition, 5.5% of HIV positive women aged between 15-49years were pregnant at the time of the survey. The high burden of the epidemic in Kenya accounts for an estimated 29% of annual adult deaths, 20% of maternal mortality and 15% of deaths of children under five years (UNAIDS, 2013). Even though there has been a decline in HIV prevalence in the country, the disease still poses a significant challenge to this low income country HIV (NACC, 2014). Various strategies such as media campaigns and condom distribution have been put in place to reduce HIV incidence. The success of highly active antiretroviral therapy (HAART) in reducing morbidity and mortality from HIV/AIDS has been widely documented (Dore, 2006; NASCOP, 2009). Consequently, many HIV-infected persons are now living longer, healthier, and more productive lives. Apart from the beneficial clinical effects, treatment may have unintended effects on sexual behaviour. Some evidence suggests that since HAART became available, the prevalence of unprotected sex (Chen, 2002) and the incidence of sexually transmitted infections (STIs) (Stolte**,** Dukers, de Wit, Fennema & Coutinho, 2002) including HIV has increased. Moreover, when engaging in sex without condom, those with high viral load or low CD4 count before or at the

initiation of ART have the potential to infect their sero-negative sexual partner or at risk of acquiring drug resistant viral strains from their sexual partner who are already infected (Donnell *et al.*, 2010). In addition, women of reproductive age not on family planning may conceive and risk transmitting HIV infections to their child (O' Reilly, 2003). Avoiding unwanted pregnancies among HIV- infected women would reduce the number of HIV positive births (Sweat, Schmid & Denison, 2004).

The Kenya AIDS Response Progress Report 2014 report on the status of the global AIDS epidemic indicates that adolescents, and increasingly women, still account for most cases of new HIV/AIDS infections in sub-Saharan Africa (NACC, 2014). This is despite huge investments to address their sexual and reproductive health needs. Kenya has an established generalized HIV epidemic with infection occurring predominantly through sexual transmission (UNAIDS, 2008).

In spite of the recognition given to condoms as a major mode of prevention for diseases that are transmitted through sexual intercourse, little is known about the practice of condom use among HIV infected people in developing countries like Kenya. The focus of HIV prevention efforts in most countries, including Kenya is largely on people uninfected with HIV and the sexual risky practice by HIV infected persons has not received due attention (UNAIDS 2013).

1.2 Statement of the Problem

Condoms are among the most important weapons in the battle against HIV/AIDS, STIs and unwanted pregnancies (UNFPA, 2014). They are also useful as a mode of family planning (Hatcher, 2004). However, data from the literature shows that awareness of being HIV positive does not necessarily imply using condoms in all sexual relations (CDC, 2008). High rates of HIV infection among women of reproductive age have dramatic consequences for personal and public health. SSA constitutes the world's highest rates of HIV and other STIs burden, yet condom use is generally poor (Maticka-

Tyndale, 2012). In Kenya, the overall consistency in condom use has been reported to be lower among women at 27% compared to 42.8%, among men (NASCOP, 2009). Among factors contributing to low condom use include; difficulties in negotiating condom use, domestic violence, alcohol abuse, low educational level, and reproductive intentions (Finocchario, 2010). High levels of unprotected sex have been reported among women on HAART who are now living longer, healthier, and more sexually active lives (Wilson, 2004).

Unprotected sex by people living with HIV/ AIDS (PLWHA) is an area of concern because they risk transmitting HIV to sero-negative sexual partners, re-infecting themselves with new, drug-resistant strains of the virus and superinfection with different viral microorganisms (Kalichman, 2008). In addition, pregnancy among HIV positive women of reproductive age presents a risk of mother to child transmission (MTCT) (O' Reilly, 2003). Available epidemiological literature indicates that despite the health benefits associated with effective use of condoms among the PLWHA, the prevalence of condom use is still wanting (Anyangu, 2010) (NACC, 2014). This study, therefore, sought to investigate the level and factors that affect condom use among women with HIV presenting at the CCC clinic of Thika Level 5 Hospital.

1.3 Justification

A lot of recognition is given to condoms as a major mode of prevention for STIs. In spite of this, much is not known about the factors that contribute to low condom use. Condom use is the most effective method, other than abstinence, for preventing the spread of HIV-infection and other STIs, especially among the highest risk Populations (Kajubi, 2005). Prevention measures using condoms are thus becoming increasingly important among identified HIV infected persons (Holmes, Levine & Weaver, 2004).

In spite of various strategies such as media campaigns and condom distribution that have been put in place, HIV incidence is still high (NACC, 2014). HIV prevalence among

women in Kenya is at 6.9% in the age group compared to 4.2% in men (KAIS, 2012). There is, however, limited information on the associated challenges of condom use as a contraceptive method and preventive measure against HIV/AIDS and STIs, among HIV positive Kenyan women. Therefore, this study was aimed at establishing the level and factors that affect condom use among women living with HIV/AIDS presenting at the CCC clinic of Thika Level 5 Hospital.

1.4 Research questions

This study sought to answer the following questions:

1. What is the prevalence of consistent condom use among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital?
2. What are the factors that influence the utilization of condoms among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital?
3. What are the factors that hinder the utilization of condoms among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital?

1.5 Objectives

1.5.1 General objective

To determine level of utilization of condoms among HIV infected women presenting at the Comprehensive Care Centre, Thika Level 5 Hospital.

1.5.2 Specific objectives

1. To determine prevalence of consistent condom use among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital.
2. To determine factors that influence utilization of condoms among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital.
3. To determine factors that hinder utilization of condoms among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital.

CHAPTER TWO

LITERATURE REVIEW

2.1 HIV and condom utilisation

Condoms, both male and female, have been and are an integral part of HIV preventive measures worldwide and many countries have designed programs that encourage people to use them (Versteeg & Murray, 2008). It has also been recently demonstrated that the risk of HIV acquisition rises during pregnancy (Mugo, 2010).

When used correctly and consistently, male condoms can provide as much as a 94% reduction in risk of HIV transmission (Holmes *et al.*, 2004). Condoms have therefore been promoted as a major public health strategy to combat the rising rates of STIs, including HIV/AIDS. Despite this concerted effort, many people don't use condoms consistently (UNAIDS, 2008). In a study of risky sexual behaviour among PLWHA, 83% of non-condom use in marriage and cohabiting relationships with high levels in rural areas compared to urban areas (Bunnell *et al.*, 2005).

Model-based estimates suggest that even occasional condom use with high-risk partners may reduce HIV transmission (Weller, 2002). The 100% condom use program reduced HIV infection in Asia, (Rojanapithayakorn, 2006). A recent study of HIV sero-discordant couples suggested that consistent condom use may greatly reduce the risk of transmission (Liu, Su, Zhu, Xing, Wu & Wang, 2014). In a two-year study in Atalanta, only two percent of uninfected partners who used condoms consistently became HIV-infected compared to twelve percent among those who used condoms inconsistently or failed to use at all (CDC, 2000). Similarly, the HIV seroconversion rate was lower among consistent condom users, compared to irregular users in Zambia and Rwanda (Grabbe *et al.*, 2009). On average, these studies show that the HIV infection rate in HIV discordant partners is less with consistent condom use, compared to inconsistent and non-users. However, above studies were based on small sample sizes and restricted to

HIV-discordant couples who knew their HIV status. In a survey conducted in Kenya, consistent condom use was reported highest among concordant HIV-positive couples (47.8%). This could be due to couples correct knowledge on importance of condom use. Among discordant couples, consistent condom use was higher where the female was positive at 28.8 compared to male positive- 21.3% (KAIS, 2012).

2.2 Condom use by clients on antiretroviral therapy.

HIV infected individuals on therapy and who have undetectable viral loads, may feel confident that they are not infectious. This reduces their likelihood of practising safe sex (Crepaz, Hart & Marks, 2004). There is significant association between optimistic beliefs about ART and decreases in condom use over time (Huebner, Rebchook & Kegeles, 2004). The availability of ART is considered as a rationale for unsafe sex (Kerrigan, Bastos & Malta, 2006). A study conducted in Thailand, to investigate sexual risky behaviour among patients on antiretroviral therapy, reported that a substantial number of HIV-infected patients engaged in casual sex with commercial or non-regular partners. Condoms were not always used with partners, including their regular partners (Lertpiriyasuwat, 2007). A previous study in Thailand showed that consistent condom use rates in partners of HIV-infected people receiving ART were lower than 65% (Jitsabury, 2003).

In SSA, the proportion of persons who report using condoms among HIV infected during their last sexual encounter is higher in men at around 6% to 28% than among women at 1% to 9% (Agbessi, 2003). This could be due to belief that men wield more power than women and tend to make decision regarding condom use. Furthermore, women tend to be uncomfortable or afraid to ask their sexual partners to use condoms.

Condom use remains alarmingly low at 25% and 11% for sexually active HIV positive males and females respectively In Nigeria (Akinyemi, Awolude, Adewole & Kanki, 2010). In another study conducted in South Africa, a 54.4% rate of non-use of condom

during the most recent intercourse was reported among People living with HIV/AIDS (PLWHA) who had been diagnosed 6 months preceding the study. (Olley, Zeier, Seedat & Stein, 2005).

In a comparative study of people living with HIV or AIDS on HAART and those receiving preventative therapy (PT) in Kenya, it was found that participants receiving HAART were more likely to report condom use at last sex and consistent condom use with regular partners than those receiving preventive therapy (PT) (NACC,2014).

2.3 Prevalence of HIV infection among women

Women account for 59.1 per cent of adults living with HIV among those aged 15-49 years. HIV prevalence among women is at 6.9 per cent which is nearly twice that of men at 4.2 per cent (KAIS, 2012). This high prevalence among women has led to a high number of children born with HIV infection. Women constitute more than half of all people living with HIV/AIDS, globally. In sub-Sahara Africa, women constitute 60% of all people living with HIV/AIDS (WHO, UNAIDS, 2008). In Kenya, 3 out of 5 of all the over 1.4 million adults living with HIV/AIDS are females (WHO, 2012, KAIS, 2012). Women are twice likely to acquire HIV during sexual intercourse than men due to their biological nature of their genitals that make them more vulnerable (Ramjee & Daniels, 2013; UNAIDS, 2014). The feminization of the HIV/AIDs pandemic is probably as a result of having sex with infected men who, in turn, have had extramarital sexual relations with HIV-positive people. Among married monogamous and polygamous men, 10.4% and 11.4% respectively reported extramarital relationship (KAIS, 2012). A higher percentage of men (15.5%) than women (1.5%) have concurrent sexual partnerships (KAIS, 2012).The risk of infection in exposed young women is four to seven folds higher than in young men (NASCOP, 2010).

2.4 Factors associated with Condom use among women

Religion is a factor influencing condom use among women. This is majorly due to concerns surrounding condom use, where they are unacceptable especially among catholics (Woods, 2015). In Kenya, some religious leaders have expressed opposition to condom use (Mandera, 2007; Moszynki, 2008). This in turn influences transmission of HIV/ AIDS. A study conducted in Kenya indicated high HIV prevalence among women who were christians (Catholic-8%, protestants- 8.4%) compared to Muslims at a rate of 2.8 per cent (NACC, 2011).

Condom use may be difficult in contexts of gender- based violence. This is also highly linked to high HIV prevalence among women. Women who have experienced violence are up to three times more likely to be infected than those who have not to (UNAIDS, 2010). This violence begins as early as 14 years and this increases chances of HIV infection (UNAIDS, 2011). Research findings from a study conducted in a few developing countries indicated that younger women in Africa are more likely to experience physical or sexual violence than older women, generally from an intimate partner (UNAIDS, 2010). Violence increases the risk of HIV infection in women due to physiological and psychological reasons (UNAIDS, 2004). Forced sexual encounter results to tears and lacerations which act as port of entry of HIV virus. Furthermore, women fearing violence are less likely to use condom as they do not have power to negotiate for safe sex or refuse unwanted sex (UNIFEM, 2011).

Money, power and lifestyle are among factors correlating positively to low condom use and high HIV prevalence rate. Several studies have showed that in many African countries, the prevalence of HIV infection correlates directly with wealth. For example, in a study conducted in Tanzania, the results indicated a strong positive relationship between wealth and HIV infection prevalence (Shelton, Cassell & Adetunji, 2005). Another study in Kenya showed that national HIV prevalence rates correlates directly with national income across sub-Saharan Africa (Chin, 2007; KAIS,2012). A more

recent national survey from data for eight African countries (Kenya, Uganda, Tanzania, Malawi, Ghana, Cameroon, Burkina Faso, and Lesotho) indicated a positive association between household economic status and HIV infection prevalence (Mishra *et al.*, 2007). Educated people have a lifestyle that leaves them vulnerable to the transmission of HIV, unlike a poor, conservative, rural woman. In Kenya, HIV prevalence is higher among women in urban areas at 8.2% than those in rural areas at 6.2% (KAIS, 2012). HIV prevalence in Kenya has been reported to be highest among women with secondary or higher education (KAIS, 2012). Educated women are more exposed because they travel a lot more leaving them more exposed than the poor reserved woman (Ramja *et al*., 2013). Findings from a survey in Kenya indicated a higher HIV prevalence among women who travelled away from home at 8.1% compared to 5.1% among those who did not (KAIS, 2012). However, some studies have argued that poverty fuels the spread of HIV infection. For example, a study found that poverty was a key factor associated with HIV infection (CDC, 2013). There is significant association between optimistic beliefs about ART and decreases in condom use over time (Huebner, Rebchook & Kegeles, 2004).

2.5 Prevalence of condom use

A study conducted In Guatemala to assess knowledge of condom use among HIV heterosexual persons showed that there is a group of HIV-positive persons who continue to have sexual relations without using a condom (Delgado, 2011). In another study in Nigeria, the level of condom use was observed to be alarmingly low among the sero-positive women (Federal Ministry of Health, 2010). In Kenya, the overall consistency in condom use has been reported to be high among men at 42.8%, compared to 27% among women (NASCOP, 2009)

In majority of the developing countries, female condoms are likely to be used in casual and commercial sex situations and least when women have the power of decision over what kind of protection to use (UNAIDS, 2010). The male condoms are used in primary

relationships. In a study conducted in Tanzanian, about actual or intended use of the female condom after a mass-marketing campaign, a quarter of all women interviewed said they would use the female condom in a casual-sex situation, an eighth with regular partners, but only one in 14 with husbands (Agha, Kusanthan, Longfield, Klein & Berman, 2002). The female condom is reported to enhance women's ability to negotiate and ensure safer sex besides being increased spontaneity (Hoffman, 2005). For men, it is less restrictive and dulled sensitivity less than male condoms. In addition, it conducts heat better so that sex feels more 'natural' (Hoffman, 2005).

