

**INFLUENCE OF SOCIODEMOGRAPHIC CHARACTERISTICS ON KNOWLEDGE
AND ACCEPTABILITY OF FEMALE CONDOM USE BY WOMEN VISITING
MCH/ FP CLINICS IN KISUMU EAST SUB-COUNTY HOSPITAL, KENYA**

BY

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DECLARATION

This thesis is my original work and has not been presented to any other university or institution for a degree or any other award.

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DEDICATION

*To my God for his unceasing love and favor, to my caring parents, to my gifts Tresor and Reine,
and to my entire family for their unceasing love, support and encouragement.*

ABSTRACT

The female condom (FC) was developed as an alternative to male condom as a means to empower women so that they could have control over their own protection against STIs and unintended pregnancies. Despite serious campaign programs to sensitize women of reproductive age to take up contraception and provision of contraceptives in public health facilities the use of modern contraceptives is still low at 37.6% raising the need for more efforts to make modern contraceptive use more widespread among women in urban Kenya. The MCH/FP clinics provide a window of opportunity for service providers to promote contraceptive use among mothers. The FC is an effective modern contraceptive offered in MCH/FP clinics in preventing mother to child transmission (PMTCT) of HIV and reducing maternal and child morbidity and mortality. Although the FC was introduced in 1993, low level of knowledge still remains even among health care providers; the FC remains limited not widely available and under utilised. Therefore low use of the FC could be due to failure of delivery of the information by healthcare providers, low accessibility or low popularity of the product among women. This study sought to assess influence of sociodemographic characteristics on knowledge and acceptability of FC use by women visiting MCH/FP clinics in Kisumu East sub-County Hospital. The specific objectives were to evaluate influence of sociodemographic characteristics on knowledge, on acceptability and to identify barriers of FC use by women visiting MCH/FP clinics in Kisumu East sub-County Hospital. This study adopted a cross sectional study design where simple random sampling was used to select a sample size of 438 women of reproductive age calculated using Yamane formula (Yamane, 1967). Questionnaires were administered among women and Key Informant Interview (KII) was conducted among female nurses. Data from KII were analyzed thematically. Proportions were determined using chi-square analysis. Multivariate logistic regression was used to determine associations. Sociodemographic characteristics was regressed against knowledge on and acceptability of female condom use. Statistical significance was assessed at $p < 0.05$. Chi-square analysis revealed that sociodemographic characteristics (age, marital status, level of education and source of income) were significantly associated with FC knowledge among the women except religion. Regression analysis showed that age group 25-34 were three times more likely to have knowledge on FC while age 45-49 were 0.3 times less likely to have FC knowledge. The Married women (OR=4.3, 95% CI, 1.2-15.1; $P=0.02$), were more likely to have FC knowledge. As education level increases, knowledge of FC increases among these women. Chi-square and regression analysis against acceptability of FC revealed that sociodemographic characteristics were significantly associated with acceptability of FC except religion. Age group (25-34) OR=1.57, 95% CI, 0.62-3.96; $P=0.341$), married (OR=2, 95% CI, 0.80-5.01), secondary school, middle level, university were more likely to accept FC use. Those widowed, self employed, spouse dependent and farmers were less likely to accept FC use. Most women (86.8%) wished to know more about FC whereas (70.3%) were willing to use it if they had a chance to know more about it. Lack of information among women and nurses about FC, and availability of FC are the main barriers to FC use. This study has established that sociodemographic characteristics influence differently knowledge on and acceptability of FC use among women. Making FC more available and accessible will encourage nurses to give more information and FC will be well known and accepted for use by women.

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ABBREVIATIONS

AIDS:	Acquired Immune Deficiency Syndrome
AIDSCAP:	AIDS Control and Prevention Project
CSWs	Commercial Sexual Workers
DFID:	Department for International Development
DRH:	Division of Reproductive Health
FHI:	Family Health International
FHOK:	Family Health Options Kenya
FC	Female Condom
FP:	Family Planning
HCWs	Healthcare workers
HIV:	Human Immune Virus
IBP:	Integrated Business Planning
KDHS:	Kenya Demographic and Health Survey
KNBS:	Kenya National Bureau of Statistics
KEMSA:	Kenya Medical Supplies Agency
MCH:	Mother and Child Health
MOH:	Ministry of Health
NACC:	National AIDS Control Council
NASCOP:	National AIDS and STIs Control Program
PATH:	Program for Appropriate Technology
PMTCT:	Prevention of Mother To Child Transmission of HIV
SA:	South Africa
STIs:	Sexually Transmitted Infections
UNAIDS:	United Nations Aids Programme
UNICEF:	United Nations Children’s Fund
UNFPA:	United Nations Population Fund (formerly United Nations Fund for Population Activities)
VCT:	Voluntary Counselling and Testing
WHO:	World Health Organisation

DEFINITION OF TERMS

Reproductive age: A program that addresses the reproductive processes, functions and system at all stages of life.

Family Planing: a program that allows individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births

Sexually transmitted infections (STIs) are infections that are spread primarily through person-to-person sexual contact

Sociodemographic characteristics: Features including age, religion, marital status, source of income and level of education, in relation to women of reproductive age.

Women of reproductive age: Women of age between 15 years to 49 years

Knowledge of female condom use: Awareness and/or information about female condom and its advantages, disadvantages and use.

Acceptability of the Female Condom: the willingness to try, actually use and continue using the female condom.

Barriers to the use of female condom: Difficulties that prevents women of reproductive age from effective use of female condom.

Contraceptive: A device, drug or method, which is designed to prevent conception.

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CHAPTER ONE: INTRODUCTION

1.1. Background Information

The female condom was developed as an alternative to male condom as a means to empower women so that they could have control over their own protection against STIs and unintended pregnancies. The benefits of the female condom extend beyond contraception and STI prevention including HIV and AIDS. By providing women with the option to exercise control over one's own sexuality, the female condom acts as a powerful empowerment tool for women who are able to successfully negotiate its use. The female condom can also serve as a catalyst for communication around safer sexual practices at both individual/partner and societal level (Boyer *et al.*, 2010)

As a public health intervention, successful implementation of the female condom can serve as a model for future promotion and distribution of female initiated prevention technologies. Despite its high efficacy and the option to initiate protection that it provides women, programming of the female condom is not at a sufficient scale to impact HIV prevention even in the majority of countries where it is provided (MOH, 2009).

Women account for more than a half of all people living with HIV worldwide. In sub-Saharan Africa women constitute 60% of adults living with the virus (UNAIDS, 2007). In Kenya, according to the KNBS 2009, the Nyanza province had the highest estimated HIV prevalence at 19.03% in Kisumu East among population of reproductive age (15-49 years). The situation makes it necessary to develop and improve prevention actions that target women. The female condom is a practical option. It is the only available dual protection method that protects against STIs and unwanted pregnancies, the consequences of unwanted pregnancies include unsafe abortions which present another public health challenge to the community and the country at large. Thus, the use of the FC is seen as one of the safest methods to reduce the risk of unwanted pregnancies and infection prevention, and it is designed for women to initiate (Mung'ala *et al.*, 2006).

MCH/FP clinics offer women a broad set of family planning and maternal and child health services during the same appointment, at the same service delivery site, and from the same provider. Family planning is now acknowledged as one of the most successful development interventions, with potential benefits on maternal and child health outcomes, educational advances, economic development and women's empowerment (Bonguarts *et al.*, 2012).

The high rate of effectiveness on modern contraceptives including female condoms has led to its high use among women of child bearing age, thus they attain their desired number of children and determine the spacing of children. In addition to controlling pregnancies, women have also protected themselves against STIs by use of condoms, reduced the need for unsafe abortions and unnecessary maternal deaths. This is essential to securing the well-being and autonomy of women, while supporting the health and development of communities (Robert *et al.*, 2015)

There is a gap between awareness and practice of contraception. Despite having knowledge of contraception, compliance is low (Imbareen *et al.*, 2011). A study done among mothers coming for their MCH/FP clinics at Garissa provincial Hospital in Kenya, indicates the low level of women's awareness of contraceptive resulting from missed opportunities by Clinicians and Pharmacist and lack of community outreaches on the same which might have been hindering factors to uptake of contraceptives (Gerald, 2013). In Ghana among women attending child welfare clinics in urban ,level of education, discussing FP during Antenatal or with one's partner and previous use of contraceptives were significantly associated with current use of contraception. The findings on women's educational level underscore the importance of education on FP uptake, as less educated women were less likely to use contraceptives. Therefore, it is imperative that FP service providers must place special emphasis on, and address the needs of women of lower educational status during FP sessions to improve their contraceptive knowledge and use (Caroline *et al.*, 2014).

It was also noted among women of child bearing age attending MCH/FP clinic at Uasin Gishu Sub-County Hospital in Kenya, that despite the level of education playing a major role in extent of knowledge on contraceptives, the knowledge seemed to be limited to what was offered at the facility with many respondents regardless of their level of education did not know the contraception methods not available at the facility. This was attributed to the health workers at the facility limiting their talks and teachings on contraceptives to those offered at the facility therefore challenging the perception that respondents having higher levels of education knew more on contraceptives compared to the rest with lower levels of education (Robert *et al.*, 2015).

Research conducted in the sub-Saharan region and other parts of the world have identified several factors associated with knowledge, acceptance and utilisation of the FC among women of reproductive age (Crosby *et al.*, 2009). Evidence suggests that there is generally a low level of knowledge about the FC, and it was found among Zimbabwean women of reproductive age, that knowledge of the FC was low (36.3%) and most respondents (83.5%) reported never using them

(Chipfuwa *et al.*, 2014). The same study further revealed that age, education level, marital status and employment status of the women sampled were significantly associated with knowledge and acceptability of the FC while the actual utilisation of the FC was only predicted by age group (Guerra& Simbayi, 2014). Similarly to a study done in Nigeria found significant association of marital status, religion and level of education and previous sexual exposure with use of the female condom on bivariate analysis suggest some influence of socio-demographic variables on the use of the device (Ikeako L. *et al.*, 2015) .

Although use of a FC is regarded as a safe FP method, (Peters *et al.*, 2012) argue that FCs are far less accessible, and have remained expensive and highly underfunded and consequently, most women and girls in sub-Saharan Africa lack access to it.

A study done among women of child bearing age attending MCH/FP clinic at Uasin Gishu Sub-County Hospital in Kenya showed that barrier methods like male and female condoms were reported to burst or slip off during use. These were major problems as the removal of the barrier renders the method ineffective. This is caused by poor knowledge on use of barrier method (Robert *et al.*, 2015). There is some evidence that health care workers could be trained/retrained to provide more effective FP services during child welfare clinics through group health education sessions, distribution of simple educational material on postpartum FP, individualized counseling and initiation of chosen contraceptive method (Caroline *et al.*, 2014).

In Ghana, a study found that accessibility of the FC from nearby shops or pharmacies and health centres is extremely low among the sample as only 1.8% of the sample reported that the FC is accessible from nearby shops/pharmacies, while 7.4% reported the availability of the FC at health centers. However, the majority of the sample did not know whether the FC was available from nearby shops/pharmacies and health centers. It was further revealed that 11.6% of the sample reported that the FC is expensive while almost half of the sample did not know about the cost of the FC (Ananga M. *et al.*, 2017). A study by Ikeako found that despite the high level of awareness of the female condom among the respondents, the use rate of the device, was rather low .The low use rate in the face of a high level of awareness was related to non-availability, inaccessibility and high cost of the device (Ikeako L. *et al.*, 2015) .

In Kenya, the National Condom Policy, Strategy and the Kenya National HIV and AIDS Strategic Plan acknowledge that female condoms are a useful female initiated strategy, and give priority to ensuring adequate, high quality, national supplies and accessibility. Under Division of Reproductive

Health, Female condoms are intended to be offered as a contraceptive product to women at FP and MCH clinics, and by community distributors. Under NASCOP, female condoms are intended to be programmed with male condoms among the methods offered for STI/HIV protection, through VCT centres, public and private sector workplaces, pharmacies/chemists, and more commercial establishments, such as bars, restaurants, shops and supermarkets (MOH/NACC, 2001) .

This study was conducted among women of reproductive age visiting FP and MCH clinics, this population was considered appropriate because women at this age are at high risk of getting STIs and unwanted pregnancies, thus, the ones who need more information about contraceptive methods. The present study assessed influence of sociodemographic characteristics on knowledge and acceptability of female condom use by women of reproductive age visiting MCH/FP clinics in Kisumu East sub-County Hospital in order to recommend intervention strategies as an effort to increase knowledge and acceptability that are paramount to its usage.

1.2. Statement of the problem

Despite serious campaign programs to sensitize women of reproductive age to take up contraception and provision of contraceptive in public health facilities, there is still a rise in population at a rate of 2.9% per annum according to the Kenya Bureau of statistics and other problems such as rise in the number of street children, increased prevalence of STIs, unwanted pregnancies leading to rise of death during abortions. The use of modern contraceptives is still low at 37.6% raising the need for more efforts to make modern contraceptive use more widespread among women in urban Kenya (Teresa et al., 2011)

The MCH/FP clinics provide a window of opportunity for service providers to promote contraceptive use among mothers. Female condom is an effective modern contraceptive offered in MCH/FP clinics in preventing mother to child transmission (PMTCT) of HIV and reducing maternal and child morbidity and mortality. MCH/FP clinics are donated by women of reproductive, with diverse sociodemographic characteristics. In these clinics, women get education on public health information, PMTCT which refers to a set of antenatal (pregnancy), labor and postnatal services that are typically incorporated into maternal and child health (MCH) care which aim to prevent HIV infection among women, infants and young children and to keep mothers alive . It is also expected that at the FP clinic, information on all forms of FP methods, including female condom, is provided to ensure that all women who attend clinics are aware and able to choose a

preferable and suitable method for them. Therefore low use of female condom could be due to failure of delivery of the information by healthcare providers, low accessibility or low popularity of the product among women.

Thus this research sought to find out the influence of sociodemographic characteristics on knowledge and acceptability of female condom use by women visiting MCH/FP clinics in Kisumu East sub-county Hospital.

1.3. Objectives

1.3.1. Main Objective

To assess influence of sociodemographic characteristics on knowledge and acceptability of female condom use by women visiting MCH/FP clinics in Kisumu East sub-County Hospital

1.3.2. Specific objectives

1. To evaluate influence of sociodemographic characteristics on knowledge of female condom use by women of reproductive age visiting MCH/FP clinics in Kisumu East sub-county Hospital
2. To determine influence of sociodemographic characteristics on acceptability of female condom use by women of reproductive age visiting MCH/FP clinics in Kisumu East sub-county Hospital
3. To identify barriers of female condom use by women of reproductive age visiting MCH/FP clinics, Kisumu East sub-county Hospital

1.4. Research Questions

1. What is the influence of sociodemographic characteristics on knowledge of female condom use by women visiting MCH/FP clinics in Kisumu East sub-county Hospital?
2. What is the influence of sociodemographic characteristics on acceptability of female condom use by women visiting MCH/FP clinics in Kisumu East sub-county Hospital?
3. What are the barriers to female condom use by women visiting MCH/FP clinics in Kisumu East sub-county Hospital?

1.5. Significance

The findings from this study may enable women of reproductive age to have accurate information on female condom in Kisumu Sub-County and the County at large, as well as enlighten them to seek significant support to overcome barriers. This study may inform healthcare providers especially those who work in MCH and FP, the limitation in knowledge and acceptability about female condom use by women of reproductive age and the healthcare providers themselves. The study may help healthcare providers to develop strategies that will inform them on some access barriers that hinder women of reproductive age to use female condom and find the way to minimize the same. The researcher hopes that the study may lead to the generation of new ideas for better and more efficient female condom promotion in the sub-county and country as a whole. It will inform researchers on further areas of studies about female condom.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

This chapter discussed the literature on overview of female condom, sociodemographic characteristics influencing FC use, knowledge on FC use, acceptability of FC use and barriers to female condom use. The review was based on reports, published and unpublished literature both locally, regionally and globally.

2.2. Overview of female condom

The Female Condom is a sheath inserted in the vagina before sexual intercourse, providing protection against pregnancy and STIs, including HIV. The female condom has brought hope for women in their endeavors to contain HIV as Peter Piot (former Executive Director of UNAIDS) asserts: “Female condoms are of enormous importance to the fight against AIDS because they are the only existing, effective female-controlled preventive tool against HIV and other STIs. Female condoms must be brought within the reach of all women as a core part of the world’s commitment to moving towards universal access to HIV prevention, treatment, care, and support” (PATH & UNFPA, 2006).

Biology, gender roles, sexual norms, and inequalities in access to resources and decision-making power put women and girls at greater risk of infection than men and boys. Many women have insufficient information about sexual and reproductive health and do not understand the risks associated with their own or their partners’ sexual behaviors. Many of those who do recognize their vulnerability are powerless to protect themselves. Women who receive information and counseling, and who learn to use the female condom, can protect themselves even if their partners refuse to use a male condom (IBF,2005).

Women want the means to protect themselves from unplanned pregnancy and STIs, and they are eager to try products that offer protection. Early female condom introduction efforts were targeted to commercial sex workers (CSWs), because they are at high risk for HIV and other STIs and have an obvious need for a female initiated method of protection. The female condom is well accepted by CSWs in many countries, especially as an option when clients refuse to use male condoms. Training

that includes insertion practice has contributed to acceptance of the female condom by CSWs. (UNAIDS, 2005)

Married women can use the female condom's effectiveness in pregnancy protection to promote its use to their husbands, who may be reticent to use a condom, or who may associate condom use only with extramarital sex. In Zimbabwe, the female condom has been marketed successfully to couples as the "Care Contraceptive Sheath," thus distancing the product from any stigma associated with male condoms and STIs and building an image of acceptability of this method among couples. (UNAIDS, 2006).

2.3. Sociodemographic characteristics influencing Female condom use

Sociodemographic characteristics in this study include age, religion, marital status, level of education and source of income. A study done in the Urban United State revealed that characteristics of women associated with FC use included having more education. By contrast, age did not appear to have any significant bearing on FC use; women of any age group were as likely (or unlikely) to use FC as any other. Other context factors associated with FC use included being separated, widowed, or divorced (but not single or married), having multiple or paying sex partners, and having positive peer or network influences supporting FC use (Weeks *et al.*,2010).