2.6 Factors associated with non-utilization of condoms by HIV infected people

A study aimed at establishing factors associated with non-utilisation of condoms among black and minority groups of ART patients in North West London, identified different perceptions and expectations of sexual relationships between male and females as the leading barriers to condom use (Owuor, 2009). A different study conducted in Kent by the same researcher, it was found out that emotional vulnerability among women on ART as the main barrier to condom use. Women in mutually monogamous relationships are reported not willing to use condoms (Bolton, McKay & Schneider, 2010). In addition, a common behavioural pattern is for couples to use condoms at the beginning of a relationship and later stop as a strategy to find and maintain a primary relationship, establish trust and increase intimacy (Corbett, Dickson-Gómez, Hilario & Weeks, 2009). Women have reported to be unaware of their partners' other relationships or have mistakenly hoped their relationships are permanent rather than casual (NASCOP, 2009).

Other factors that are associated with the non-use of condoms include; the type of relationship, perceptions around reduced pleasure, interrupted sex, lack of trust, and limited knowledge about condoms and the prevention of STIs ((Corbett et al.,2009). Condoms are thought to be necessary for sex with non-regular partners, but not within the context of trusted relationships or after sexual health check-ups (Owour, 2009).

There are potentially many reasons HIV-infected women do not use condoms, some similar to reasons found among women in the general population and some particular to HIV-positive women. These include a lack of self-efficacy, negotiation problems, lack of empowerment, and economic dependence (Bolton *et al.*, 2010). Among them also are a desire to have children and a feeling of less risk due to their partner's sero-positive status (Crepaz, *et al.*, 2004). A combination of these factors may result in difficulties in consistency in use of condoms, even when accurate knowledge of the benefits of condom use is present (Bedimo *et al.*, 2000)

Many reasons may account for unprotected sexual practices among HIV-positive women, including difficulties in negotiating condom use, domestic violence, alcohol abuse, and reproductive intentions (Finocchario & Kessler, 2010). Studies have reported higher levels of unprotected sex among women after antiretroviral treatment initiation, which may not vary with the therapeutic response (Wilson, 2004). Moreover, social determinants (e.g., precarious socioeconomic conditions, low educational level, and gendered power imbalances) are associated with lower likelihood of women using condoms (Ghosh, 2009). Research reports have found that unprotected sex has led to an increase in HIV-infected persons who believe that receiving HAART or having an undetectable viral load protect them against transmitting HIV (Tun *et al.*, 2003).

2.7 Risks associated with non- utilisation of condoms among HIV positive women

Sexually Transmitted Infections e.g. syphilis, Gonorrhea, Chlamydia, occur among the sexually active persons who have multiple sexual partners and don’t use condoms correctly and consistently (CDC, 2002). They are reported to occur more commonly among the HIV positive persons. Persons with both HIV infection and STDs transmit HIV more easily (WHO, 2010). This could be due to Inflammation which increases the concentration of “activated” CD4 cells in the area infected with the STI. This facilitates HIV infection, replication and spread throughout the body. STIs present significant difficulties in diagnosis when they occur among HIV positive persons (Cohen, 2011;

Quinn, 2000). Untreated STIs cause serious complications. Gonorrhea and Chlamydia cause pelvic inflammatory Disease (PID) in women which can consequently lead to infertility. Syphilis leads to organ damage, for example, heart and brain damage. STIs also enhance the transmission of HIV (Ward, 2010).

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study area

The study was conducted at the Comprehensive Care Center (CCC) of Thika Level 5 Hospital (TL5H). Thika is an industrial District in Kiambu County. It is located 40 kilometers North East of Nairobi city. Its population was 295,617 as per 2009 census (KNBS, 2009). This ranks highest in Kiambu county. Women of reproductive age comprise approximately 118,761 of this population. HIV Prevalence has been significantly high among women (5.6%) compared to men (2%) in the county (NASCOP, 2014). The age group 20-49 years is the most affected, majority of whom are females (NCAPD, 2005).

TL5H is a county referral hospital which serves the wider Kiambu county and neighboring Murang'a county. Moreover, it has a comprehensive care center that handles HIV/AIDS patients, dispensing medicine and counseling.

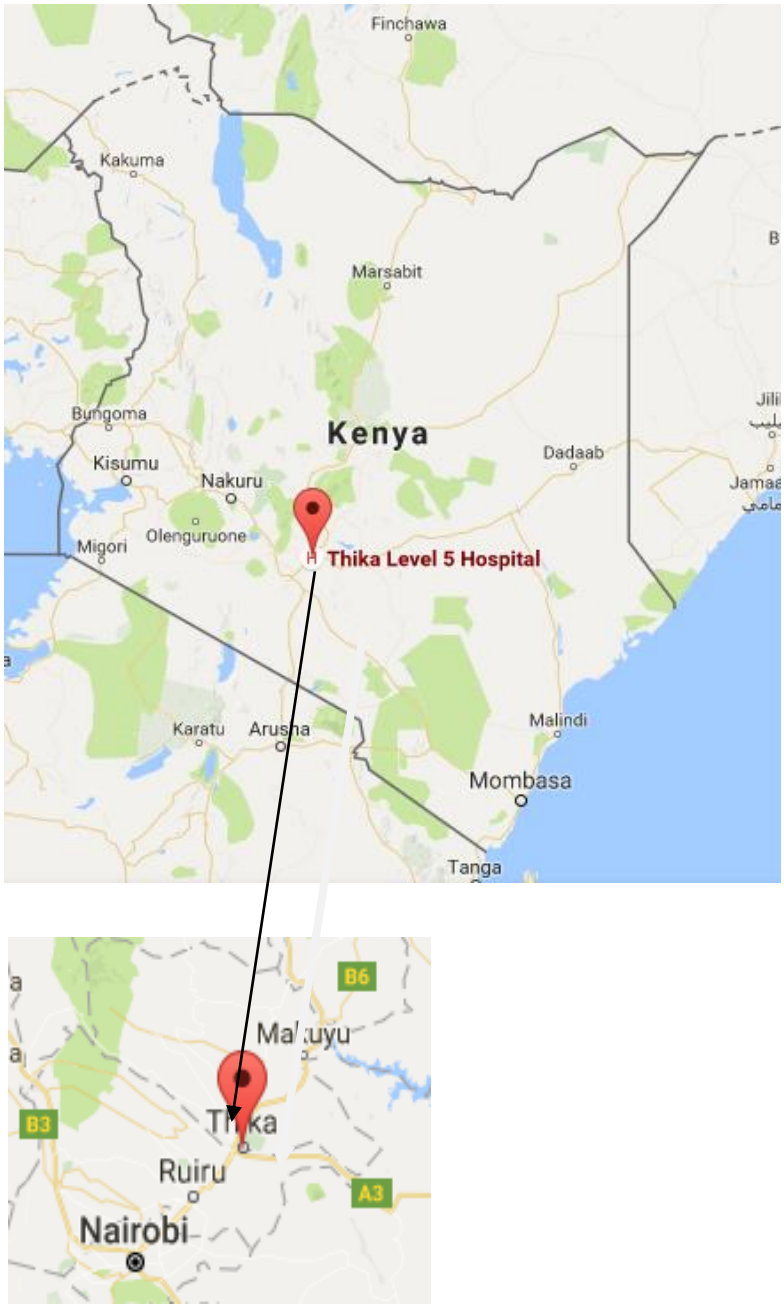

Figure 3.1 Map of kenya showing the study area

source : Google maps, (2013)

3.2 Study design

The study employed a descriptive cross- sectional design, where both quantitative and qualitative methods were applied.

3.3 Variables

Data on the following variables was collected.

3.3.1 Dependent variable

Consistent condom use

3.3.2 Independent variables

Socio demographic characteristics (age, level of education, marital status, occupation, religion, duration since tested positive), number and type of partners, disclosure of HIV status to partner, alcohol use, knowledge, attitude, and practices towards condom use.

3.4 Study population

The study population was HIV positive women attending the comprehensive care centre of Thika Level 5 Hospital.

3.4.1 Inclusion criteria

- HIV positive women above 18 years attending the CCC, Thika Level 5 Hospital and consented to take part in the study.

3.4.2 Exclusion criteria

- To ensure that the eligible respondents consented personally and responded on all questions freely including the sensitive issues related to sexual behaviors, HIV positive women aged below 18 years were excluded.
- HIV positive women unable to communicate, mentally handicapped or very sick during the study period.

- HIV positive women who refused to consent.

3.5 Sample size determination

The sample size was calculated using Cochran (1977) formula and the following points were considered:

- Since the proportion (p) of condom use among HIV positive women is not known for the study, p is taken to be 50%.
- The proportion is allowed to vary from 45% to 55% giving a marginal error (d) =5%
- Level of significance α (95% confidence interval), resulting to the standard normal critical value Z=1.96
    - A 10% inflation to minimize loss arising from the likelihood of non-response
    - Based on the above assumptions, the desired sample size was determined as follows:

$$n=\frac{Z^2\,\alpha/2p\,(1-p)}{d^2}$$

$$=\frac{(1.96)\,(1.96)\,0.5\,(1-0.5)}{(0.05)\,(0.05)}$$

$$= 385$$

Adjusting for non-response, then

N= 385 + 39 = 424

Therefore, the minimum sample size was 424.

Further, thirty four (34) HIV women for qualitative data collection; 24 for FGDs and ten IDIs.

In Figure 4.1 and Figure 4.2, the percentages were taken to a total responses and not respondents as some respondents had more than one response.

3.6 Sampling technique

The CCC register was used to determine the total number (1,490) of HIV positive women expected in the clinic during the study period. Systematic sampling was then used, with a sampling interval (K) determined as follows:

$$K = \frac{\text{Study population expected in a given day (60)}}{\text{Representative sample needed for that day (20)}}$$

Selection of the first respondent was done by simple random sampling from the attendance register. The next respondent was determined by adding the sampling interval (3rd) to the first respondent. This was repeated until the required number for each day was achieved.

Purposive sampling was used to recruit Thirty four more participants; twenty four (24) for the FGDs and ten (10) for the IDIs. These were HIV positive women who consented to participate. Purposive sampling is the most common method for selecting informants for focus-group discussions. It is a non-probability sampling method also known as 'judgmental sampling' that is used to select participants based on the researchers

personal judgment about which ones will be most representative or informative. Each FGD should comprise 6-12 participants.

3.7 Data management

3.7.1 Data collection

A pre-tested structured questionnaire was used for quantitative data collection (Appendix 3), which was also translated into Swahili (Appendix 4). The pre-test took place on 8th and 9th April, 2014 at Ruiru Sub- District Hospital. The objective of the pre-test was to review and modify the questionnaire based on field experience. In addition, the exercise was done to ensure validity and reliability and also to familiarize research assistants with data collection tools.The study participants were filtered at the CCC and the interviews were conducted after they were through with the clinic procedures and consent been obtained.

The questionnaires were administered by the principal investigator, aided by health staff members of the hospital other than those working in the CCC of the hospital in order to minimize interviewer bias. To ensure the quality of data collection, data collectors were trained prior to data collection. The questionnaire consisted of background and biographical information, knowledge and perception about use of condoms as a prevention method, factors associated with non-use of condoms and frequency of condom use.

Focus Group Discussions (FGDs)

A FGD guide was developed for the qualitative data collection to enrich the information generated through the quantitative data collection method (Appendix 5). A focus group is a small group of six to twelve people led through an open discussion by a skilled moderator to generate rich information regarding a topic**.** The tool was mainly concerned with issues related to perceptions and practices of the HIV positive women

on condom use. The discussions were conducted by the researcher, who acted as the moderator and a second person to record. A tape recorder was used to capture all data from the groups. Participants were selected based on age and sex .Three FGDs each comprising eight participants, were conducted in the counseling room in the CCC clinic which offered a quiet and conducive environment. All discussions commenced after verbal informed consent was granted by each member of the group.

In-depth Interviews (IDIs)

In-depth interviews (IDIs) were used to gather data on experiences with condom use. In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea. They were thus included to capture insights that would otherwise be difficult to voice in gatherings of people (FGDs). Ten participants were selected based on age and female sex.The interviews were conducted by the researcher at the same venue as FGDs. A voice recorder was used to collect these data. An IDI guide (Appendix 8) was developed to guide the interviews.

3.7.2 Data entry

All filled questionnaires were checked for completeness. The data were cleaned, categorized, coded and entered in MS- Excel database. Data were validated and later exported into a Statistical Package for analysis (SPSS version 21.0).

The audio-taped FGDs and IDIs were transcribed to Swahili (the language employed during the interview) and later translated to English. Data were read carefully to identify emerging and recurrent themes. Transcripts were also thoroughly reviewed to identify key themes which were listed down in a word document.

3.7.3 Analysis

Descriptive analysis included means, frequency tables and graphs. Pearson's Chi-square statistic was computed to assess for association between consistent condom use and independent variables in the study. Odds ratio (OR) with corresponding 95% confidence interval were estimated (<0.05). Further, binary logistic regression analysis to adjust for confounding factors. The modelling procedure briefly included subjecting variables related to consistent condom use at $p< 0.05$ in bivariate analysis to binary logistic regression by specifying *'backward conditional'* method. Fitness was assessed by estimating confidence intervals and removal of factors at $P<0.05$. Coding of the qualitative data was done to identify relevant pieces of information. The themes were rearranged according to the appropriate part of the thematic framework. These were placed in charts for discussions and interpretation.

3.8 Ethical considerations

Scientific and ethical approvals were obtained from Kenya Medical Research Institute's (KEMRI)/ JKUAT Scientific Steering Committee (SSC) (Appendix 9) and National Ethics Review Committee (ERC) (Appendix 10). Approval to carry out the study was sought and obtained from Ethics and Research committee of Thika Level 5 Hospital (Appendix 11).

The consent of the respondents was sought and obtained before the administration of the questionnaire (Appendix 1). Women below the age of 18years were excluded from the study to ensure that the all eligible respondents consented personally. The participants were informed of their voluntary participation. The purpose of the study was explained to the study participants. The objectives of the study were explained to the subjects of research. The participants were informed that the procedure used would not pose any potential risk and their identities and personal particulars would be kept strictly confidential.

3.9 Limitations of the study

Consistent condom use was assessed based on self-reported information which is subject to socially desirable bias and recall bias.Precautions were taken in selection of experienced female data collectors to address social desirability bias and to minimize recall bias, 6 month recall period was used.

Another important limitation was reliability of the responses of participants. The study was supplemented by qualitative data for more solicitude of ideas about sensitive issues. Moreover, anonymity and privacy was highly observed to promote high rate of the participants in disclosing their information.

CHAPTER FOUR

RESULTS

A total of 425 HIV infected women consented to participate in the study. They were interviewed using a semi-structured questionnaire. Further, 3 Focus Group Discussions, each of 8 HIV positive respondents and 10 in depth interviews were conducted.

4.1 Socio-demographic characteristics of HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital

The mean age (SD) of the respondents was 34.2 (±7.26) years. Half (49.4%; 210/425) were aged 30-39 years, only 24.2% were 40-49 years old. With respect to level of education, 194 (45.6%) had attained primary or no formal education, 153 (36%) secondary school education and 78 (18.4%) post-secondary education. Most respondents 228 (53.6%) were married, 130 (30.6%) single and 67 (15.8%) divorced or widowed. A majority of respondents 328 (77.2%) were employed. Analysis of religious affiliation revealed majority 218 (51.3%) to be Christian protestants.