A study done among women of child bearing age attending MCH/FP clinic at Uasin Gishu Sub-County Hospital in Kenya showed that women with primary education knew about condoms (male and female) but not as a contraceptive but as a method of preventing STIs and HIV yet the former is also true. The use of contraceptives among young married women, (aged 15-25) and older married women (aged 26-49) is slightly different as reported by 47% and 53% of the respondents respectively. The reason being that majority of the young married women still had desire for more children (Robert *et al.*,2010).

Kiamba division, Kiambu District in Kenya, it was shown that there was a significant relationship between use of the female condom and the level of education and also that unmarried respondents preferred using the female condom than the married. This was also shown in a study done among undergraduate female students in University of Ibadan in Nigeria, which revealed that over 80% were aware of the female condom and that done among university students in Dschang in the West region of Cameroon, which reported that 75.7% were aware of the existence and availability of the female condom (Mativo, 2010).

A study done in an impoverished urban area in Brazil show that higher levels of education contribute to positive attitudes towards female condom use, reaffirming access to education as an influential method in designing better habits for disease prevention. The study shows no association between adequacy of knowledge on female condoms, considering age, education and marital status, since p-values were greater than 0.05 ($p > 0.05$). This means that proper knowledge is independent of the characteristics of women. The exception to this is observed in religious orientation, where knowledge about the female condom among Catholics is more appropriate than among women of other religions and higher proportions of evangelical/spiritualistic women with inadequate knowledge was observed in comparison to those with adequate knowledge (Smalyanna et al., 2015).

Despite the available literature in this area, the sociodemographic characteristics influencing female condom use by women visiting MCH/FP in Kisumu East sub-county Hospital, Kenya remain unknown. As such, the current study sought to assess the influence of sociodemographic characteristics on knowledge and acceptability of female condom use by women of reproductive age visiting MCH/FP in Kisumu East sub-county Hospital, Kenya.

2.4. Knowledge on Female Condom use

It was noted among women of child bearing age attending MCH/FP clinic at Uasin Gishu Sub-County Hospital in Kenya, that despite the level of education playing a major role in extent of knowledge on contraceptives, the knowledge seemed to be limited to what was offered at the facility with many respondents regardless of their level of education did not know the contraception methods not available at the facility like those with primary education knew about condoms (male and female) but not as a contraceptive but as a method of preventing STIs and HIV. This was attributed to the health workers at the facility limiting their talks and teachings on contraceptives to those offered at the facility therefore challenging the perception that respondents having higher levels of education knew more on contraceptives compared to the rest with lower levels of education (Robert *et al.*, 2010). It was also revealed in a study done among women in MCH/FP clinics of Garissa provincial Hospital that the level of education and knowledge of contraception was the determinant factor in choosing a method to use (Gerald, 2013).

A study conducted in Ghana in 2008 among women of reproductive age revealed that despite high awareness of the FC in the years following the launch, most people currently have limited awareness and knowledge of it, since marketing efforts and product visibility have been limited

(Mativo, 2010). Knowledge, attitude and practice inadequacy on the female condom may reaffirm the little access to information and the scarce availability of this method in health services. In this case, it is believed that the lack of knowledge can lead to inadequate opinions and result in the non-use of condoms (Smalyanna et al.,2015).

Results of 2005 condom accessibility study among 15 to 49 year old (males and females) in Rwanda show that 97% have heard about female condoms but only 29% have used it at least once; the reasons for not using condoms are manifold and about half of the respondents mentioned perceived barriers such as lack of knowledge on how to use a condom (MOH:Rwanda, 2005).

Another study revealed that although women have found FC from a few sources, uptake remains low. Even those who have gained access to FC do not necessarily receive the training and support needed for its proper use (Weeks *et al.*,2010). After the first trial experience that affected negatively the repeated use of FC, the evidence suggests that adequate knowledge and skill to use a female condom are contributes to its repeated use. There is therefore, the need to provide adequate female condom education to potential users in order to maximize the benefits (Onoriode *et al.*,2013).

A study done in Ghana showed that women of reproductive age had low level of knowledge about FC and its usage which calls for concerted efforts aimed at increasing FC awareness and knowledge among women in their reproductive ages (Ananga M. *et al.*,2017). Although use of a FC is regarded as a safe method, Peters argue that FCs are far less accepted and accessible, and have remained expensive and highly underfunded and consequently, most women and girls in sub-Saharan Africa lack access to it (Peters *et al.*,2012). The evidenced low usage of a FC seem to influence the knowledge about its quality and value to reduce high sexually risk related infections. Similarly to a study done in Kumba Cameroon that awareness of the female condom was high but most respondents lacked knowledge on how to correctly use it (Elvis & Luchuo,2015).

Despite the available literature in this area, the influence of sociodemographic characteristics on knowledge of female condom use by women visiting MCH/FP Kisumu East sub-county Hospital, Kenya remain unknown. As such, the current study sought to evaluate the influence of sociodemographic characteristics on knowledge of female condom by women of reproductive age visiting MCH/FP Kisumu East sub-county Hospital, Kenya .

2.5. Acceptability on Female Condom use

Acceptance of the FC as a protective tool for unwanted pregnancies and STIs is likely to inform utilization of the FC. Some years ago, some studies showed low acceptance of female condom like a study done in Zimbabwe where the acceptability of the FC is low due to its convenience in terms of ease of access and difficulty in inserting it (Francis & Natshalag, 2003). Similar finding were observed in Ghana in 2017 among women of reproductive age and the study recommended thorough and vigorous public health action to increase awareness and acceptance of the FC as low acceptance of fc poses a danger to the health and wellbeing of the women and the nation as a whole (Ananga M. *et al.*,2017)

According to Tobin-west there were indications of considerable prospects for acceptability and use of female condoms among the students interviewed, as over two-thirds expressed optimism and willingness to try out the condoms if offered or made easily available (Tobin-west *et al.*,2017).

Women may be able to negotiate use of the female condom more easily than the male condom, giving them potentially more power to protect themselves in a sexual relationship. But the female condom must be acceptable to both men and women in order to be used consistently and correctly (FHI, 2007); Further, FHI research, 2008 indicates some initial acceptors which are likely to sustain female condom use over time including counselling which helps overcome women's initial difficulties in using the device, directing promotion campaigns to men and providing women with negotiation skills which are important to overcome men's resistance to use, and over time use tends to become concentrated among a subset of women or couples with high motivation to use it.

Years of empirical research confirm that female condoms have good acceptability among diverse populations, high rates of efficacy, and numerous advantages for women, men and young people (Vijayakumar *et al.*, 2006); for example in the Dominican Republic, women found that the female condom was acceptable and they also believed that it was the method preferred by their clients and regular partners; and this finding was noted worthy because both men and women approved of consistent female condom use (Lara *et al.*, 2009). Another acceptability study in South Africa found that 30% of female participants used the female condom at least once, and these 86% said that they would recommend it to freinds (Matthews and Harrison, 2006). Also in Zimbabwe, perceived effectiveness of the female condom was high, and following education and counseling, reported use of the female condom greatly increased over a 2 months period (Napierala *et al.*, 2008).

A study done by Onoriode on female condom use in Nigeria shows that even after difficulties with first time use, the majority of the participants and their partners preferred the female condom over their currently used method and stated that they would like to switch to using it in the future; They experienced the female condom as a safer and more natural and comfortable than the male condom while some men perceived use of the female as freedom from having to use a condom themselves, and stated that it increases male enjoyment and provides maximum pleasure and protection (Onoriode *et al.*, 2013).

In Kenya, it was reported in 2009 that 98 % of females in the Family Health Options Kenya (FHOK) sites accepted them and the main reason for accepting female condoms was that it was easy to use with them, and illustrated various successful negotiation strategies by which women could persuade their male partners (Brady and Kilonzo, 2009).

Despite the available literature in this area, the influence of sociodemographic characteristics on acceptability of female condom by women visiting MCH/FP Kisumu East sub-county Hospital, Kenya remains unknown. As such, the current study sought to determine the influence of sociodemographic characteristics on acceptability of female condom by women of reproductive age visiting MCH/FP Kisumu East sub-county Hospital, Kenya .

2.6. Barriers to Female Condom Use

Use of the female condom faces barriers among the women of reproductive age. These are gaps that include and are not limited to;

2.6.1. Low end user adoption

The association of the female condom with commercial sex workers in some settings, as opposed to a regular family planning measure for married couples, further compounds the problem of women's efforts to use the device. In a study from South India, 56% of women reported that requesting the use of a condom resulted in violence from their husbands (Newmann *et al.*, 2000). Another acceptability study in Burundi noted users' beliefs that the female condom was incompatible with a special sexual technique (ruganga), prevalent among many communities around the Lake Victoria basin, involving clitoral stimulation with a man's penis (Munyana, 2006).