A total of 221 (52%) respondents were over three years since testing HIV positive, 74 (17.4%) were less than a year. Out of the 425 participants, (74.6%; 317 had been enrolled at the CCC for over a year. (Table 4.1).

Table 4.1: Socio-demographic characteristics of HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital

Socio-demographic characteristics	Frequency	Percent (%)
Mean age (SD) = 34.16(7.26)		
Age in years		
18-29	112	26.4
30-39	210	49.4
40-49	103	24.2
Level of Education		
Primary	194	45.6
Secondary	153	36.0
Tertiary	78	18.4
Marital status		
Single	130	30.6
Married	228	53.6
Divorced/widowed	67	15.8
Occupation		
Un-employed	97	22.8
Employed	328	77.2
Religion		
Christian Protestant	218	51.3
Christian Catholic	191	44.9
Muslim	16	3.8
The duration since tested positive (yrs)		
<1	74	17.4
1 to 3	130	30.6
>3	221	52
Enrolment at the CCC for the first time		
Less than 3 months	43	10.1
6-12 months	65	15.3
>1 year	317	74.6

SD- Standard Deviation

4.2 Additional sources of information on condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

Additional sources of information on condom use apart from the CCC included; radio (59.1%), television (47.8%), friends/ partner (19.5%), and internet (6.4%) (Figure 4.1).

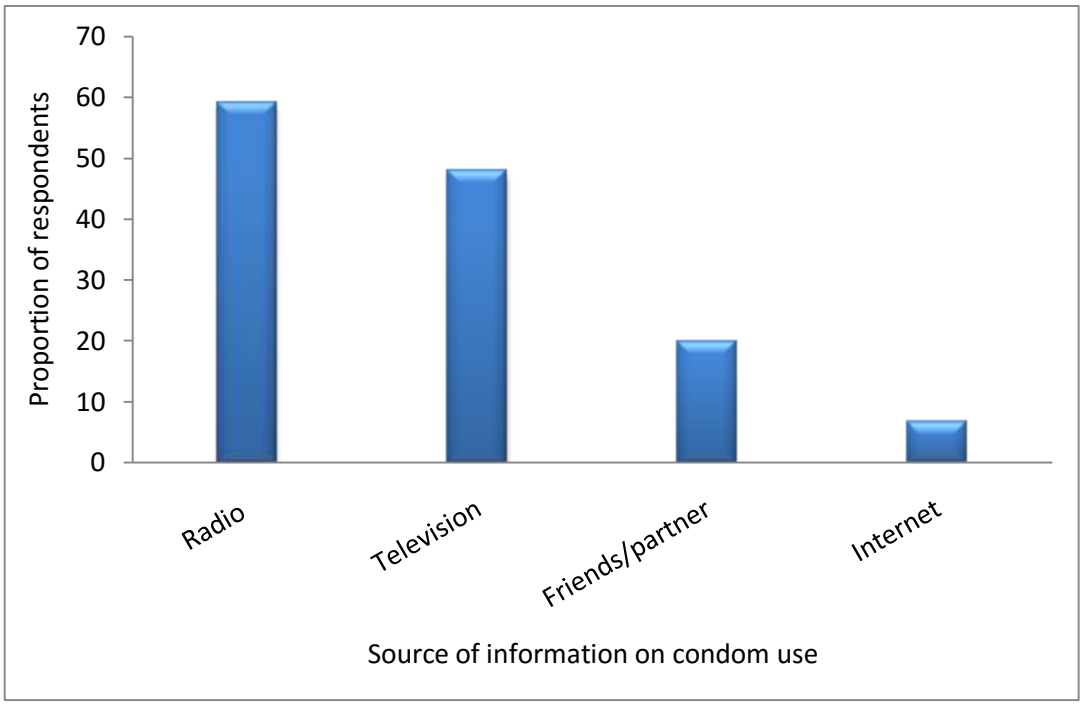

Figure 4.1: Additional Sources of information on condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

The percentages are taken to a total responses and not respondents as some respondents had more than one response.

4.3 Knowledge, attitude and perceptions on condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

4.3.1 Knowledge and attitude on condom use among study respondents

Knowledge on the use of condoms on HIV prevention was assessed using several questions (Table 4.2). Most respondents (91.5%; 389/425) believed that condoms are safe and effective in preventing HIV infection and re- infection. Senty four percent (73.9%; 314) had received adherence counseling during visits at the CCC. Only 17(4%) had never been counseled. Most (95.8%) had attended condom demonstration session at the CCC. Most respondents (88.9%; 377) indicated they were aware of existence of the female condom.

Consistent use of condoms protect against STIs (86.6%). Most respondents agreed that condoms should be used every time, from start to finish of every sexual encounter (93.9%; 399). (88.7%; 377) used condoms as a protective measure against HIV re-infection. The respondents disapproved the statement that only men decide whether to use condoms during sexual encounter (88.9%).

Table 4.2: Perceptions regarding condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

Variable	Frequency	Percentage (%)
Safety and effectiveness of condoms to prevent HIV infection		
Yes	389	91.5
No	36	8.5
Receiving adherence counseling on condom use during CCC visits		
Always	314	73.9
Sometimes	94	22.1
Never	17	4.0
Attendance to any condom demonstration session		
Yes	407	95.8
No	18	4.2
Awareness of female condoms		
Yes	378	88.9
No	47	11.1
Perceived risks of STIs for inconsistent condom use		
Yes	368	86.6
No	57	13.4
Condoms can protect HIV positive people from getting re-infected with HIV		
Yes	377	88.7
No	48	11.3
Condoms should be used every time, from start to finish of each sexual encounter		
Agree	399	93.9
Disagree	26	6.1
Sole decision of men to use a condom		
True	47	11.1
False	378	88.9

4.3.2 Prevention of condoms from bursting

A total of 276 (64.9%) indicated that proper wearing of a condom prevents a condom from bursting. Other strategies were single use (29.4%), opening carefully (21.2%) and proper storage 5.6% (figure 4.2).

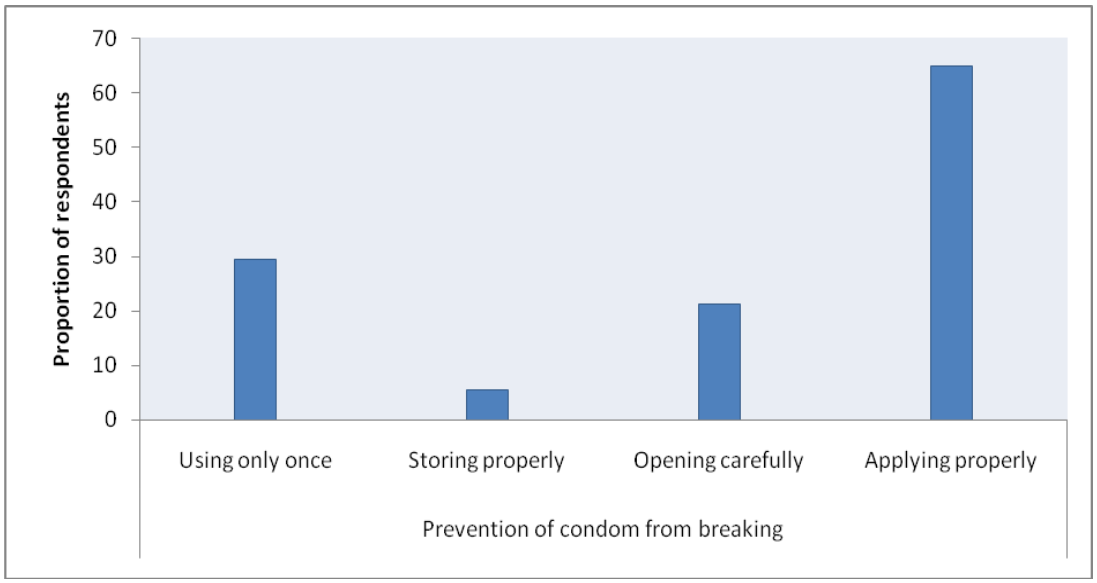

Figure 4.2: Prevention of condom from bursting among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

The percentages are taken to a total responses and not respondents as some respondents had more than one response.

4.3.3 Knowledge score on condom use

The overall knowledge score was determined by combining responses on knowledge on (1) condom use (Table 4.2) and (2) prevention of condom from breaking among the respondents (Figure 4.2)

Any responses indicative of adequate knowledge was recorded as '1' and inadequate knowledge was recorded as '0'. The score 1 represented the option “yes, agree or

positively worded items while score 0 represented the category “no, disagree or negatively worded items. Based on the summary results, most respondents (52.7%) had adequate knowledge on use of condoms, 46.7 moderate and 6.6% poor knowledge (Figure 4.3).

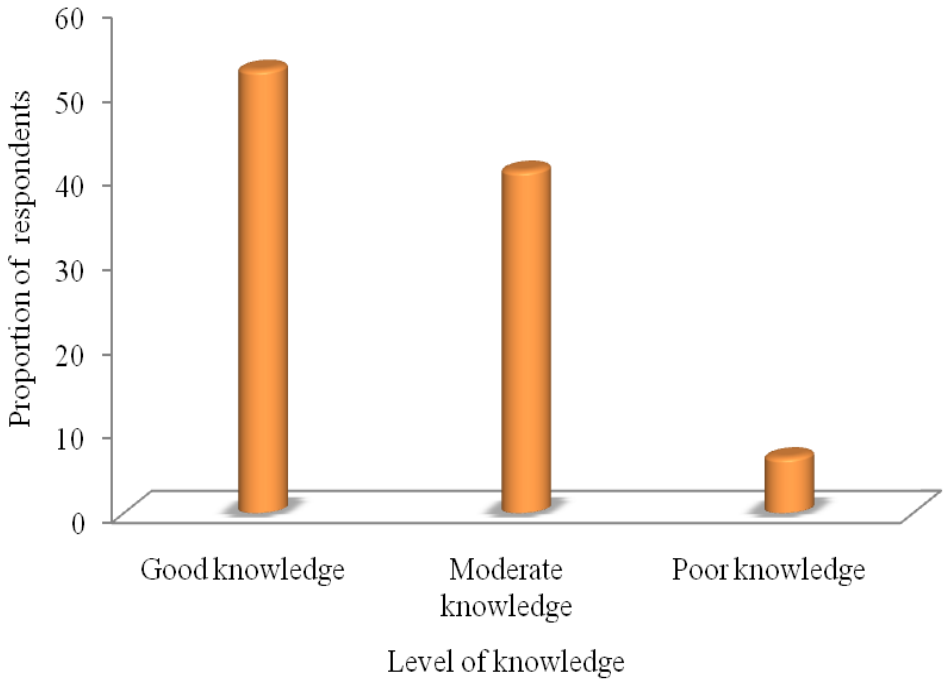

Figure 4.3: Overall Knowledge score on condom use

4.4 Reasons why HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital stopped using condoms

Respondents were asked to state why they had stopped using condoms. The reasons were as recorded in figure below. Most (49%) had partners who did not approve, 26% had changed behavior, 15% wanted to conceive, 5% unavailability, 4% had started taking ARVs, while 1% very expensive. (Figure 4.4)

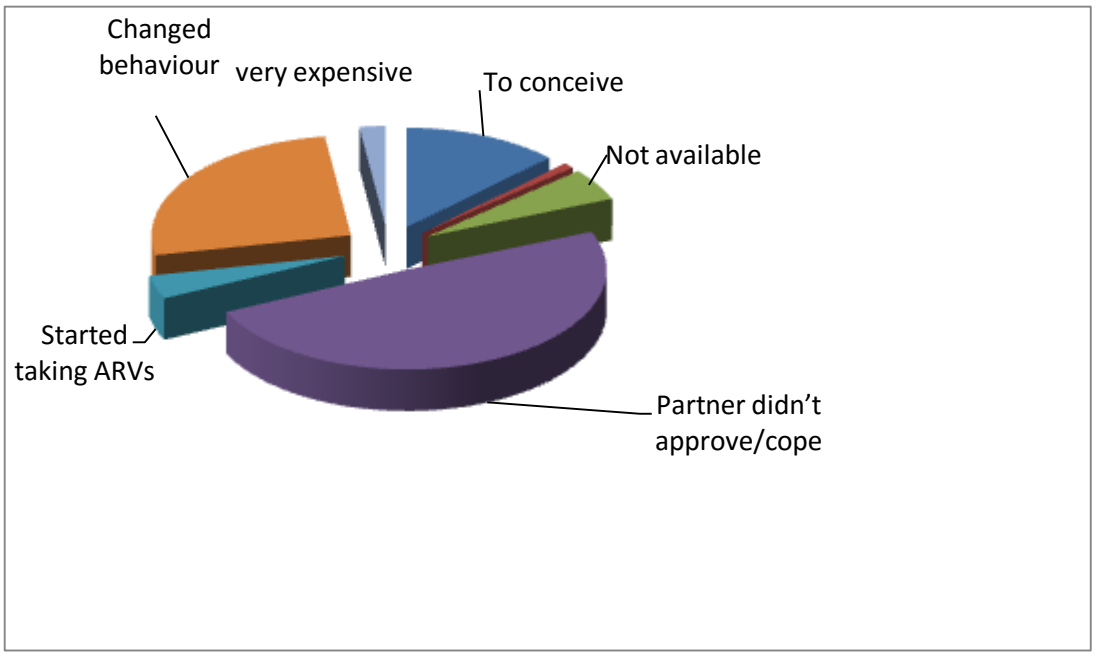

Figure 4.4: Reasons why HIV positive women stopped using condoms

4.5 Behavioral characteristics among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

Eighty percent of respondents (80.5%; 342/425) were in regular relationships. (79.1%; 336) respondents had used condoms in the past six months. Eighty percent (80.7%) of respondents had disclosed their HIV status to their partners. A total of 185 (43.5%) did not know their partner's HIV status. Forty percent (40%; 170) had partners who were sero positive and 16.5% (70) sero negative partners. 276 (64.9%) respondents had partners who resisted condom use sometimes. 167(39.3%) respondents reported alcohol/ substance use (Table 4.3).

Table 4.3: Behavioural characteristics among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

Behavioural characteristics	Frequency	Percent (%)
Sexual relationships		
Regular partnership	342	80.5
Casual partnership	83	19.5
Frequency of sexual intercourse engagement per week		
One to three times	331	77.9
Four and above	94	22.1
Ever use of condom in the past six months		
Yes	336	79.1
No	89	20.9
Disclosure of sero-status to partner		
Yes	343	80.7
No	82	19.3
Awareness of HIV status of the partner		
Yes, HIV negative	70	16.5
Yes, HIV positive	170	40
Not known	185	43.5
Resistance to condom use by partner		
Yes	276	64.9
No	149	35.1
Substance/alcohol use		
Yes	167	39.3
No	258	60.7

4.6 Consistent condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital.

The prevalence of consistent condom use was 57.4% (244) (95%CI: 52.7% to 62.1%). These are respondents who used condom each time during sexual encounters in the past 6 months.

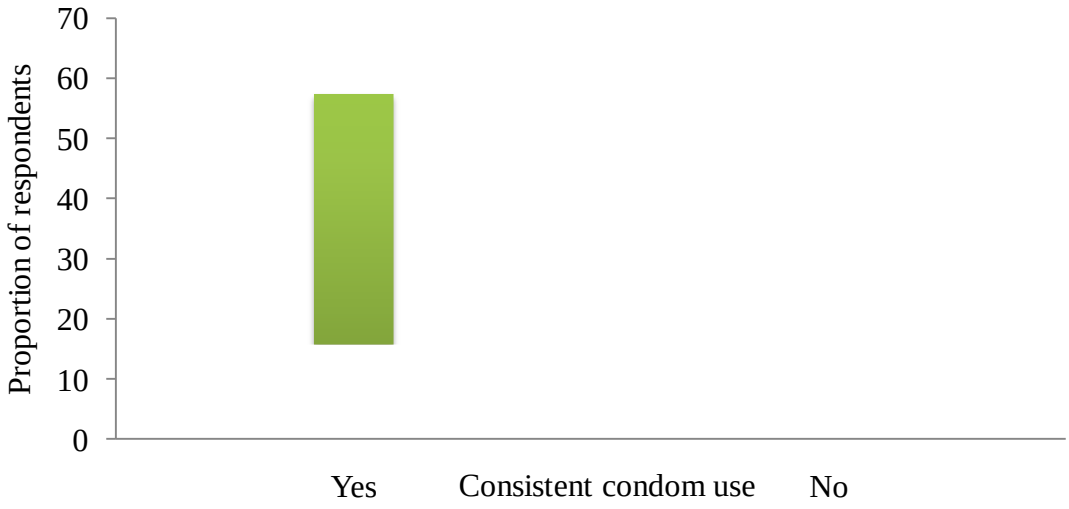

Figure 4.5: Consistent condom use among HIV positive women attending Comprehensive Care Centre of Thika Level 5 Hospital

4.7 Bivariate analysis of consistent condom use and socio-demographic characteristics

There was a significant higher proportion of respondents who were consistent in condom use among those who had attended tertiary education (74.4%) [OR=2.12; 95%CI=1.19-3.80; P=0.011] compared to those who attended primary education (57.7%). Respondents who had recently known their HIV positive status (≤ 1 year) were less likely to consistently use condom (48.6%) than those who had known their HIV positive status for ≥ 3 years (61.1%). However, this difference was not statistically significant (OR=0.60; 95%CI=0.36-1.03; P=0.062). Other factors were not statistically associated with consistent condom use (Table 4.4).

Table 4.4: Bivariate analysis of consistent condom use and socio-demographic characteristics

Variables	Total, n (%)	Consistent condom use		OR	95%CI		*P value
		Yes, (%)	No (%)		Lower	Upper	
Socio-demographic characteristics							
Age in years							
18-29	112(26.4%)	66(58.9%)	46(44.1%)	1.01	0.59	1.74	0.965
30-39	210(49.4%)	117(55.7%)	93(44.3%)	1.15	0.72	1.86	0.556
40-49	103(24.2%)	61(59.2%)	42(40.8%)	1.00			
Level of Education							
Primary	194(45.6%)	112(57.7%)	82(42.3%)	1.00			
Secondary	153(36.0%)	74(48.4%)	79(51.6%)	0.69	0.45	1.05	0.083
Tertiary	78(18.4%)	58(74.4%)	20(25.6%)	2.12	1.19	3.80	0.011*
Marital status							
Single	130(30.6%)	72(55.4%)	58(44.6%)	1.07	0.59	1.93	0.825
Married	228(53.6%)	136(59.6%)	92(40.4%)	1.27	0.74	2.20	0.388
Divorced/Widowed	67(15.8%)	36(53.7%)	31(46.3%)	1.00			
Occupation							
Un-employed	97(22.8%)	56(57.7%)	41(42.3%)	1.02	0.64	1.61	0.942
Employed	328(77.2%)	188(57.3%)	140(42.7%)	1.00			
Religion							
Christian Protestant	218(51.3%)	121(55.5%)	97(44.5%)	0.97	0.35	2.70	0.954
Christian Catholic	191(44.9%)	114(59.7%)	77(40.3%)	1.15	0.41	3.22	0.788
Muslim	16(3.8%)	9(56.2%)	7(43.8%)	1.00			
The duration since tested positive in years							
<1	74(17.4%)	36(48.6%)	38(51.4%)	0.60	0.36	1.03	0.062
1 to 3	130(30.6%)	73(56.2%)	57(43.8%)	0.82	0.53	1.27	0.364
>3	221(52.0%)	135(61.1%)	86(38.9%)	1.00			
Enrolment at the CCC for the first time							
Less than 3 months	43(10.1%)	27(62.8%)	16(37.2%)	1.28	0.67	2.48	0.455
6-12 months	65(15.3%)	37(56.9%)	28(43.1%)	1.01	0.59	1.72	0.983
>1 year	317(74.6%)	180(56.8%)	137(43.2%)	1.00			

OR= Odds Ratio, CI= Confidence Interval, *Significant p< 0.05 value

4.8 Bivariate analysis of consistent condom use and behavioural factors

Table 4.5 illustrates relationship between consistent condom use and behavioural/relational characteristics of respondents. The nature of sexual relationships, disclosure of HIV status, HIV status of partner, resistance by partner and substance / alcohol use influenced consistent condom use ($p < 0.05$). The proportion of consistent condom use was significantly higher among respondents with regular relationships (61.4%) compared to those who had casual partnerships (41.0%), [OR=2.29; 95%CI=1.41-3.74; P=0.001]. Respondents who disclosed their HIV status to partner(s) had significantly increased prevalence of consistent condom use (61.8%), [OR=2.53; 95%CI=1.54-4.15; P<0.001] than those who indicated otherwise (39.0%).

There was a significant increase of consistent condom use among participants whose partners were HIV negative (81.4%), [OR=5.05; 95%CI=2.59-9.85; P<0.001] and HIV positives (59.4%) [OR=1.69; 95%CI=1.11-2.57; P=0.015] compared to those who didn't know their partners HIV status (43.5%). The prevalence of consistent condom use was significantly more among respondents whose sexual partners never resisted using condom (64.4%) [OR=1.57; 5%CI=1.04-2.36; P=0.032] than those whose partners ever resisted (53.6%). Women who never took alcohol were significantly more likely to use condom consistently (64.0%) [OR=1.98; 95%CI=1.33-2.94; P=0.001] compared to those who reported otherwise (47.3%).

Table 4.5: Bivariate analysis of consistent condom use and behavioral/relational factors

Variables	Total (%)	Consistent condom use		OR	95%CI		*P value
		Yes (%)	No (%)		Lower	Upper	
Behavioural and relational characteristics							
Sexual relationships							
Regular partnership	342(80.5%)	210(61.4%)	132(38.6%)	2.29	1.41	3.74	0.001*
Casual partnership	83(19.5%)	34(41.0%)	49(59.0%)	1.00			
Frequency of sexual intercourse engagement per week							
One to three times	331(77.9%)	186(56.2%)	145(43.8%)	0.80	0.50	1.27	0.340*
Four and above	94(22.1%)	58(61.7%)	36(38.3%)	1.00			
Disclosure of sero-status to partner							
Yes	343(80.7%)	212(61.8%)	131(38.2%)	2.53	1.54	4.15	<0.001*
No	82(19.3%)	32(39.0%)	50(61.0%)	1.00			
Awareness of HIV status of partner							
Yes, HIV negative	70(16.5%)	57(81.4%)	13(18.6%)	5.05	2.59	9.85	<0.001*
Yes, HIV positive	170(40.0%)	101(59.4%)	69(40.6%)	1.69	1.11	2.57	0.015
Don't know	185(43.5%)	86(46.5%)	99(53.5%)	1.00			
Resistance to condom use by partner							
Yes	276(64.9%)	148(53.6%)	128(46.4%)	1.00			
No	149(35.1%)	96(64.4%)	53(35.6%)	1.57	1.04	2.36	0.032*
Substance/alcohol use							
Yes	167(39.3%)	79(47.3%)	88(52.7%)	1.00			
No	258(60.7%)	165(64.0%)	93(36.0%)	1.98	1.33	2.94	0.001*

OR= Odds Ratio, CI= Confidence Interval, *Significant p <0.05 value

4.9 Bivariate analysis of consistent condom use and knowledge on condom utilization

The relationship between consistent condom use and knowledge/attitude towards condoms is illustrated in Table 4.6. Respondents who attended any condom demonstration sessions were significantly more consistent with condom use during sexual act (58.7%) [OR=3.70; 95%CI=1.29-10.57; P=0.009] compared to those who did not attend (27.8%). Women who agreed that consistent condom use can protect against

STIs had significantly higher prevalence of consistent condom use (59.5%) [OR=1.88; 95%CI=1.07-3.30; P=0.026] compared to those who disagreed (43.9%).

Table 4.6: Bivariate analysis of consistent condom use and knowledge towards condom utilization

Variables	Total	Consistent condom use		OR	95%CI		χ^2 test
		Yes (%)	No (%)		Lower	Upper	P value
	(%)						
Knowledge and attitude							
Receiving adherence counselling on condom use during CCC visits							
Always	314(73.9%)	185(58.9%)	129(41.1%)	1.00	0.37	2.71	0.994
Sometimes	94(22.1%)	49(52.1%)	45(47.9%)	0.76	0.27	2.17	0.611
Never	17(4.0%)	10(58.8%)	7(41.2%)	1.00			
Attendance to any condom demonstration session							
Yes	407(95.8%)	239(58.7%)	168(41.3%)	3.70	1.29	10.57	0.009*
No	18(4.2%)	5(27.8%)	13(72.2%)	1.00			
Awareness of female condoms							
Yes	378(88.9%)	217(57.4%)	161(42.6%)	1.00	0.54	1.84	0.996
No	47(11.1%)	27(57.4%)	20(42.6%)	1.00			
Safety and effectiveness of condoms to prevent HIV infection and re-infection							
Yes	389(91.5%)	228(58.6%)	161(41.4%)	1.77	0.89	3.52	0.100
No	36(8.5%)	16(44.4%)	20(55.6%)	1.00			
Effectiveness of consistent condom use against sexually transmitted diseases							
Yes	368(86.6%)	219(59.5%)	149(40.5%)	1.88	1.07	3.30	0.026*
No	57(13.4%)	25(43.9%)	32(56.1%)	1.00			
Condoms should be used every time, from start to finish of each sexual encounter							
Agree	399(93.9%)	232(58.1%)	167(41.9%)	1.62	0.73	3.59	0.231
Disagree	26(6.1%)	12(46.2%)	14(53.8%)	1.00			
Sole decision by men to use a condom							
True	47(11.1%)	21(44.7%)	26(55.3%)	0.56	0.31	1.03	0.061
False	378(88.9%)	223(59.0%)	155(41.0%)	1.00			

OR= Odds Ratio, CI= Confidence Interval, *Significant p< 0.05 value

4.10 Factors associated with consistent condom use among HIV positive women attending Comprehensive Care Centre of Thika level 5 Hospital

Adjusted odds ratios of consistent condom usage (CCU) are presented along with their values (Table 4.7). Application of Binary logistic regression identified variables independently associated with consistent condom use. Respondents with tertiary level of education were 2.5 times more likely to report consistent use of condoms [AOR=2.54; 95%CI=1.30-4.95; P=0.006] than those who attended primary education. Women who disclosed their HIV status to partner were about 2 fold more likely to use condom consistently than women who did not [AOR=2.27; 95%CI=1.27-4.06; P=0.005]. Respondents who had HIV negative partners were about 4 times more likely to use condom consistently [AOR=4.23; 95%CI=1.99-8.98; P<0.001] compared to those who were not aware of their partner's status. Women who attended any condom demonstration sessions were 3.17 fold [AOR=3.17; 95%CI=1.01-9.98; P=0.048] more likely to use consistently than those who did not attend. Respondents who reported no alcohol abuse were 1.72 times more likely to use condoms consistently [AOR=1.72; 95%CI=1.10-2.69; P=0.017] than those who reported consuming alcohol. Consistent condom use was found to be about 2 times more among participants whose partners never resisted condom use [AOR=1.87; 95%CI=1.15-3.03; P=0.011]. Women who knew that consistent condom use could protect against STIs were 2.11 fold more likely to use condom consistently than those who reported otherwise [95%CI=1.12-3.97; P=0.021].

Table 4.7: Multivariate analysis of factors associated with consistent condom use among HIV positive women attending Comprehensive Care Centre of Thika level 5 Hospital

Variable	AOR	95%CI		
		Lower	Upper	P value
Full model				
Level of Education				
Primary	1.00			
Secondary	0.87	0.54	1.42	0.583
Tertiary	2.49	1.27	4.90	0.008
The duration since tested positive in years				
<1	0.85	0.47	1.54	0.601
1 to 3	0.98	0.59	1.62	0.922
>3	1.00			
Sexual relationships				
Regular partnership	1.23	0.70	2.16	0.470
Casual partnership	1.00			
Disclosure of sero-status to partner				
Yes	2.15	1.19	3.90	0.011
No	1.00			
Awareness of HIV status of the partner				
Yes, HIV negative	3.96	1.81	8.64	0.001
No, HIV positive	1.09	0.66	1.80	0.737
Don't know	1.00			
Resistance to condom use by partner				
Yes	1.00			
No	1.85	1.13	3.03	0.015
Substance/alcohol use				
Yes	1.00			
No	1.71	1.09	2.68	0.019
Safety and effectiveness of condoms to prevent HIV infection and re-infection				
Yes	0.91	0.40	2.11	0.831
No	1.00			
Attendance to any condom demonstration session				
Yes	3.12	0.98	9.94	0.054
No	1.00			
Perceived risks of STIs for failure to use condoms when partner is HIV positive				
Yes	1.98	1.00	3.92	0.049
No	1.00			
Final model				
Level of Education				
Primary	1.00			
Secondary	0.88	0.54	1.42	0.599
Tertiary	2.54	1.30	4.95	0.006*
Disclosure of sero-status to partner				
Yes	2.27	1.27	4.06	0.005*
No	1.00			
HIV status of the partner				
HIV negative	4.23	1.99	8.98	<0.001*
HIV positive	1.13	0.69	1.85	0.428
Don't know	1.00			
Attendance to any condom demonstration session				
Yes	3.17	1.01	9.98	0.048*
No	1.00			
Resistance to condom use by partner				
Yes	1.00			
No	1.87	1.15	3.03	0.011*
Substance/alcohol use				
Yes	1.00			
No	1.72	1.10	2.69	0.017*
Perceived risks of STIs for failure to use condoms when partner is HIV positive				
Yes	2.11	1.12	3.97	0.021*
No	1.00			

AOR= Adjusted Odds Ratio, CI= Confidence Interval, *Significant p< 0.05 value

4.11 Focus Group Discussions (FGDs) and In-depth Interviews (IDIs)

4.11.1 Socio demographic characteristics of HIV positive women in IDIs and FGDs

Demographic information of the 34 participants (24 in FGDs and 10 in IDIs) is shown in Table 4.8. The mean age of participants was 32.8 years, Participants were either married (58.8%; 20/34), single (29.4%; 10) or divorced/widowed (11.8%; 4). Most respondents were Protestants (70.6%; 24/34).