Certain technical characteristics of the female condom can give negative first impressions to some users and pose continuing barriers to end-user adoption (Telles *et al.*, 2006). Some women say that the device is too long and its outer ring hangs outside of the body (Valappil *et al.*, 2005). According

to Mung'ala *et al.*, 2006, even with awareness about female condoms some women in Kenya still don't feel comfortable to use the device; Some of the issues they complain about are that the condom is too big and it makes noise during intercourse while others said the inserting procedure was cumbersome; It is also said that female condom can be inserted some hours before sex and that this enhances its use by positioning itself inside the vagina and taking the shape of a woman. Women however felt that this duration was too long and sort of inconvenient.

In some settings, women who use female condoms are viewed as prostitutes. In Malawi, despite being aware of the dual role of the female condom in preventing STIs and as a mode of contraception, community members have a negative perception of female condom usage; Interventions which targeted bars and saloons have created stigma and the perception that female condoms are only used by sex workers (MOH:Malawi, 2005); even in Kenya, some female respondents felt that for a woman to be able to use a female condom with her partner there must be some kind of a strong relationship and where a strong relationship did not exist it was most likely to be commercial sex (Mung'ala *et al.*, 2006). Studies have shown a high frequency of misuse and low levels of acceptability on the first attempt at use; Following repeated attempts, user confidence and satisfaction increase, as do users' skill at correct insertion and removal (Macaluso *et al.*, 2007); Without adequate training and counseling, women may lose interest after initial failed attempts or may expose themselves to risks of STIs and unplanned conception through mishandling of the female condom (Valappil *et al.*, 2005).

In some countries, female condom adoption is held back by negative cultural perceptions about touching or placing something within a woman's vagina. A study conducted among refugees in Kenya noted a major gap in respondents' knowledge of reproductive anatomy to the extent that some refugees questioned advocates' assurances that condoms (both male and female) would not disappear permanently into an individual's body cavity resulting in illness or death (Papo, 2006).

2.6.2. Limited affordability

The high price of the female condom is often cited as the primary obstacle to access. In SA, inadequate availability of FC remains an important barrier to FC use. The women said that FCs are not easily accessible. They pointed out that the device is not widely available in stores, hospitals and clinics(Mathenjwa & Maharaj, 2012). Another study also found that accessibility of the FC from nearby shops or pharmacies and health centers is extremely low (Chawatama,2014).

In Kenya, women said that the device is expensive and not many of them could afford to buy it, unless they could get it for free. The majority of them would prefer using the male condom as it is cheap and is widely available (Mung'ala *et al.*, 2006). Participants in focus group discussions in VCT centres, FHOK clinics and workplace sites in Kenya, indicated that they would be willing to pay about Kenya shillings (Ksh) 20 to 30 a piece, though they reported that kiosks were selling the product for over Ksh 100 each (Brady, 2008). The product itself appeared very popular when dispensed free in the workplace. They were more reports of willingness to use female condom in the future and were unanimous in their conviction that the product should be made widely available in Kenya (Brady, 2008).

Neondo, 2007 said that one problem in achieving widespread distribution in national programs has been its cost. In 2005, only 14 million female condoms were distributed worldwide, compared to 6-9 billion male condoms while between January and March 2007, Kenya procured 203,904 female condoms through the UNFPA compared with the 12 million male condoms per month.

2.6.3. Lack of adoption by healthcare providers

Negative attitude of health providers toward female condoms are widely acknowledged by researchers, government officials and advocates as a serious obstruction to increased access and use. According to Mantell *et al.*, 2001, growing evidence points not only to the positive role that health providers can play, but also to the possibility that they undermine promotional efforts and marginalize the female condom.

Studies conducted in several national settings demonstrate that healthcare providers often have negative views of method and lack information on how to promote it. Weeks *et al.*, 2010 found that one of the greatest continuing barriers to female condom uptake results from negative provider reactions to it and their own lack of familiarity or comfort with explaining its proper use. The initial responses of many health and service providers including primary care physicians, pharmacists, clinicians and even HIV counselors, tend to be dismissive and denigrating of female condoms. Some providers found themselves without the capacity, support, and training to implement female condom programs and therefore could not provide instruction, counseling, and follow-up to their clients (Mung'ala *et al.*, 2006; Witte *et al.*, 2006). Reasons for this include commonly expressed beliefs, often with no knowledge or evidence, that no one will use them, no one likes them, no one will purchase them, and difficulties with insertion and negotiation present insurmountable barriers to adoption of the method. (Weeks *et al.*, 2010)

Cultural attitudes and patterns also affect provider adoption. Provider training and counseling efforts often focused on female clients, with little information directed toward male partners and little effort made at encouraging open communication between partners about protection methods; Without male cooperation and support or training for women in sexual negotiation skills, female end-users may be unable to assert their right to an independent choice of contraception (Witte *et al.*, 2006).

In Kenya, most counselors are not comfortable with female condoms, as much as they say they are important (they do not sound convincing), lack of being too familiar with the product (limited knowledge), female condom is mostly discussed and demonstrated to those clients who show interest on the device and more emphasis is put on the male condom (Mung'ala *et al.*, 2006). In a study done among health care workers in Botswana found that 9.8% of the participants believed clients preferred the female condom; the majority 84.5% disagreed. This finding raises an important question: If health care workers believe clients do not prefer the female condom, should the condom be promoted? The majority of participants believed the condoms were not popular with clients and that not enough was being done to promote them (Lovemore *et al.*, 2012).

2.7. Operational framework

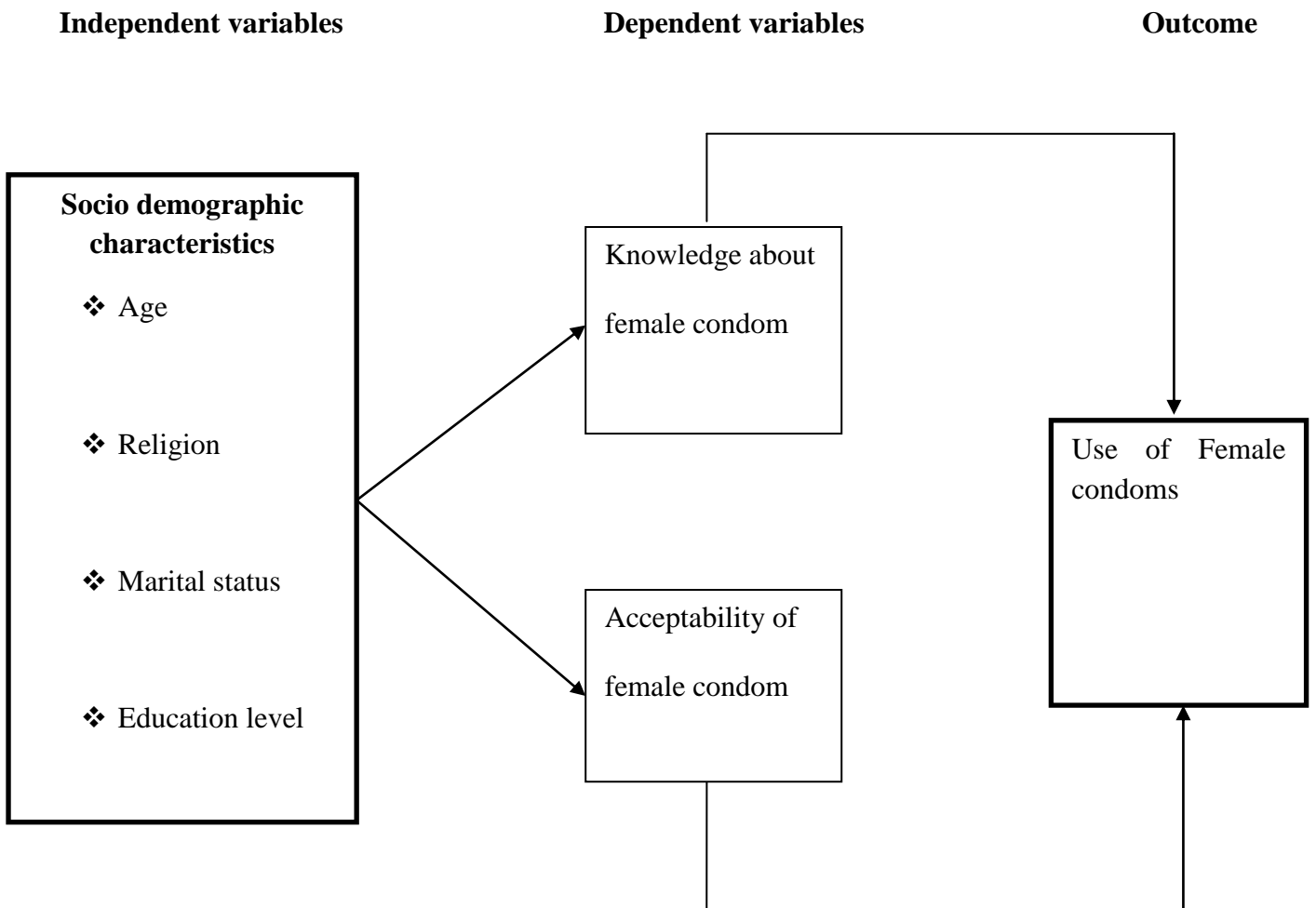


Figure 2.1 Conceptual Framework. Characteristics influencing female condom use

Own source

CHAPTER THREE: METHODOLOGY

3.1. Introduction

This chapter gives a description of methodology applied in the study. It gives a description of the study area, study population, inclusion and exclusion criteria, study design, sample size determination, sample procedure, data collection tools and procedure, pretesting of tools, measurement of variables, data analysis and ethical considerations.

3.2. Study Area

The research setting was Kisumu East sub-County Hospital (formerly Kisumu District General Hospital) which is located in Kisumu city, Kisumu East sub-county, Kisumu County in Kenya. Kisumu East sub-county Hospital serves as a referral hospital in Kisumu East sub-county. Services offered at the hospital include: Maternal Child Health (MCH)/Family Planning (FP), CCC (Comprehensive care Centre), Maternity and other reproductive services, Curative Adults and Pediatric in/outpatient services. Other specialized services include Dental, Orthopedic, Ophthalmology, Occupational therapy and Physiotherapy services. Within the MCH/FP clinic, services such as vaccination, nutritional counseling, health education and family planning are offered. In family planning department, contraceptives such as implants, injectables, IUCDs, oral contraceptives and barrier methods (male and female condoms) are provided depending on factors such as side effects, cost and preference. MCH/FP clinics were the target services for this study. The hospital has qualified nurses working with nurse aid in MCH/FP (Map-Appendix I).

3.3. Study Population

This study was conducted among women of reproductive age (15-49) visiting FP and MCH clinics in Kisumu East sub-County Hospital. MCH/FP clinics were considered as an appropriate area for this study; in these clinics information about STIs prevention, PMTCT and information about contraceptive methods including female condoms are given by nurses. MCH/FP clinics receive mostly women of reproductive age which are the ones who need more information about contraceptive methods and they are at high risk of getting HIV and AIDS. MCH/FP messages give women the information they need, when they need it.

3.3.1. Inclusion criteria

This study included and sought consent (appendix II) of women of reproductive age (18-49) seeking MCH and FP services in Kisumu East sub-county Hospital .

3.3.2. Exclusion criteria

This study excluded women of reproductive age below 18years seeking MCH and FP services in Kisumu East sub-county Hospital. These women at this age need assent from their parents or guardians which was not ease at the same moment. Women also from outside of Kisumu East sub-county were excluded.

3.4. Study Design

The study adopted a hospital based cross-sectional study design .

3.5. Sample Size Determination

According to KNBS (2009), Kisumu East sub-county had a population of 441,978 where women of reproductive age (15-49) comprise 24% of the population and Yamane sample determination formula was used to calculate the sample size (Yamane, 1967).

$$N = \frac{N}{1+N(e^2)}$$

where:

n: the desired sample size

N: the size of population

e: the level of precision(0.05)

$$n = \frac{106,074}{1+106,074(0.05^2)} = 399$$
$$= 399 +10\% \text{ (buffer for sampling error)} = 438$$

3.6. Sampling Procedure

Simple random sampling was used where every woman who visited MCH/FP during this study had a chance to participate. In MCH/FP clinics, they usually give numbers to their clients according to their arrival (first in is the first to be served). Before nurses start serving their clients, the researcher and the assistant were collecting all the numbers given put them in a box, mix them and then pick 50 numbers per day randomly in 8 days and 38 numbers at the 9th day. The numbers picked randomly were recorded on a paper with their names and they were requested to meet after they have served.

3.7. Data Collection tools and procedure

A semi-structured questionnaire (Appendix III) was used in data collection. The choice of questionnaire as tool was due to ease to administer. The researcher and the assistant were located at the exit of MCH/FP clinics where it was easy to access women at the end of their clinics. Interviews were conducted among women 18-49 years. The researcher was reading loudly the questions to the woman who accepted to consent and the response were noted down on a paper. Each interview was taking 10-15 minutes. The researcher and the assistant collected data from four hundred and thirty eight women seeking MCH/FP clinics in Kisumu East sub-county Hospital.

Key Informant Interview guide was used to collect data from nurses working in MCH/FP clinics of Kisumu East sub-county Hospital. Data were collected from 4 female nurses aged between 28-36 years who were available. The interviews were done in one of their offices; each interview was taking 10-15 minutes. Interviews were conducted by the researcher and noted down their responses.

3.8. Pretesting of tools

The data collection tools were pre-tested among a portion of women of reproductive age seeking MCH/FP clinics at Migosi sub-county Hospital, Migosi Estate in Kisumu County. These datasets generated from pre-testing were not included in the final analyses. Cognitive interview as a pretesting method was used to assess the ability of the questionnaire to collect the desired data. Respondents were asked to think aloud as they decided what the question meant and formulated their response.

3.9. Reliability and Validity of research instrument

Reliability of the instrument was assessed by use of test retest technique. In this method the questionnaire was administered to the same respondents twice. Women of reproductive age seeking MCH/FP clinics at Migosi sub-county Hospital were asked to leave behind their contacts and were given an appointment to come back to the hospital after one week to retest. A time of one to two weeks between the first and second test was used to test and retest.

Scores from this test were computed using correlation and coefficient reliability. A value of 0.86 was obtained from the computed value that was greater than 0.80 as required for the instrument to yield reliable and valid data.

3.10. Measurement of variables

The independent variables of the study were Social-demographic characteristics. The dependent variables were knowledge on female condom use, acceptability of female condom use and barriers to female condom use.

3.11. Data Analysis

The filled questionnaires were checked for completeness and then data were keyed into Microsoft excel 2010 and exported to SPSS software (version 20) for analysis. Descriptive statistics were computed using SPSS, which constituted frequencies, proportions and standard deviations with minimum and maximum values. The Chi- square test was used to establish the association between categorical variables and dependent variables. Multivariate regression analyses were computed and further associations made between knowledge on FC use and acceptability of FC use (dependent variables) and sociodemographic characteristics (independent variables). The statistical level of significance was set at $p \leq 0.05$. Data from key informants interview (KII) were recorded on a paper, analysed thematically by the emerging themes.

3.12. Ethical Considerations

The approval to carry out this study was obtained from Maseno University Ethics and Review Board (MUERC) (Appendix v). Authority to carry out the study was obtained from Kisumu East Sub-County Medical Officer of Health. The purpose of the study was explained to eligible

respondents and informed consent agreement which was explained verbally to the respondents. Competence, voluntarism, full information with a fair explanation of the procedures and their purposes, description of the benefits reasonably that were expected, disclosure of appropriate alternative procedures that might be advantageous to the participants, offer to answer any inquiries concerning the procedures, instruction that the person was free to withdraw consent and to discontinue participation in the project at any time without prejudice to the participant; and comprehension was respected in this study.

Confidentiality and privacy were assured and ensured; every woman had right to withdraw at any point, and the right to request that data collected about them not to be used; every one had freedom of the individual to pick and chose for herself the time and circumstances under which attitudes, beliefs, behaviors and opinions were to be shared with or withheld from others.

CHAPTER FOUR: RESULTS

4.1. Introduction

This chapter presents the interpretation and explanation of the findings of the study among women visiting MCH and FP clinics of Kisumu East sub- county Hospital. The chapter starts with a description of sociodemographic characteristics of the study population such as age, religion, marital status, level of education and source of income. And then influence of sociodemographic characteristics on knowledge of female condom use ; influence of sociodemographic characteristics on acceptability of female condom use and finally the findings on the barriers to female condom use.

4.2. Description of Sociodemographic characteristics of the Study Population

A total of 438 women of reproductive age visiting MCH/FP Kisumu East sub-County Hospital were consented and interviewed in the study. The women aged between 25 and 34 years were 210 (47.9%), 35 and 44 years were 188 (42.9%). The majority of the study population were christians 348(79%). Out of 438, 390(89%) were married while 20(4.6%) were single, 20(4.6%) were divorced and 8 (1.8%) were widowed. Slightly more than half 250 (57.1%) had completed secondary education whereas 40 (9.1%) had even persued higher education. Most of the women were self employed 260 (59.4%) and 80 (18.3%) were spouse dependent (*Table 4.1*).

Table 1: Socio-demographic characteristics of women of reproductive age visiting Kisumu East sub-County Hospital

Independent Variable	Value	Total (n=438) n	Percentage (%)
Age	15-24	20	4.6
	25-34	210	47.9
	35-44	188	42.9
	45-49	20	4.6
Religion	Christian	348	79.5
	Muslim	90	20.5
Marital Status	Single	20	4.6
	Married	390	89.0
	Divorced	20	4.6
	Widowed	8	1.8
Source of income	Employed	50	11.4
	Self employed	260	59.4
	Spouse dependent	80	18.3
	Farmer	48	11.0
Level of education	Primary	18	4.1
	Secondary	250	57.1
	Middle level college	130	29.7
	University	40	9.1

4.3. Knowledge on Female Condom use

Out of 438 women in this study, 398(90.9%) heard about female condom before the study whereas 40(9.1%) it was their first time to hear the existence of the product . Among the married women 368 (84.2%) had a chance to hear about female condom and 40(9.1%) of women with high education are aware about female condom while only 8(2%) of those who finished primary education had heard of the female condom.

Public health facilities were the most probable places where female condom was heard 318 (72.6%) and 16 (4%) from private health facilities, pharmacy and kiosk made 7(2%) and 10(2.3%) respectively.