Table 4.8: Socio- demographic characteristics of HIV positive women in IDIs and FGDs

Socio-demographic characteristics	Frequency (n)	Percent (%)
Mean age = 32.825		
Age in years		
18-29	13	38.2
30-39	14	41.2
40-49	7	20.6
Marital status		
Single	10	29.4
Married	20	58.8
Divorced/widowed	4	11.8
Religion		
Christian Protestant	24	70.6
Christian Catholic	8	23.5
Muslim	2	5.9

4.11.2 Perceptions and attitude towards condom use

Respondents had mostly positive attitude toward condom use, and few reported never having used condom. Consistent condom use was seen as a means of limiting chances of re- infection with resistant strains of HIV virus.

"Condom use should be emphasized as it is the single most channel for prevention of spread of HIV…it is hard to make people abstain"

4.11.3 Factors affecting consistent condom use among HIV positive women

From the FGDs and IDIs, the major impediment to consistent condom use were; alcohol influence, fear of mistrust, lack of negotiation skills, non-disclosure of HIV positive status to partner and spoiling of pleasure. Beliefs, myths and misconceptions associated with non-condom use mentioned by participants were: (1) Condoms are not always 100% safe. Sometimes they break and some have aeration pores.

"condoms are not always safe, some are of poor quality and tend to easily break"..1DI 4;

(2) Perceived promiscuity among woman who carrying condoms

"Women unlike men, do not go buying or carrying condoms in their pockets or bags...if seen people might think we are whores"…FGD 2;

(3) They are unacceptable among some religions (Catholics).

"Our religion does not allow use of condoms, although with time this has changed" …IDI 8

Generally, respondents were unable to refuse sex with their regular male partner(s). However, exceptions did occur, especially where disclosure had been done. The couple could agree to use condoms to prevent re-infection or protect a male HIV-negative partner. It was noted that, with empowerment, women have become assertive with regard to condom use and disapproving the perception that they have limited control over their male partner.

" I cannot offer him (sex) if he does not want to wear because I now know better, let him say or think what he wants but I won't let him ruin my life"…IDI 10

Refusal to have sex could result in the male partner's seeking sex elsewhere, violence, or abandonment. Overall, sex was seen as natural, based on trust and considered essential for the relationship:

> *"It is impossible to deny your partner sex because it is essential for a relationship and if you don't allow it a man will go out and you will be left…and it will be your fault"…IDI 1*

4.11.4 Description of other factors likely to influence consistent condom use among HIV positive women attending the CCC of Thika Level 5 Hospital

Description of other factors likely to influence consistent condom use among study population is shown in Table 4.8. One third of participants (34.1%) indicated the price of condoms as a hindrance to availability to condoms. Other factors included; stigmatization, preference and distance. The CCC clinic (78.8%) was most preferred place to acquire condoms. Trust® (46.6%) was most preferred type of condom. Alcohol/ drug influence was the main factor that hindered use of condoms during sexual intercourse.

Table 4.9: Description of other factors likely influencing condom use among study respondents

Factors	Percentage (%)
Factors affecting accessibility to condoms	
Price	34.1
Distance	18.6
Preference	21.4
fear of being seen buying	30.1
Preference to get condoms from	
Chemist	19.5
CCC clinic	78.8
Public toilet	8.2
VCT/FP clinic	7.5
	1.2
Preference for a certain type of condom	
Trust®	46.6
Salama®	20.5
Sure®	7.5
Durex ®	5.6
Raha®	11.1
Others (Rough rider®)	15.1
Reasons for failure to use a condom during sexual intercourse	
Spoils the pleasure	20.5
Fear of rejection & violence	10.1
Shows lack of trust	28
Alcohol/drugs influence	39.3
Religious beliefs	2.1

VCT-Voluntary Counselling and Testing, FP- Family planning, CCC – Comprehensive care centre

CHAPTER FIVE

DISCUSSION

Introduction

Women continue to account for most cases of HIV infections. Although condoms are an important weapon in the battle against HIV/AIDS, little is known about the practice of condom use among HIV infected persons. This study hence sought to establish the level and factors that affect condom use among HIV positive women at CCC of Thika Level 5 Hospital.

5.1 Prevalence of consistent condom use

The findings of this study showed that the proportion of consistent condom users was 57.4%. This estimate is similar to reports from other studies carried out among sexually active HIV positive women in Ethiopia at 56.7% (Addis, 2014), in Uganda at 55% (Bateganya *et al.*, 2005) and in Italy 60% (Cicconi, 2013). However, it is quite low compared to findings from studies conducted among patients on ART in other settings. For example, condom use among patients on ART patients in India was reported at 89% (Avina, 2006) although the subjects in that study were financing treatment themselves, so they might have been economically stable. Similar relatively higher levels of condom use have been reported among HAART patients in developed countries (Wilson, 2004) Differences across these studies could be due to the differences in research methodology used, the specific behaviors, recall periods and/or socioeconomic status of the study population.

5.2 Factors Influencing consistent condom use

The mean age (SD) of the respondents in this study was 34.2 ($\pm$7.26) years, with the majority (49.4%) aged 30-39 years. Consistent condom use was highest in women

aged18-29 and 40-49 years who were either single or married. There was no difference in CCU among those employed and unemployed. Various socio-demographic and behavioral factors, like sex, age, education, marital status, type of partner, lack of perception of the severity of the disease are important in unprotected sex among PLWHA (Noar ,2008; Laisaar, 2015). In this study, single participants had a slightly lesser chance of using condoms consistently than married participants. This was similar to a study conducted in Ethiopia of people living with HIV/AIDS, where single people had a four times higher chance of engaging in unsafe sexual practices than married people (Engedashet, Worku & Tesfaye, 2014). However, a different study in Kenya and Malawi proved married people engaged more in sexual practices without condom use, due to the greater confidence between the partners (Anand, Shiraishi, Bunnell, Jacobs & Solehdin, 2009). There was no significant difference in condom use across religions. This was against popular belief that condom are unacceptable among some religions especially among Catholics (Woods, 2015). This statement came up;

> *"Our religion does not allow use of condoms, although with time this has changed"...IDI 8*

However, above factors were not satisfactorily associated with consistent condom use. Higher education level was a positive predictive factor for consistent condom use in this study. This finding concurs with studies done in Addis Ababa public hospitals (Dessie, 2011) and Ghana (Ncube *et al.*, 2012) which reported that participants with secondary education or higher were more likely to consistently use condoms than those with primary level of education. This might be because of the participants' knowledge on condom use in preventing resistant strains and other STIs. From this study, most participants (52.7%) had adequate knowledge on use of condoms.

> *"Condoms protect us from acquiring other strains of HIV from infected partners and hence the CD4 counts remain high"...FGD 1*

"The staff at the CCC are very helpful and kind; we are counseled during our return clinics, they take time to address our concerns and there is a toll-free line where we can call for any enquiries"….FGD 2

It could also be due to their increased awareness on risks associated with failure to use condoms that make them to use condom consistently.

"Sex is mutual between partners so should the decision to use a condom... We argue about condoms all the time but since I know the consequences for failure to use, I have to ensure he wears"…IDI 9

In addition, this could be the high self-efficacy for condom-use among people who have secondary- or tertiary-level education (Sayles, 2006).

Overall, this study proved that HIV positive women had adequate knowledge on proper use of condom. Proper wearing, opening carefully and proper storage of a condom prevents it from bursting. This study identified additional sources of information on condom use besides the CCC as; radio (59.1%), television (47.8%), friends/ partner (19.5%), and internet 27(6.4%). Modern media, such as radio, television, internet, has over time become popular and central in lives of many people across all age groups (Pellettieri, 2004). It is through them that people have gained information on sexuality, to include awareness on condoms. Some of the information from these media are positive and correct or vice versa.

"Information on Condoms is always advertised on radio, television; which is okay because most people have them and everybody can learn "…FGD 3

This was supported by a study conducted in the United States, where eighty-six percent of adults polled by the CDC approved of airing HIV and AIDS prevention information on television; 73 percent supported condoms being discussed on television (APA, 2001).

Participants who perceived risks of acquiring sexually transmitted diseases used condom more consistently. This agrees with what was reported during all group discussions and most IDIs.

> *"Condoms protect us from acquiring other strains of HIV from infected partners and hence the CD4 counts remain high….FGD3"*

Furthermore, the study has revealed that women who had attended any condom demonstration sessions were more likely to use it consistently which could be explained that respondents were confident about using condoms. This was consistent with information from FGDs.

> *"We have been showed a female condom during our clinics and how to wear it although most of us opt for the male condom as it is always available and comfortable to use…FGD1"*

In this study having a HIV negative partner was associated with approximately four times increased odds of consistently using condoms compared to those who did not know their partner's status. This finding corroborates previous research conducted with predominantly white sero-discordant relationships/couples in France (Heard, 2004) which found sero-discordant couples were 6.1 times more likely to report consistent condom use. Moreover, inquiring about a partner's HIV status has been associated with an increase in the likelihood of negotiating safer sex practices (Conserve, 2012). Since awareness of partners' HIV status is associated with consistent condom use, it could be suggested that even in multiple partnerships, awareness of partners' status is protective against HIV transmission.

5.3 Factors hindering consistent condom use

Findings of this study indicate that drinking alcohol has a statistically significant effect on consistent condom use. Women who do not drink alcohol are more likely to use

condoms consistently than those who drink alcohol. This was confirmed by findings from IDIs and the following statement emerged:

> *"Sometimes he comes home drank and is very difficult to discuss condom use...he even gets violent when I deny him"…IDI 8*

Similarly, a meta-analysis based on 27 studies reported that any alcohol consumption, problematic drinking, and alcohol use in sexual contexts were all found to be significantly associated with unprotected sex among people living with HIV/AIDS (PLWHA) (Shuper, 2009). There may be many reasons for this association. Alcohol can act directly on the brain to reduce inhibitions and diminish risk perception and hence produce a tendency towards high-risk sexual behavior (Gemechu, 2009). So efforts should be strengthened towards reduction of alcohol use among these particular clients.

As expected consistent condom use was found to be less among participants whose partners resisted using condom. This was confirmed by FGDs and IDIs, that resistance from partner could be a major hindrance to consistent condom use.

> *"I know I have to take charge and use condoms. But it is hard convincing him… sometimes he gets to hollering and screaming… What can I do?"….IDI 5*

It has been indicated that unprotected intercourse among HIV positive women, could be linked to lack of personal control over male partner's use of condoms, less assertiveness and partner's desire to have children (Crepaz *et al.*, 2004). This situation was also reported in this study.

> *"It is impossible to deny your partner sex because it is essential for a relationship and if you don't allow it a man will go out and you will be left…and it will be your fault"...IDI 1*

Gender inequality might reflect a male resistance to use condoms, disregarding awareness of the women's HIV sero-status. This attitude has previously been described

in studies conducted both in young and older women (Van Devanter, 2011) and underlines the difficulty for women with HIV to negotiate safer sex practices. In addition, husbands and male partners may resist use of condoms in marital and steady relationships because sex ought to be natural and based on trust.

> *"It is not practical to always negotiate use of condom, it's not like you plan to have sex. Furthermore, we are married" ...IDI 10*

HIV positive women who had not disclosed their HIV status were less likely to use condom consistently than those who disclosed to their partner. Qualitative data also supported non disclosure as a hindrance to consistent use of condom.

> *"We rarely use condom because my husband does not know my HIV status and he has refused to go for testing with me...I cannot disclose to him because he might blame me and then leave me, so we rarely use condom"...IDI 6*

This finding is in consonance with previous studies in Ghana (Ncube *et al.*, 2012). This suggests that disclosure of HIV status to a partner may be important to get support from family or partners. Some research has found that increased HIV/AIDS stigma directly or indirectly predicted unsafe sexual behavior (Peretti-Watel, 2007; Wolitski, 2009; Varni, 2012) and people with more HIV related stigma were less likely to disclose their HIV status to partners (Przybyla, 2013).

Based on the focus group discussions (FGDs) and In-depth Interviews (IDIs) data, the major impediment to consistent condom use mentioned by the participants were alcohol influence, fear of mistrust, lack of negotiation skills, non-disclosure of HIV positive status to partner and spoiling of pleasure. Some of these barriers were strongly supported by the quantitative data of the study. Regarding beliefs, myths and misconceptions associated with non-condom use, respondents mentioned that condoms are not 100% safe (breaks and having aeration pores), promiscuity among woman for carrying condoms and being unacceptable among some religions e.g. Catholics. The

claim that condoms can break is enough to have a negative attitude to condom use. Cultural misconceptions or inaccurate beliefs may impair consistent condom use. The popular belief that the commonly used latex condoms have pores is erroneous (CDC, 1992). The source of these beliefs was unclear but health professionals should be aware of these potential barriers to the consistent use of condoms. These misconceptions should be considered in efforts to improve consistent condom use among HIV positive women. Women's negative attitude to condom use may compromise safer sex measures which is consistent with previous findings ((Lotfi, Tehrani, Yaghmaei, & Hajizadeh, 2012; Awusabo-Asare, 1993; Dixon-Mueller, 1993). Some participants from both the FGDs and IDIs also indicated that fear being seen buying from chemists, misuse of condoms especially those in public facilities and inacessibility/unavailability especially in remote localities were the main factors affecting the use of condoms**.** Overall, the findings of quantitative and qualitative interviews were consistent.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusion

1. The prevalence of consistent condom use among HIV positive women attending the CCC of Thika Level 5 Hospital was 57.4%. This estimate is still low.
2. Factors that influence utilization of condoms among HIV positive women attending the CCC of Thika Level 5 Hospital include: Advanced level of education, disclosure of HIV status, having a HIV-negative partner; attending to condom demonstration sessions, non consumption of alcohol, non-resistance to condom use by partner(s) and perceived risk of contracting STIs if condoms are not used consistently .
3. The major impediments to condom use among HIV positive women attending the CCC of Thika Level 5 Hospital are: alcohol influence, fear of mistrust, lack of negotiation skills, non-disclosure of HIV positive status to partner, spoiling of pleasure and beliefs/misconceptions about condoms. Regarding the beliefs, myths and misconceptions associated with non-condom use mentioned by participants were condoms are not 100% safe (breaking and having aeration pores), promiscuity among woman for carrying condoms and being unacceptable among some religions, especially Catholics.

6.2 Recommendations

1. Broadening the education of women and their partners on the importance of consistent condom use during counseling. Continuous monitoring by MOH and other concerned stakeholders, for the changes in the usage of condoms among HIV positive women.

2. Replication of similar studies among HIV positive women in private hospitals to comprehensively address factors that promote condom use with the aim of reducing the spread of HIV infections and re-infections.
3. Mounting public awareness campaigns by involvement of ministry of health and other concerned stakeholders through programs to focus on interventions to increase condom use among HIV positive women with emphasis on need for disclosure.

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APPENDICES

Appendix 1: Informed Consent

Utilization of condom among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital

Institutions and Investigators:

Researcher	Institution	Contact
Ms. ANNE MACHARIA	Kenya Medical Research Institute	-0734257706
Dr. Yeri Kombe	Kenya Medical Research Institute	-0734257864
Dr. Peter Mwaniki	Jomo Kenyatta University of Agriculture & Technology	-0722429596

Introduction

This study is being conducted by Ms.ANNE MACHARIA from the Institute of Tropical Medicine and Infectious Diseases, Jomo Kenyatta University of Agriculture and Technology.

Condoms are a key component of comprehensive HIV prevention. They prevent transmission of HIV and other STDs, when used consistently and correctly. Limited data exists regarding utilization of condoms by HIV positive women; hence need to carry out this study to inform policy decisions based on scientific evidence thus reduce the high incidence of HIV infection.

You are being asked to participate in this study because you are eligible. The interview will last approximately 20 minutes only. You can ask any questions you have at any time.

This consent form gives you information about the risks, benefits, and the process that will be expected during the study. If you agree to take part, please sign your name at the bottom of this form. A total of 422 people will take part in this study, you included.

Purpose of the study:

This study seeks to determine the level of use of condoms among HIV positive women aged 18-49 years.

What to expect during the interview:

You will be expected to answer a few questions regarding condom use. In order to accurately capture what is being said the group discussion will be tape-recorded. If you participate in the study, you may request that the recording be paused at any time. You may choose how much or how little you want to speak during the group. All information obtained in this study will be kept strictly confidential. All materials will be stored in a secure location and access to files and tapes will be restricted only to authorize

Voluntariness:

Participation in this study is voluntary. Your decision to / not participate in this research study will not affect current nor future relations with this hospital. If you choose not to participate in this study or to leave the study during the interview process, you may do so freely by informing the researcher, without any consequences against you.

Risks of study participation:

This study has few known risks. Although we shall write your details on paper, every effort will be made to protect your privacy and confidentiality while you are participating in the study. The interviews will take place in private. Information that will need to be assessed by other persons will be coded such that you are not identified.

Benefits of participating in the study:

There is no direct benefit for your participation in this study. However, the results will be used to assist in formulating policies that may initiate prevention strategies against HIV re-infection.

Study Costs:

There will be no costs to you for participating in this study.

Research Related Injury:

There is no form of injury or harm that could happen to you as a result of being in this study. However, some questions may be sensitive and it is important that you tell the study staff if you feel that you have been irritated or annoyed because of taking part in this study.

Confidentiality:

Every effort will be made to keep the information you provide confidential. You will only be identified by a code and personal information from the interview will not be released without your written permission. The information in the questionnaire cannot be identified as belonging to you. You will not be personally identified in any publication about this study. Your records may be reviewed by Ethics Committee at KEMRI.

Contacts and questions:

You will be given a copy of this form to take with you. If you have any questions or concerns about your rights as a research participant, please contact to:

The Principal;

College of Health Sciences

Jomo Kenyatta University of Agriculture and Technology

P.O. Box 62200-00200; Nairobi

Tel: 254-67-52711/52181-4
Fax: 254-67-52161

director@itromid.jkuat.ac.ke

Your rights as a study participant:

This research has been approved and reviewed by the KEMRI's Ethical Review Committee. This committee has reviewed this study in order to help protect participants. If you have any questions about your right as research participant you may contact: secretary of KEMRI / ERC (a group of people who review the research to protect your rights) at 020-27722541, or 0722 205901/ 0733 400003. Email: ercadmin@kemri.org

Your statement of consent and signature:

If you have read the informed consent, or have had it read and explained to you, and you understand the information and voluntarily agree to join this study, please carefully read the statements below and think about your choice before signing your name or making you mark below:

- I have been given the chance to ask any questions I may have and I am content with the answers to all my questions.
- I know that any information I give will be kept confidential and that I may leave this study at any time.

- If I leave or refuse to be in the study, I understand that there will be no repercussions.
- The name, phone number and address of whom to contact in case I need further clarification, 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.
- I will provide a means to contact me, through the CCC, in the event that additional information is required.
- I agree to have someone from the study or the CCC contact me either at home or work.

……

……..

Participant's name signature/thumb print and date

……

……..

Interviewer's name Interviewers' signature and date

……

……..

Researcher's name Researcher's signature and date

Appendix 2: Ridhaa

Utumizi wa kondomu miongoni mwa wanawake walio na virusi vya ukimwi (VVU) wenye umri wa miaka 18-49 katika kituo cha CCC, Hospitali ya Thika Level 5

Taasisi na wakaguzi:

Mtafiti	**Taasisi**	**Namba ya kuwasiliana**
Ms. ANNE MACHARIA	Kenya Medical Research Institute	-0734257706
Dr. Yeri Kombe	Kenya Medical Research Institute	-0734257864
Dr. Peter Mwaniki	Jomo Kenyatta University of Agriculture & Technology	-0722429596

Utangulizi

Madhara kutokana na virusi vya ukimwi (VVU) ni mgogoro unaoyakumba mataifa mengi ulimwenguni na haubagui umri. Nchi zinazoendelea, kama Africa, zimekumbwa zaidi na VVU kuliko zilizoendelea. Wamawake wameadhiriwa zaidi ya waume. Nchini Kenya, zaidi ya watu wazima million nne wanaishi na VVU. 3/5 ya hao ni wanawake. Watu kati ya umri 15-49 wameadhiriwa zaidi, na kiwango cha maambukizi kikiwa takriban 7.4%.

Kufanya mapenzi inasambaza VVU zaidi ya njia nyingine - 94%. Kondomu zinasaidia kuzuia kueneza VVU zinapotumiwa kila mara na vifaavyo. Hata hivyo kuna ujumbe mdogo ulioapishwa kuhusu matumizi ya kondomu kuzuia kueneza VVU miongoni mwa wanawake wa umri wa miaka 18-49 wanaougua virusi. Utafiti huu unatarajiwa kuchangia kwa misingi ya kisayansi.

Unaombwa kushiriki katika utafiti huu. Ukiamua kushiriki katika utafiti, utaulizwa mfululizo wa maswali lakini mahojiano hayatadumu zaidi ya takriban dakika ishirini

(20).Kabla ya kuamua kama unataka kuwa katika utafiti huu, unahitaji kujua kuhusu jambo lolote nzuri au mbaya linaloweza kutokea ukiamua kuwa katika utafiti huu. Fomu hii inakuelezea zaidi kuhusu utafiti huu. Unaweza kuuliza swali lolote wakati wowote.

Kuwa katika utafiti huo ni uchaguzi wako:

Fomu hii ya ridhaa inatoa taarifa kuhusu utafiti huu, hatari na faida, na mambo mengine ambayo utaelezewa. Baada ya kuelezwa na kuelewa, kama utakubali kujihusisha na utafiti huu , utaulizwa kuweka ishara ya jina lako au kufanya alama yako chini ya fomu hii. Kabla ya kujifunza juu ya utafiti huu, ni muhimu kujua yafuatayo:

Madhumuni ya utafiti:

Madhumuni ya utafiti huu ni kujua kiwango cha matumizi ya kondomu miongoni mwa wanawake wenye umri wa miaka 18-49, walio na VVU.

Nini cha kutarajia wakati wa mahojiano:

Unatarajiwa kujibu maswali machache utakayo ulizwa kuhusu matumizi ya kondomu. Kinasa sauti kitatumika ndio kuwezesha uchanganuzi wa majibu.

Ukichagua kutoshiriki au **kuondoka kwenye utafiti:**

Una uhuru wa kutoshiriki katika huu utafiti. Ukiamua kutoshiriki au kuondoka kenye utafiti wakati wa mahojiano, unaweza kufanya hivyo kwa uhuru bila madhara dhidi yako.

Uwezekano wa Hatari

Sitarajii hatari yoyote kwako wakati wa utafiti huu. Hata kama tutaandika wasifu wako, usikuwe na wasiwasi kuhusu kujadili maswali sababu kila juhudi zitafanywa kulinda

faragha yako na usiri wakati wewe unashiriki katika utafiti. Mahojiano yatafanyika kwa faraga.

Faida zinazoweza kutokana na utafiti huu:

Kunaweza kuwa hakuna faida ya moja kwa moja kutokana na habari utakayo toa kwa ajili ya utafiti huu. Hata hivyo, matokeo yatatumika kusaidia katika kutunga sera ambazo zinaweza kuanzisha mikakati ya kuzuia dhidi ya maambukizi ya VVU.

Gharama:

Hakuna gharama kwako kwa ajili ya kushiriki katika utafiti huu mbali na wakati wako.

Kuumia kwa sababu ya kushiriki katika utafiti huu:

Hakuna uwezekano kwamba unaweza kuumia kwa njia yoyote kutokea kutokana na utafiti huu. Ni muhimu kumweleza mtafiti kama umehisi umedhulumiwa kwa sababu ya kushiriki katika utafiti huu.

Rekodi yako itakuwa siri:

Kila juhudi zitafanywa kuweka habari utakazotoa siri. Hauhitaji kuandika jina lako na taarifa za kibinafsi ambazo utatoa katika mahojiano hazitatolewa bila idhini yako iliyoandikwa. Habari katika dodoso haiwezi kutambuliwa kama ni yako. Habari zozote binafsi hazitatolewa katika uchapishaji wowote kuhusu utafiti huu. Rekodi yako inaweza kupitiwa na Kamati ya Maadili ya KEMRI.

Matatizo na maswali:

Utapewa nakala ya fomu hii kuchukua na wewe. Kama una maswali yoyote au wasiwasi juu ya haki zako kama mshiriki wa utafiti, tafadhali wasiliana na:

The Principal;

College of Health Sciences

Jomo Kenyatta University of Agriculture and Technology

P.O. Box 62200-00200; Nairobi

Tel: 254-67-52711/52181-4
Fax: 254-67-52161

director@itromid.jkuat.ac.ke

Haki zako kama mshiriki katika utafiti:

Utafiti huu umepitiwa na kupitishwa na KEMRI's Ethical Review Committee. Kamati hii imepitia huu utafiti ili kusaidia kulinda haki za washiriki. Kama una maswali yoyote kuhusu haki yako kama mshiriki wa utafiti unaweza kuwasiliana na: katibu wa KEMRI ERC (kundi la watu wananaopitia utafiti ili kulinda haki yako) katika 020-27722541, au 0722 205901/ 0733 400003. Email: ercadmin@kemri.org

- Kauli yako ya ridhaa na saini:
- Kama umesoma ridhaa, au kama imesomwa na ukaelezwa , na umeelewa habari na hiari na umekubali kujiunga na utafiti huu, tafadhali soma kwa makini maelezo ya hapa chini kabla ya kupiga saini jina lako:
- Nimepewa nafasi ya kuuliza maswali yoyote na nina uhakika kuhusu majibu ambayo nimepeana.
- Najua kwamba taarifa yoyote nimetoa itakuwa siri na kwamba mimi ninaweza kuondoka kwenye utafiti huu wakati wowote.
- Nikiamua kuondoka au kukataa kuwa katika utafiti, naelewa kwamba hakutakuwa na madhara.

- Nimeitikia kupeana Jina, namba ya simu na anuani ya kuwasiliana katika kesi ya dharika kuandika.
- Mimi kukubaliana na kuchukua sehemu katika utafiti huu kwa kujitolea, na nimepewa nakala ya fomu hii ya ridhaa ya kutunza.

……

……..

Jina la mhojiwa	Saini ya mhojiwa na tarehe
……	……..
Jina la mhojaji	Saini ya mhojaji na tarehe
……	……..
Jina la mtafiti	Saini ya mtafiti na tarehe

Appendix 3: Questionnaire for Respondents

Utilization of condoms among HIV positive women presenting at Comprehensive Care Centre of Thika Level 5 Hospital**,** 2013

(A) Basic Information

1. Date of interview_____

2. Questionnaire serial number_____

3.Interviewers' Name _____ Signature _____

Background and Biographical Information

No	**Questions**	**Coding categories**		**Skip to**
1.	When were you born?	Month_____	1	
		Year_____	2	
		Don't know month	3	
2.	What is your residence?	Thika	1	
		Outside Thika	2	
3.	Have you ever gone to school or had formal education?	No formal education	0	
		Primary	1	
		Secondary	2	
		Post secondary	3	
4.	Main occupation?	Unemployed	1	
		Civil servant	2	
		Self-employed/business	3	
		Housewife	4	
		Farming	5	
		Other	77	

		(specify)_____		
5.	What is your religion?	Christian Protestant	1	
		Catholic	2	
		Muslim	3	
		Buddhist	4	
		Hindu	5	
		No religion/	6	
		Other (specify):_____ _	77	
6.	What is your marital status?	Single	1	
		Married Monogamous	2	
		Polygamous	3	
		Divorced	4	
		Cohabiting	5	
		Widower	6	
7.	What is your sexual orientation?	Heterosexual	1	
		lesbian	2	
		No response	99	

(C) Knowledge regarding condom utilization

No	Questions	Coding categories		Skip to
	When did you first find out you were HIV positive?	Month,Year: _____		
	When did you enroll at the CCC for the first time?	Three months ago	1	
		Six -12 months ago	2	
		More than one year ago	3	
	Have you always used a condom in all sexual	Yes	1	
		No	2	

	encounters for the past 6months?			
	During your visits to the CCC, do you receive adherence counseling on condom use?	Always	1	
		Sometimes	2	
		Hardly	3	
		Never	4	
	Apart from CCC do you have any other source of information on condom use?	Radio	1	
		Television	2	
		Friends	3	
		Partner	4	
		Internet	5	
		Other specify	77	
	In your own view, what uses are condoms for?	Hygiene purposes	1	
		To make sex more enjoyable	2	
		Prevent pregnancy	3	
		To prevent HIV /STI transmission	4	
	Are condoms really safe and effective to prevent HIV infection and re-infection? If no explain why?	Yes	1	
		No	2	
		Don't know	88	
	Have you been shown how to use a condom during your visits to the CCC?	Yes	1	
		No	2	
	Have you ever heard about female condoms?	Yes	1	
		No	2	
	Have you ever used a female condom?	Yes	1	
		No	2	
	If you were using condoms before, why did you stop?	To conceive	1	
		Too expensive	2	
		Not available	3	
		Partner didn't approve/cope	4	
		Started taking ARVs	5	
		Changed behaviour	6	