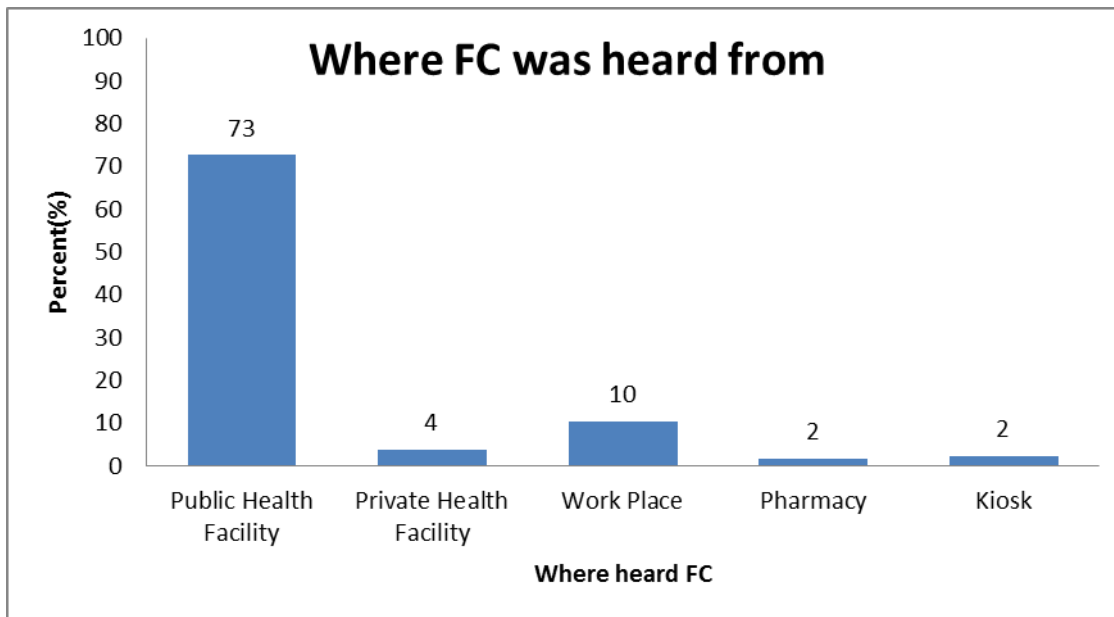


Figure 4.1: Place where female condom was heard

Figure 4.2 shows that although female condom was heard by over 73% of the study participants only (278) 63.5% have ever seen a female condom.

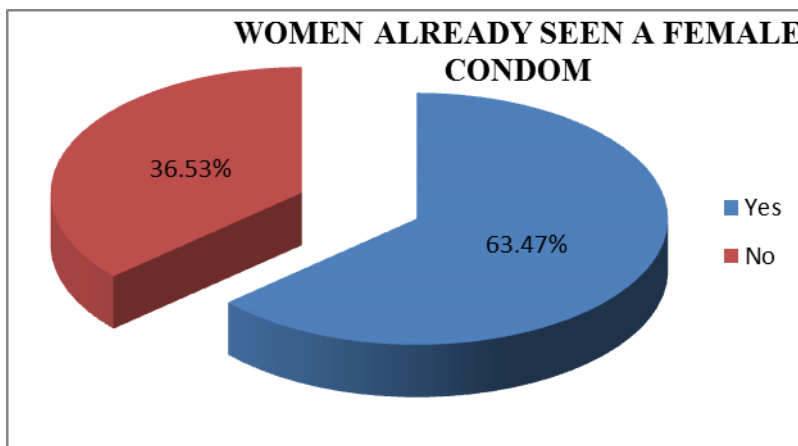


Figure 4.2. Women that have ever seen a female condom

Married women had seen the female condom more than others 262 (94.2%), single at 8 (2.9%) and 2 (0.7%) of widowed. A good number of women who reached middle level college of education had seen female condom 107 (38.5%), university 29 (10.4%) and 135 (48.6%) of those who finished secondary education.

Public health facilities were in top of the place where female condom was seen 230 (82.7%) while private health facilities were at 20 (7.2%), 8 (2.9%) in shops and school/campus at 20 (7.2%).

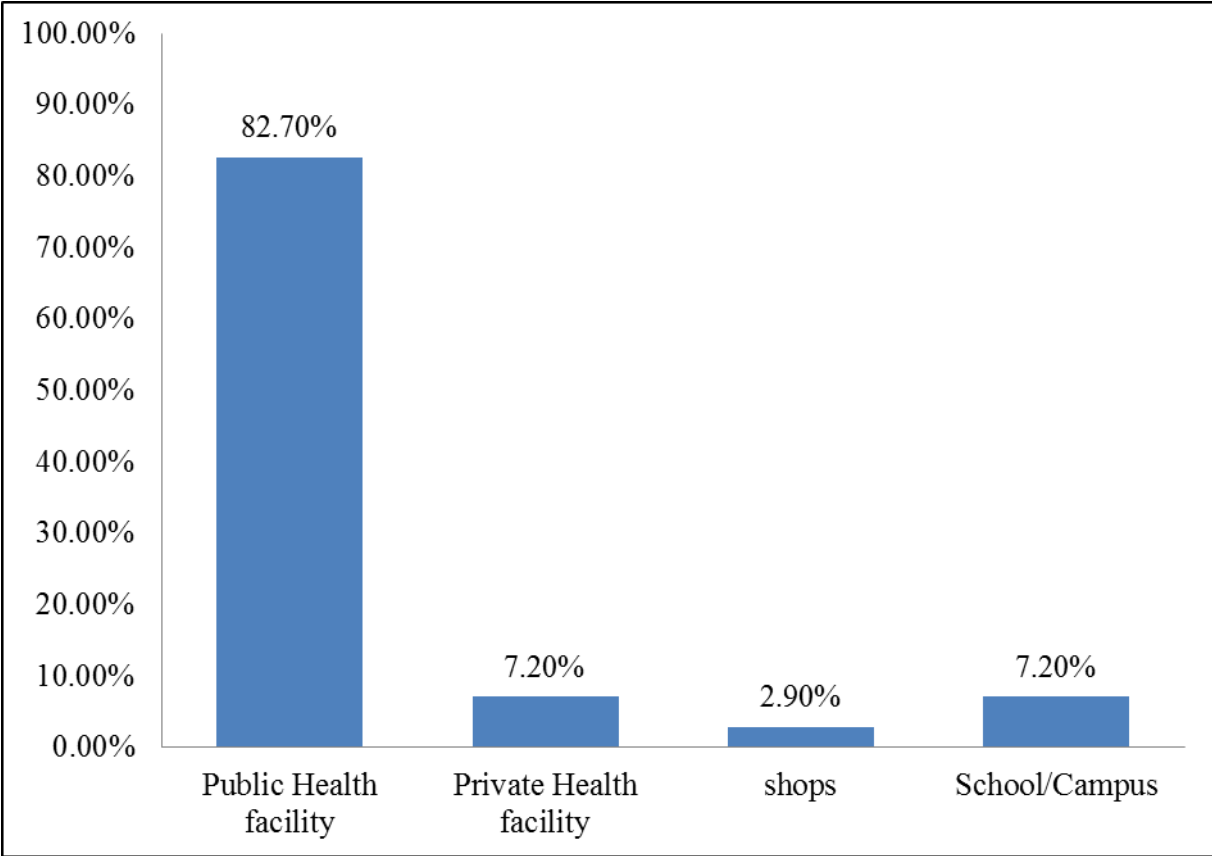


Figure 4.3: Place where female condom was first seen

Although the female condom was heard and seen by the majority of women in public health facilities, only 140 (32%) were able to mention that it prevents pregnancy and STI's as one of its advantages. Close to a third 130 (29.7%) of the women said that they do not know any advantage of female condom. The same about disadvantages, 260 (59.4%) of women said that they do not know any disadvantage of female condom, 100 (22.8%) said that women do not know much about female condom, 80 (18.3%) said that female condom is not widely available and 58 (13.2%) that is too expensive. Women were free to mention more than one advantage and disadvantage. Out of the respondents who participated in this survey, those in age group 25-34 were the most knowledgeable 98(54%); majority of those knowledgeable were married 220(85%), self-employed 116(64%) and had attained secondary school education 74(41%). Although majority of women responded that they've heard about female condom 396(90%), only 63% had ever seen it.

Overallly 180(41.1%) were knowledgeable on FC based on the questions they were asked. Bivariate analysis for the independent variables showed that age, marital status, source of income and education level were significantly associated with FC knowledge while there was no statistical significant difference in religion. Chi-square test results from table 2 below showed that age (p-value <0.001), Marital status (p-value =0.0183), source of income (p-value=0.0005) and level of education (p-value<0.001) were significantly associated with FC knowledge among the respondents.

All the variables were subjected to multivariate analysis as shown in table 2 below. For age, 15-24 was used as the reference age group; age group 25-34 and 35-44 were 3 times and 1 times more likely to know FC as compared to age 15-24 while age 45-49 were 0.3 times less likely to have FC knowledge. Married (OR=4.395% CI, 1.2-15.1;P=0.02),), divorced (OR=1.89) and widowed (OR=1.89) were more likely to have FC knowledge as compared to the singles with those in marriage statistically significantly different (p-value 0.02).in source of income self-employed, spouse dependents were more likely to know FC compared with those employed; farmers were less likely to know FC use. There was very high ODDS in the level of education of the respondents and FC Knowledge as one goes high in education as compared to those who were in primary and all of them were highly statistically significantly different (p>0.05). (Table 2).

Table 2: Bivariate and multivariate analysis of female condom knowledge among reproductive women visiting Kisumu East Sub-County Hospital.

Independent Variable	Value	FC Knowledge n (% Column)			Unadjusted OR (95% CI)	P-value
		Yes(n=180)	No (n=258)	Chi-square P-value		
Age	18-24	5(3)	15(6)	<.0001	1	
	25-34	98(54)	112(43)		3.2(1.1,9.4)	0.027
	35-44	75(42)	113(44)		1.7(0.58,4.8)	0.341
	45-49	2(1)	18(7)		0.3(0.06,1.98)	0.226
Religion	Christian	143(79)	205(80)	0.9974	1	
	Muslim	37(21)	53(20)		1(0.62,1.60)	0.997
Marital Status	Single	3(2)	17(7)	0.0183	1	
	Married	170(94)	220(85)		4.3(1.2,15.1)	0.02
	Divorced	5(3)	15(6)		1.89(0.38,9.27)	0.433
	Widowed	2(1)	6(2)		1.89(0.25,14.19)	0.537
Source of income	Employed*	18(10)	32(12)	0.0005	1	
	Self employed	116(64)	144(56)		1.43(0.76,2.78)	0.262
	Spouse dependent	39(22)	41(16)		1.69(0.82,3.49)	0.156
	Farmer	7(4)	41(16)		0.30(0.11,0.82)	0.018
Level of education	Primary*	1(6)	17(7)	<.0001	1	
	Secondary	74(41)	176(68)		7.15(0.93,54.69)	0.058
	Middle level college	67(32)	63(24)		18.08(2.34,139.86)	0.006
	University	38(21)	2(1)		322(27.39,3809.629)	<0.0001

The interview also was done among female nurses working in MCH/FP in Kisumu East sub-County Hospital as KII. Nurses said that they received training about female condom. They know female condom as a barrier to prevent unwanted pregnancies and sexual transmitted infections including HIV. They were trained about female condom discussion and demonstration and they were given some few models. Nurses seemed to have a basic understanding of female condom and its use. Nurses were saying that female condom is not reliable and that is the reason why it is not preferred.

A 32 years old nurse said “*unfortunately it is not preferred by women and their spouses because it is not reliable we are meant to outline to women all forms of FP and demonstrate to them how they*

work; though some women come with a made up mind on what form of FP they want so we give what women prefer but advice further”.

Nurses source of information about female condom was limited, they were not sure about the kind of information they had at hand since female condom is not yet a common method.

4.4. Acceptability of Female Condom use

Female condom was accepted by more than a half women in the study, 240 (54.8%).

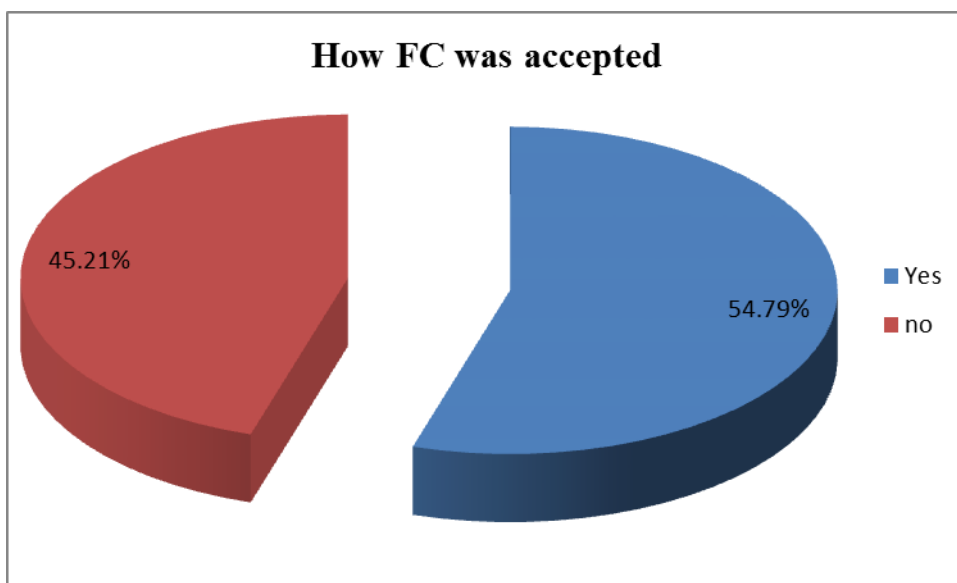


Figure 4.4: How Female Condom was accepted by Women

Testing using chi-square; there was significant association on age ($p < 0.0001$), marital status ($p = 0.0156$), source of income ($p = 0.0049$) and education level ($p = 0.0032$) on acceptability of FC among women of reproductive age in Kisumu East sub-county Hospital. However, there was no association between religion ($p = 0.5823$) and FC acceptability. Variables that were significant were further subjected to multivariate analysis using regression analysis of the independent variables against the FC acceptability for the women of the reproductive age attending Kisumu East sub-County Hospital. In age, only those aged 25-34 were more likely to accept FC (OR=1.57 CI(0.62, 3.96), $p = 0.341$). Those married were 2 times more likely to accept FC (OR=2, $p = 0.13$) while those divorced had no association (OR=1, $p = 1$) and those widowed were less likely to accept FC (OR=0.21, $p = 0.185$). On source of income, those self employed, spouse dependant and farmers were less likely to accept FC as compared to those employed. Those with secondary education, middle level college and university were more likely to accept FC with (OR=3.7, p -value=0.023),

(OR=5.6, p-value=0.004), (OR=7.3, p-value=0.003) respectively as compared to those with primary education. (Table 4.3)

Table 4.3: Bivariate and multivariate analysis of FC acceptability among women of reproductive age visiting Kisumu East sub-County Hospital

Independent Variable	Value	Total (n=438)	FC Acceptability n (% Column)			Unadjusted OR (95% CI)	P-value
			Yes (n=240)	No (n=198)	P-value		
Age	18-24	20 (4.6)	11(5)	9(5)	<.0001	1	
	25-34	210 (47.9)	138(57)	72(36)		1.57(0.62,3.96)	0.341
	35-44	188 (42.9)	86(36)	102(51)		0.69(0.27,1.74)	0.027
	45-49	20 (4.6)	5(2)	15(8)		0.27(0.07,1.04)	0.226
Religion	Christian	348 (79.5)	193(80)	155(78)	0.5823	1	
	Muslim	90 (20.5)	47(20)	43(22)		0.87(0.55,1.39)	0.582
Marital Status	Single*	20 (4.6)	8(3)	12(6)	0.0156	1	
	Married	390 (89.0)	223(93)	167(84)		2(0.80,5.01)	0.13
	Divorced	20 (4.6)	8(3)	12(6)		1(0.28,3.54)	1.00
	Widowed	8 (1.8)	1(1)	7(4)		0.21(0.21,2.09)	0.185
Source of income	Employed*	50 (11.4)	18(10)	32(12)	0.0049	1	
	Self employed	260 (59.4)	116(64)	144(56)		0.34(0.17,0.68)	0.002
	Spouse dependent	80 (18.3)	39(22)	41(16)		0.42(0.19,0.94)	0.034
	Farmer	48 (11.0)	7(4)	41(16)		0.24(0.10,0.58)	0.001
Level of education	Primary*	18 (4.1)	38(16)	12(6)	0.0032	1	
	Secondary	250 (57.1)	135(56)	125(63)		3.73(1.19,11.6)	0.023
	Middle level college	130 (29.7)	46(19)	34(17)		5.6(1.74,17.97)	0.004
	University	40 (9.1)	21(9)	27(14)		7.27(1.99,26.49)	0.003

The table below shows that the major reason to some women for not accepting female condom was that the product was not well known 110 (74.3%), 50 (33.8%) they had never seen it , another thing was that women did not know that it existed 38 (25.7%), and for others female condom is prohibited by their religion 28(18,9%).

Table 4.4: Reasons given by women for not accepting female condom

Reason	Frequency n (%)
<i>Product is not well known</i>	110 (74.3)
<i>Religion</i>	28 (18.9)
<i>not available</i>	10 (6.8)
<i>Never seen it</i>	50 (33.7)
<i>Didn't know it existed</i>	38 (25.7)
<i>Too expensive</i>	40 (27.0)

Approximately 380 (86.8%) of the women in the study wished to know more about female condom and 308 (70.3%) were willing to use female condom if they had a chance to know more about it.