	How would you describe your sexual relationships?	With a regular partner	1	
		Non regular	2	
		Commercial sex	3	
	If married or have a partner, does your partner know about your HIV status?	Yes	1	
		No	2	
	If you have a partner, do you know about their HIV status?	No I don't know	1	
		Yes, HIV positive	2	
		Yess, HIV negative	3	**Q12**
	1f YES to Q10, are they enrolled at a CCC	Yes	1	
		No	2	
	Have you had sexual intercourse with any partner since your last visit to the CCC?	Yes	1	
		No	2	
	Do you think there any risks involved for failure to use condoms when your partner is HIV positive?	Yes	1	
		No	2	
		Don't know	88	
	Under what circumstances would you have sexual intercourse without condom?	With my spouse regardless of her/his HIV status	1	
		With the person you have been fantasizing about	2	
		When having sex with a person for the first time	3	
		If my partner/customer refuse to use a condom	4	
		Other (specify)	77	
	Which of these scenarios would be most risky to have sex without a condom?	A regular partner who is HIV negative	1	
		A regular partner who is HIV positive	2	
		A person of unknown HIV status	3	
		Other (specify)	77	

	Does your sexual partner(s) sometimes resist use of condom?	Yes	1	
		No	2	
	How can people who are HIV positive protect themselves from getting re-infected with HIV?	Abstain from sex	1	
		Non-penetrative sex/thigh	2	
		Always using a condom	3	
		Have only one sex partner	4	
		Know their partner's status	5	
		Other (specify)_____	77	
	How do you prevent a condom from breaking?	using only once	1	
		Storing properly	2	
		Opening carefully	3	
		Applying properly	4	

(D) Perceptions& Attitudes towards condom use

No	Questions	Coding categories		Skip to
1.	Do you think it is necessary to use a condom even if both sexual partners are HIV positive? If no explain why?	Yes	1	
		No	2	
		Don't know	88	
2.	Do you think you should always use a condom when you are HIV positive?	Yes	1	
		No	2	

3.	Only men decide whether to use a condom or not?	True	1	
		False	2	
4.	Is it okay for a woman to refuse sex if the man does not want to use a condom?	Yes	1	
		No	2	
5.	Tick Reasons for not using a condom at last sex with a regular partner?	Partner is HIV-positive	1	
		Found it difficult to discuss about condom	2	
		I never use condoms	3	
		Condoms take away romance from sex	4	
		Would make partner suspicious	5	
		Did not know about using condoms for this disease	6	
		Did not have condoms	7	

(E) Frequency or consistency of condom use

No	**Questions**	**Coding categories**		**Skip to**
1.	Condoms should be used every time, from start to finish of each sexual encounter?	agree	1	
		Strongly agree	2	
		disagree	3	
		Strongly disagree	4	
		Don't know	88	
2.	Have you been sexually active in the past six months?	Yes	1	
		No	2	
3.	Have you used a condom during your sexual encounters in the past six months?	Yes	1	
		No	2	
4.	Do you use a condom when you	Yes	1	

	engage in sex?	No	2	**Q 6**
5.	If yes, How often do you use a condom?	Always	1	
		Sometimes	2	
6.	How often do you engage in sexual intercourse per week?	One to three times	1	
		Four-to six times	2	
		More than seven times	3	
7.	Was there a time when you had to engage in sexual intercourse but you had run out of condoms?	Yes	1	
		No	2	
	If YES, how many times have you engaged in sexual intercourse without a condom in the past three months?	Less than 10	1	
		More than 10	2	

(F) Factors associated with non-use of condoms

No	**Questions**	**Coding categories**		**Skip to**
1.	What factors would affect your accessibility to condoms?	Price	1	
		Distance	2	
		Preference	3	
		fear of being seen buying	4	
2.	Where would you prefer to get your condoms from?	Chemist	1	
		CCC clinic	2	
		Public toilet	3	
		VCT/FP clinic	4	
		Supermarket	5	
3.	Do you have a preference for a certain type of condom?	Trust	1	
		Salama	2	
		Rough rider	3	
		Durex	4	
		Raha	5	
		Other, specify	77	

Appendix 4: Dodoso

Utumiaji wa kondomu kwa akina mama walio na virusi vya ukimwi (VVU) katika kituo cha CCC , Hospitali ya Thika Level 5

(A) maandishi jumla

1. Siku ya mahojiano _____

2. Namba ya kutambulisha kifaa cha maswali _____

3. Jina na saini ya mtafiti/ mhojiaji _____

(B) Wasifu wako

No	**Maswali**	**kanuni**		**Enda hadi**
1.	Umri wako	Miaka 18 – 30	1	
		Miaka 31-40	2	
		Miaka 41-49	3	
2.	Unaishi wapi?	Thika	1	
		Nje ya Thika	2	
3.	Ngazi ya elimu?	Sikusoma hata	1	
		Shule ya msingi	2	
		Sekondari	3	
		Chuo kikuu	4	
4.	Unafanya kazi gani?	Ajira	1	
		Mtumishi wa umma	2	
		Kujiajiri	3	
		Nyingine (Taja)_____	77	
5.	Dini yako?	Mkristo protestanti	1	
		mkatoliki	2	
		Muislamu	3	
		Buddhist	4	

		Mhindu	5	
		kafiri	6	
		Nyingine (taja):_____	77	
6.	Nini hadhi yako ya ndoa?	Sijaoa	1	
		Nimeoa mmoja	2	
		wengi	3	
		Talaka	4	
		Kinyumba	5	
		Mjane	6	
7.	Nini hadhi yako ya mapenzi?	kawaida	1	
		shoga	2	
		Hakuna jibu	99	

(C) Maarifa kuhusu utumizi wa kondomu

No	**Maswali**	**kanuni**		**Enda hadi**
1	ulijua lini kwa mara ya kwanza kuhusu hali yako ya HIV?	Mwezi,mwaka: _____		
2.	Ulijiunga na kituo cha CCC kwa mara ya kwanza lini?	Miezi tatu iliyopita	1	
		Miezi 6 -12 iliyopita	2	
		Zaidi ya mwaka mmoja	3	
3.	Hua unatumia mipira kila mara unapojihusisha kimapenzi kwa miezi sita iliyopita?	Ndio	1	
		La	2	
4.	Unapotembelea kituo cha CCC, unapata mafunzo kuhusu	Kila mara	1	
		wakati mwingine	2	

	matumizi ya kondomu?	Apana	3	
		Sijawahi kufunzwa	4	
5.	unapata mafunzo kuhusu matumizi ya kondomu wapi?	Radio	1	
		runinga	2	
		clinic	3	
		Internet	4	
		Nyingine taja	77	
6.	Kwa maoni yako, condoms ni za kazi gani?	usafi	1	
		Kufurahia mapenzi	2	
		Kuzuia kushika mimba	3	
		Kuzuia kupata ukimwi	4	
7.	Unadhani Kondomu zinasaidia kuzuia kupata ukimwi	Ndio	1	
		La	2	
		Sifahamu	88	
8.	Umefunzwa jinsi ya kutumia Kondomu katika kituo cha CCC?	Ndio	1	
		La	2	
9.	Umewahi kusikia kuhusu mipira ya wanawake?	Ndio	1	
		la	2	
10.	Ushawahi kutumia mipira ya wanawake?	Ndio	1	
		La	2	
11.	Kama ulikua unatumia kondomu kisha ukaacha, mbona uliacha?	Nilitaka kupata motto	1	
		Bei ghali	2	
		Kutopatikana	3	
		Mchumba alikataa	4	
		Nilanzishwa ARVs	5	
		Nilibadili mienendo	6	
12.	Unahusika kwa mapenzi ina gani?	Na mchumba mmoja		
		Zaidi ya mmoja		
		Kupata riziki		

13.	Mchumba wako anafahamu kuwa una virusi vya ukimwi?	Ndio	1	
		La	2	
14.	Unaelewa hali ya wachumba wote ulionao?	La	1	
		Ndio ana virusi	2	
		La, hana virusi	3	**Q12**
15.	kama NDIO kwa Q10, wamejiunga kwa kituo cha CCC?	Ndio	1	
		La	2	
16.	Umejihusisha na mapenzi tangu kutembelea kituo cha CCC mara ya mwisho?	Ndio	1	
		La	2	
17.	Unadhani kuna madhara ya kutotumia mipira unapofanya mapenzi?	Ndio	1	
		La	2	
		Sifahamu	88	
18.	Wakati gani unaeza fanya mapenzi bila kutumia kondomu?	Na mchumba wako bila hata kjua hali yake	1	
		Na mtu ambaye umekua ukimtamani	2	
		Ukifanya mapenzi na mpenzi kwa mara ya kwanza	3	
		nyingine (taja	77	
19.	Wakati gani ndio unadhani ni rahisi kupata virusi vya ukimwi?	Kufanya mapenzi na mchumba mwenye hana virusi	1	
		Kufanya mapenzi na mchumba aliye na virusi	2	
		Kufanya mapenzi na mchumba usiyejua hali yake	3	
		Zaidi (taja)	77	
20.	Kuna wakati mchumba anakataa mtumie kondomu?	Ndio	1	
		La	2	
21.	Watu walio na virusi wanawezaje kujizuia kupata virusi vingine?	kujizuia na mapenzi	1	
		kufanya mapenzi bila kutumia sehemu zao za siri.	2	
		kutumia mipira kila mara	3	
		kuwa na mpenzi mmoja pekee?	4	

		Kila mchumba kupimwa kabla ya kujihusisha na mapenzi	5	
		Zaidi (taja)_____	77	
22.	Unafaa kuchunga kondomu vipi ndio isipasuke?	Kutumia mara moja pekee	1	
		Kuhifadhi vizuri	2	
		Kufungua kwa makini na kutumia vilivyo	3	

(D) Maono kuhusu utumizi wa kondomu

No	**Maswali**	**kanuni**		**Enda kwa**
	Ni muhimu kutumia mpira mnapojihusisha na mapenzi na mchumba aliye na virusi?	Ndio	1	
		la	2	
		sifahamu	88	
	Unadhani ni muhimu kutumia kondomu kila mara kwa watu walio na virusi?	Ndio	1	
		La	2	
	Wanaume pekee ndio wanaoamua kama mipira itatumika kufanya mapenzi?	Kweli	1	
		La	2	
	Mwanamke anaeza kukataa kufanya mapenzi kama mwanamme hataki kutumia kondomu?	Ndio	1	
		La	2	
	Eka sahihi ( ) sababu za kutotumia mpira mara ya mwisho ulipojihusisha na mapenzi na mchumba wako	mchumba pia ana virusi	1	
		Sikua na ujasili wa kuongea kuhusu mpira na mchumba	2	
		sijawai kutumia mipira	3	
		mipira inaharibu radha ya mapenzi	4	
		mchumba angeshuku nina virusi	5	

		Sikujua mipira inazuia kuambukiza virusi	6	
		sikua na mipira	7	

(E) Mzunguko au msimamo wa utumizi wa kondomu

No	Maswali	Kanuni		Ruka hadi
1.	Mipira inafaa kutumiwa kila mara kuanzia kufanya mapenzi hadi kumalizia	Nakubali	1	
		Nakubali kabisa	2	
		Napinga	3	
		Napinga	4	
		sifahamu	88	
2	Umekua ukijihusisha na mapenzi miezi sita iliyopita	Ndio	1	
		La	2	
3.	Umekua ukitumia kondomu miezi sita iliyopita?	Ndio	1	
		La	2	
4.	Unatumia mpira kila mara unajihusisha kimapenzi	Ndio	1	
		La	2	**Q 6**
5.	Kama NDIO, unatumia kondomU…	Kila mara	1	
		Wakati mwingine pekee	2	
6.	Unahusika kimapenzi mara ngapi kwa wiki?	Mara moja-tatu	1	
		Mara nne- sita	2	
		Mara zaidi ya saba	3	
7.	Kuna wakati ulitaka kujihusisha kimapenzi lakini kondomu zilikua zimeisha?	Ndio	1	
		La		
	Kama NDIO, umejihusisha kimapenzi mara ngapi bila kutumia mpira miezi tatu iliyopita?	Mara isiyozidi 10		
		Zaidi ya 10		

(F) Sababu za kutotumia mipira

No	Maswali	Kanuni		Enda hadi
1.	Nini kinazuilia kupata kondomu	Bei ghali	1	
		Ubali wa cliniki	2	
		Sipati aina ninayapenda	3	
		kujulikana		
2.	Ungependa kupata kondomu wapi?	Duka la dawa	1	
		CCC clinic	2	
		Vyoo vya umma	3	
		VCT/FP clinic	4	
		Duka la jumla	5	
3.	Kuna aina ya konomu unayoipendelea zaidi?	Trust	1	
		Salama	2	
		Rough rider	3	
		Durex	4	
		Raha	5	
		nyingine, taja	77	
4.	kuna sababu gani za kutotumia mipira?	Inaharibu radha ya mapenzi	1	
		kuogopa kuachwa na kuchapwa na mchumba	2	
		Itaonyesha humuamini mchumba wako	3	
		Pombe na dawa za kulevya	4	
		Dini	5	
		ziada,taja	**77**	

Appendix 5: Focus Group Discussion Guide

Utilization of condoms among HIV positive women presenting at Comprehensive Care Centre of Thika Level 5 Hospital**.**

Introduction

How are you? Welcome to the discussion. I am ANNE MACHARIA from KEMRI/ JKUAT. I will be the facilitator for this session with the assistance of my colleague who will record our discussion. This discussion is aimed at discussing your views in regards to condom use in your community. A tape recorder will be used during this session to audio tape the discussion for analysis. However, no videos will be taken and the recordings will only be used for research purposes. Do not use your real names during the session to protect your identity. Your participation is voluntary and may refuse to answer at any time without suffering any consequencies. You will not be charged for participating, however, the results of this study will be used to assist in formulating policies that may initiate prevention strategies against HIV re-infection. The information you give will be confidential. Do you agree to participate?

Date …….

Starting time ……

Ending time ……

Number of participants: At start ……

At the end ……..

Purpose

This instrument aims to assess the attitude and practices of HIV positive women in regards to condom use.

Ground rules for FGD

1. Free participation
2. Free contribution to ideas at any point
3. Be attentive
4. No right or wrong answers
5. Talk out your point without consulting
6. Don’t personalize your contribution
7. Everyone has equal chance to contribute to this session.

Appendix 6: Kiongozo cha Majadiliano

Utumizi wa kondomu miongoni mwa wanawake walio na virusi vya ukimwi (VVU) katika kituo cha CCC, Hospitali ya Thika Level 5

Utangulizi

Nawasalimu nyote na karibuni. Kwa majina ni ANNE MACHARIA, nitakua mwelekezi wenu kwa usaidizi wa mwenzangu (JINA) atakaye nasa mazungumzo yetu. Madhumuni ya majadiliano haya ni kujadiliana maono yenu kuhusu utumiaji wa mipira kufanya mapenzi kwa akina mama walio na virusi vya ukimwi (VVU) katika jamii yenu. Kinasa sauti kitatumika ndio kuwezesha uchanganuzi wa majibu yenu lakini video haitachukuliwa kwa hivyo msitie shaka. Kushiriki ni chaguo lako na ukiamua kutoshiriki kwenye utafiti , unaweza kufanya hivyo kwa uhuru bila madhara dhidi yako. Hakuna gharama kwako kwa kushiriki . Hata hivyo, matokeo yatatumika kusaidia katika kutunga sera ambazo zinaweza kuanzisha mikakati ya kuzuia dhidi ya maambukizi ya VVU. Kila juhudi zitafanywa kulinda faragha yako na usiri wako.

Tarehe ya leo …… Nambari ya washirika Kuanzia……

Kumalizia ……..

Saa ya Kuanza ……

Saa ya Kumalizia ……

Madhumuni ya utafiti

Hiki kifaa kina madhumuni ya kutafiti mwelekeo wenu kuhusu utumiaji wa mipira kufanya mapenzi kwa akina mama walio na VVU.assess the attitude and practices of HIV positive women in regards to condom use.

Sheria za Majadiliano

Kuhusika ni kwa hiari yako.

Kushiriki na kutoa maoni yako wakati wowote

Kua maakini

Hakuna jibu lisilo sahihi

Shiriki bila kujadiliana na mwenzako

Usiseme kujihusu na kila mtu ana usawa wa kushiriki.

Appendix 7: Questions for Focus Group Discussions

Utilization of condoms among HIV positive women attending the Comprehensive Care Centre of Thika Level 5 Hospital**,**

Umeskia kuhusu kondomu na nini kazi zake?

Have you heard about condoms and what are their use?

Nani huamua kama kondomu itatumika kati ya mme na mke?

Who decides whether to use a condom during sexual intercourse?

Vizuizi vya kutumia kondomu ni vipi?

What are the barriers of condom use among HIV positive women?

Je, mwanamke anaeza kukataa kufanya mapenzi kama mpenzi wake hataki kutumia mpira?

Is it okay for a woman to refuse sex if the man insists on not using a condom?

Je, ni tamaduni, mila au desturi zipi zinazofanya watu wasitumie kondomu?

What are the beliefs, myths and misconceptions associated with non-condom use?

Ni rahisi kupata kondomu?

How easy/ hard is it to acquire condoms?

Nini husababisha sana ukosefu wa kondomu?

What factors affect availability of condoms?

Mngependelea zaidi kupata kondomu zenyu wapi?

Where would you wish to get your condoms from?

Unaamini nini kinachofaa kufanywa ndio watu watumie mipira kila wanapo fanya mapenzi?

What do you think should be done to ensure that people use condoms consistently?

Appendix 8: In- Depth Interview Guide

Utilization of condoms among HIV positive women presenting at Comprehensive Care Centre of Thika Level 5 Hospital**,** 2013

How are you? I am ANNE MACHARIA from KEMRI/ JKUAT. I wish to interview you to hear your views in regards to condom use in your community. A tape recorder will be used during this session to audio tape the discussion for analysis. However, no videos will be taken and the recordings will only be used for research purposes. Your participation is voluntary and may refuse to answer at any time without suffering any consequences. You will not be charged for participating, however, the results of this study will be used to assist in formulating policies that may initiate prevention strategies against HIV re-infection. The information you give will be confidential. Do you agree to participate?

…… …….

Participant's name Signature/thumb print and date

…….. …….

Interviewer's name Interviewers' signature and date

1. **Umeskia kuhusu kondomu na nini kazi zake?**

   Have you heard about condoms and what are their use?

2. **Nani huamua kama kondomu itatumika kati ya mme na mke?**

   Who decides whether to use a condom during sexual intercourse?

3. **Watu walio na virusi huchukuliaje kutumia kondomu katika eneo hili?**

What are people's perceptions regarding condom use in this area?

4. **Vizuizi vya kutumia kondomu kila mara ni vipi?**

   What are the barriers of consistent condom use among HIV positive women?

5. **Je, mwanamke anaeza kukataa kufanya mapenzi kama mpenzi wake hataki kutumia mpira**?

   Is it okay for a woman to refuse sex if the man insists on not using a condom?

6. **Unafanyaje mpenzi anapokataa kutumia kondomu?**

   What do you do if your partner refuses to use a condom?

7. **Je, ni tamaduni, mila au desturi zipi zinazofanya watu wasitumie kondomu?**

   What are the beliefs, myths and misconceptions associated with non-condom use?

8. **Nini husababisha sana ukosefu wa kondomu?**

   What factors affect availability of condoms?

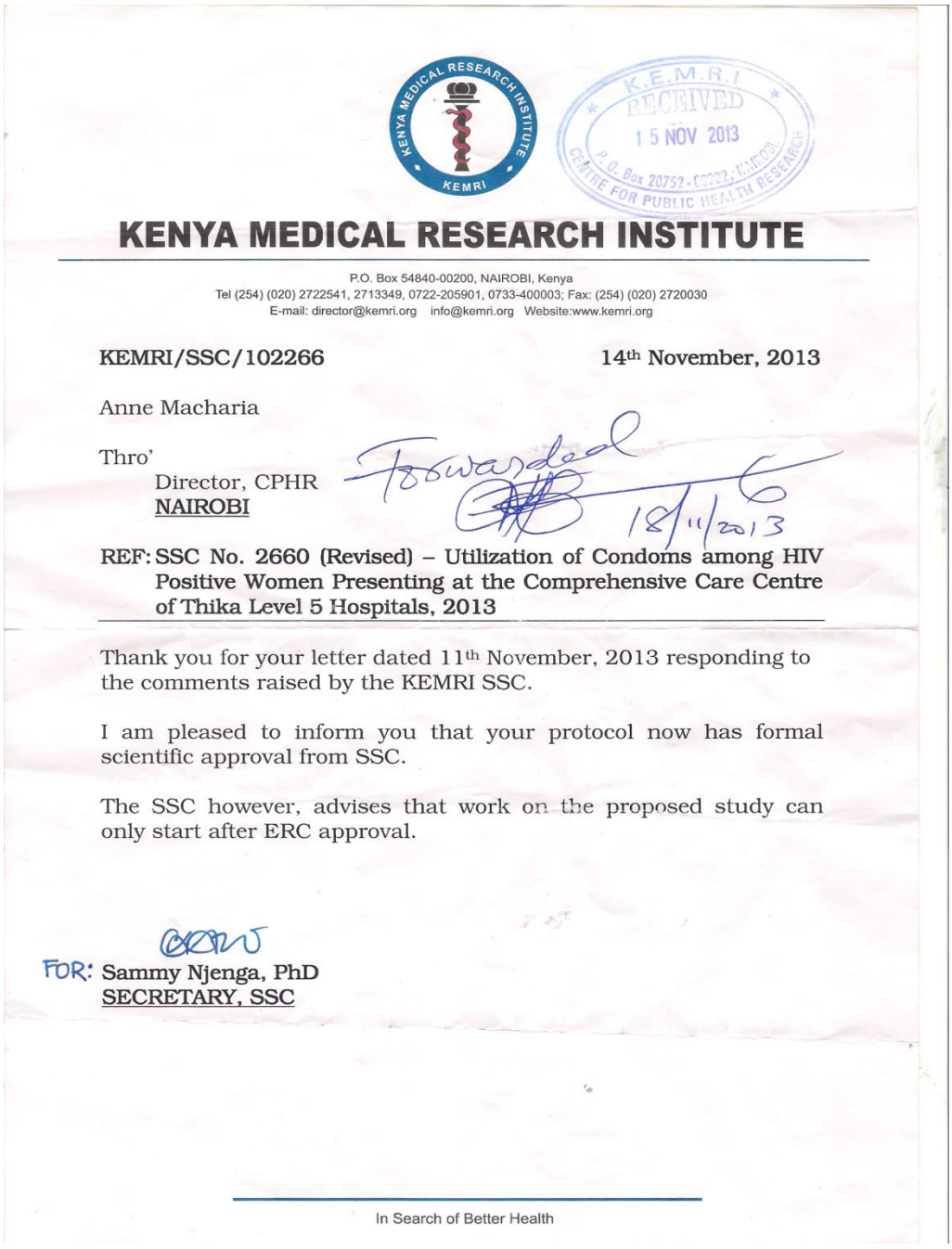
9. **Mngependelea zaidi kupata kondomu zenyu wapi?**

   Where would you wish to get your condoms from?

10. **Unaamini nini kinachofaa kufanywa ndio watu watumie mipira kila wanapo fanya mapenzi?**

    What do you think should be done to ensure that people use condoms consistently?

Appendix 9: Approval letter by steering committee



KENYA MEDICAL RESEARCH INSTITUTE

P.O. Box 54840-00200, NAIROBI, Kenya
Tel (254) (020) 2722541, 2713349, 0722-205901, 0733-400003; Fax: (254) (020) 2720030
E-mail: director@kemri.org info@kemri.org Website:www.kemri.org

KEMRI/SSC/102266 14th November, 2013

Anne Macharia

Thro'
Director, CPHR
NAIROBI

Forwarded 18/11/2013

REF: SSC No. 2660 (Revised) – Utilization of Condoms among HIV Positive Women Presenting at the Comprehensive Care Centre of Thika Level 5 Hospitals, 2013

Thank you for your letter dated 11th November, 2013 responding to the comments raised by the KEMRI SSC.

I am pleased to inform you that your protocol now has formal scientific approval from SSC.

The SSC however, advises that work on the proposed study can only start after ERC approval.

FOR: Sammy Njenga, PhD
SECRETARY, SSC

In Search of Better Health

Appendix 10: Ethical Review Committee Approval Letter

KENYA MEDICAL RESEARCH INSTITUTE

P.O. Box 54840-00200, NAIROBI, Kenya
Tel (254) (020) 2722541, 2713349, 0722-205901, 0733-400003; Fax: (254) (020) 2720030
E-mail: director@kemri.org info@kemri.org Website:www.kemri.org

KEMRI/RES/7/3/1 **January 24, 2014**

TO: **ANNE MACHARIA,**
PRINCIPAL INVESTIGATOR

THRO': **DR. CHARLES MBAKAYA,**
ACTING DIRECTOR, CPHR,
NAIROBI

Forwarded 4/2/2014

Dear Madam,

RE: SSC PROTOCOL NO. 2660 (*RESUBMISSION*): "UTILIZATION OF CONDOMS AMONG HIV POSITIVE WOMEN PRESENTING AT THE COMPREHENSIVE CARE CENTER OF THIKA LEVEL 5 HOSPITAL, 2013"

Reference is made to your letter dated 10th January 2014. The ERC Secretariat acknowledges receipt of the revised study protocol on 16th January 2014.

This is to inform you that the Ethics Review Committee (ERC) reviewed the documents submitted and is satisfied that the issues raised at the 222nd meeting of the KEMRI ERC on 10th December 2013 have been adequately addressed.

The study is granted approval for implementation effective this **24th January, 2014**. Please note that authorization to conduct this study will automatically expire on **January 23, 2015.** If you plan to continue with data collection or analysis beyond this date, please submit an application for continuing approval to the ERC Secretariat by **December 12, 2014**.

Any unanticipated problems resulting from the implementation of this protocol should be brought to the attention of the ERC. You are also required to submit any proposed changes to this protocol to the SSC and ERC prior to initiation and advise the ERC when the study is completed or discontinued.

You may embark on the study.

Yours faithfully,

EAB

ELIZABETH BUKUSI,
ACTING SECRETARY,
KEMRI/ETHICS REVIEW COMMITTEE

In Search of Better Health

Appendix 11: Approval Letter by Ethics and Research Committee – TL5H

MINISTRY OF HEALTH

Tel.Thika 067 21621/2 fax 21778
All correspondence should be addressed to MED.SUPT.
When replying please quote

Ref; NO. MOH/TKA/

THIKA LEVEL 5 HOSPITAL
P.O. BOX 227
THIKA

Date: 27th March,2014

To Anne Macharia

REF: RESEARCH APPROVAL

Title: **UTILIZATION OF CONDOMS AMONG HIV P[OSITIVE WOMED PRESENTING AT THE COMPREHENSIVE CARE CENTRE OF THIKA LEVEL 5 HOSPITAL,2014**

Having discussed your research proposal, the Thika Level 5 Hospital research and ethics committee hereby gives you the green light to conduct above research after you clear the requisite fees.

You are adviced to strictly adhere to the data collection period as you outlined in the proposal. Request for extra data collection time must be made to the committee in writing. You are further advised to strictly stick to research ethics and staff and patients/clients confidentiality must not be breached.

Any data or information you may come across which does not form part of your research must not be used/ broadcast/divulged to other people without express authority of the hospital Medical Superintendent.

As you conduct your research you will be attached to Nurse Lucy Thuo and Dr. Njenga who is the head of department where you will be conducting the research.

On completion of the research you are expected and required to inform the hospital of your findings. This gives you an opportunity to help improving the provision of quality heath care at Thika Level 5 hospital.

In case you are found to contravene or violate the code of ethics the hospital reserves the right to terminate your research without prior warning.

We look forward to the findings of the research and we wish you the best.

Thank you.

DR. MBOGO

I..ANNE MACHARIA.....Agree and will adhere to the above terms.
Signed.....
Date..07/04/2014.....

07 APR 2014
THIKA LEVEL 5 HOSPITAL

1 | Page

Appendix 12: Abstract of Published Article

World Journal of AIDS, 2015, 5, 141-150
Published Online September 2015 in SciRes. http://www.scirp.org/journal/wja
http://dx.doi.org/10.4236/wja.2015.53017

Scientific Research Publishing

Consistent Condom Use among HIV Positive Women Attending Comprehensive Care Centre of Thika Level 5 Hospital, Kenya

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Abstract

Background: Condoms offer protection against human immunodeficiency virus (HIV) transmission when used correctly and consistently. Many HIV infected people do not use condom regularly, thus leading to new HIV infections and re-infections. In Kenya, condom use is considered to be low and HIV prevalence is high among women aged 15 - 49 years where utilization of condoms among HIV positive women has not been studied. Objectives: The study aimed at determining the prevalence of consistent condom use among HIV positive women aged 18 - 49 years and to investigate the variables associated with it. Methods: A mixed method of study design (qualitative and quantitative approaches) was employed. A total of 422 participants were selected randomly and inter- viewed using a pre-tested structured questionnaire. Three (3) focus group discussions with 8 participants in each group were conducted. Chi-square test ($p < 0.05$) and odds ratio with corresponding 95% confidence interval were computed to establish the association between consistent condom use and independent variables. Binary logistic regression model was used to identify variables independently associated with consistent condom use. Qualitative data were transcribed and coded and then analyzed thematically. Results: Consistent condom use among sexually active HIV positive women was found to be 57.4% (95%CI: 52.7% - 62.1%). The stepwise logistic regression revealed that attending tertiary education [aOR = 2.54; 95%CI = 1.30 - 4.95; P = 0.006], disclosing HIV status [aOR = 2.27; 95%CI = 1.27 - 4.06; P = 0.005], having an HIV negative partner [aOR = 4.23; 95%CI = 1.99 - 8.98; P < 0.001], not taking alcohol [aOR = 1.72; 95%CI = 1.10 - 2.69; P = 0.017], never encountered resistance to use condom by partners [aOR = 1.87; 95%CI = 1.15 - 3.03; P = 0.011] and perceived risk of contracting STIs [aOR = 2.11; 95%CI = 1.12 - 3.97; P = 0.021] as factors independently associated with consistent condom use. Conclusion: This study shows that there is still low prevalence of consistent condom use among HIV positive women. More education,

*Corresponding author.

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