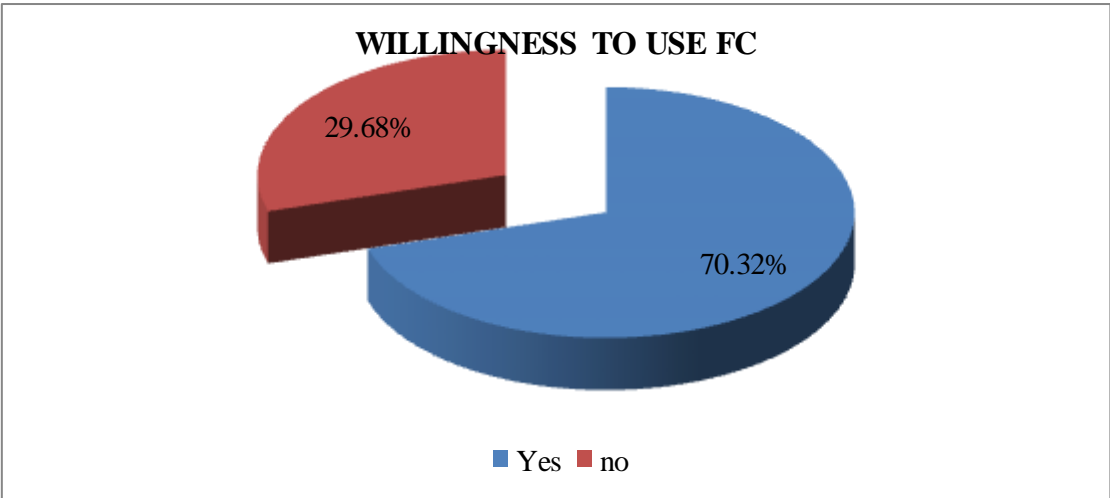


Figure 4.5: Willingness to use female condom by women

Age, marital status, source of income and level of education showed significant difference in willingness to use FC while religion was not associated with FC willingness to use. Greater proportion of those that showed willingness to use FC were aged 25-34 180(56.6%) and those married were more willing to use FC 251(79%). In the source of income and level of education, those self employed and those with secondary education level were the majority in willingness to use FC(see table 4.5).

Table 4.5:Willingness to use female condom

Independent Variable	Value	Total (n=438)	15#would you be willing to use FC with your partner		P-value
			Yes (n=318)	No (n=120)	
Age	18-24	20 (4.6)	18(5.7)	2(1.7)	<0.0001
	25-34	210 (47.9)	180(56.6)	30(25.0)	
	35-44	188 (42.9)	114(35.8)	74(61.7)	
	45-49	20 (4.6)	6(1.9)	14(11.7)	
Religion	Christian	348 (79.5)	251(78.9)	97(80.8)	0.66
	Muslim	90 (20.5)	67(21.1)	23(19.2)	
Marital Status	Single*	20 (4.6)	16(5.0)	4(3.3)	0.004
	Married	390 (89.0)	289(90.9)	101(84.2)	
	Divorced	20 (4.6)	11(3.5)	9(7.5)	
	Widowed	8 (1.8)	2(0.6)	6(5.0)	
Source of income	Employed*	50 (11.4)	44(13.8)	6(5.0)	.033
	Self employed	260 (59.4)	178(56.0)	82(68.3)	
	Spouse dependent	80 (18.3)	61(19.2)	19(15.8)	
	Farmer	48 (11.0)	35(11.0)	13(10.8)	
Level of education	Primary*	18 (4.1)	8(2.5)	10(8.3)	.003
	Secondary	250 (57.1)	177(55.7)	73(60.8)	
	Middle level college	130 (29.7)	97(30.5)	33(27.5)	
	University	40 (9.1)	36(11.3)	4(3.3)	

The main reason why some women were not willing to use female condom was that it is too expensive they can not afford it 50 (38.5%); female condom is not available 40 (30.8%); fear was another reason for some women because they do not know their anatomy and how to use it 30 (23.1%). For others, they consider female condom as a product for those who are not married 30 (23.1%) (table 4.6).

Table 4.5: Reasons given by women for not willing to use female condom

Reason	Frequency n (%)
<i>Fear</i>	30 (23.1)
<i>Married</i>	30 (23.1)
<i>Religion</i>	20(15.4)
<i>Not available</i>	40 (30.8)
<i>Sex not enjoyable</i>	10 (7.7)
<i>Too expensive</i>	50 (38.5)
<i>Partner does not like it</i>	25 (19.2)
<i>Prefer other methods</i>	20 (15.4)

4.5. Barriers to Female Condom Use

Although female condom was heard by 398 (90.9%) of the women who participated in the study only 10 (2.3%) had ever used it. However, those who ever used a female condom experienced different challenges. One of the challenge was that it is hectic to put on a female condom and noise during sex. These two challenges were mentioned by all women who used female condom before the study. While 8 (80%) were not comfortable in using it and another 8(80%) said that the product was not available as it is shown in the figure and table below. The main reason why women did not use female condom were that they do not know how to use it 160 (36.5%), they do not know where to get it 100(22.8%) and 50 (11.4%) feared to use it. *Table 4.7*

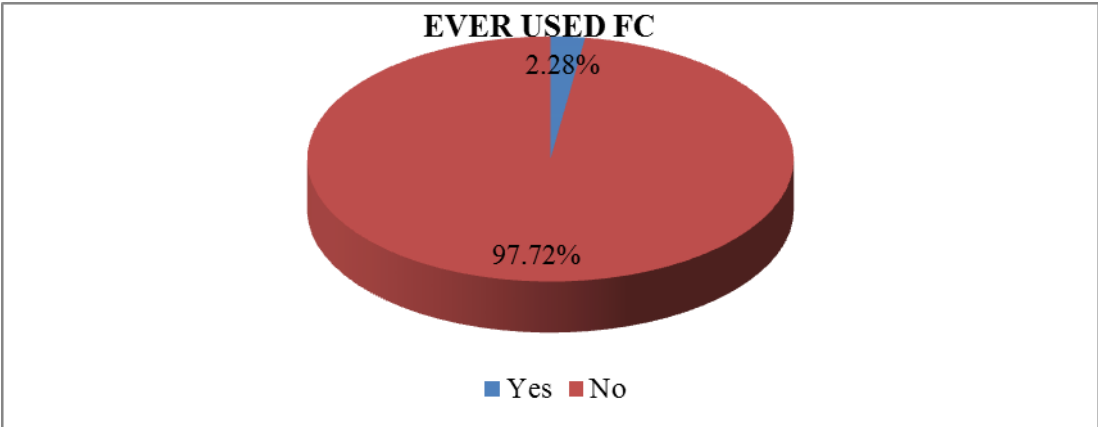


Figure 4.6: How female condom was used by women

Table 4.7: Challenges and Reasons given by women in using female condom

Variable	Frequency n (%)
Challenges	
<i>Hectic to put on</i>	10(100)
<i>Noise during sex</i>	10(100)
<i>Not available</i>	8(80)
<i>No sexual pleasure</i>	6(60)
<i>Not comfortable using it</i>	8(80)
*Multiple response question	
Reasons	
<i>Partner does not want to use</i>	20 (4.6)
<i>Don't know how to use it</i>	160 (36.5)
<i>Don't know where to get it</i>	100 (22.8)
<i>Fear</i>	50 (11.4)
<i>Uses other method</i>	40 (9.1)
<i>Religion</i>	40 (9.1)
<i>Not available</i>	40 (9.1)

Women were asked if they have ever seen female condom in shops in Kisumu city. Only 8(2.9%) women out of 278 of those who had a chance to see a female condom saw it in shops in Kisumu. About 59 (21.2%) had not seen it and the majority of them 211 (75.9%) did not ask about it. For those who asked about it said that a female condom was sold about Kshs 150 to 200. Interviews were done for women who were coming direct from MCH or FP clinics; and women were asked if they have discussed about condoms with the nurse. A total of 268 (61.2%) of the women discussed

about condoms with their nurse/counselor whereas 238 (88.8%) of them said that they had discussed both (female and male condom) and 30 (11.2%) discussed about male condom only but none discussed about female condom only. Details are contained in table 4.8.

Table 4.8: Discussion about female condom with nurse/counselor

Variable	Frequency n (%)
Discussed with Nurse	
<i>Yes</i>	268(61.2)
<i>No</i>	170(38.8)
Type of condom discussed	
<i>Male</i>	30(11.2)
<i>Female</i>	0 (0)
<i>Both male and female</i>	238(88.8)

Only 198(45.2%) of women had chance to follow a demonstration of how condoms(male and female) are used. And the majority of women 120(50%) said that they did not follow that demonstration because nurse did not ask, 70 (29.2%) said that there was no model for demonstration especially for female condom and 50(20.8%) refused the demonstration. See details in *table 4.9* below.

Table 4.9. Demonstration of female condom

Variable	Frequency n (%)
Demonstrated by Health care provider	
<i>Yes</i>	198(45.2)
<i>No</i>	240(54.8)
Reason for Not Demonstrating (N = 240)	
<i>Refused</i>	50(20.8)
<i>Did not ask</i>	120(50)
<i>No model</i>	70(29.2)

The results from KII showed that female condoms were not available. A 28 years old nurse said *“female condoms are not available what we have are only for demonstration which is an obstacle to access compared to male condoms”*.

According to nurses in MCH/FP of Kisumu East sub-County as female condom is not that available as male condom they just mention it in their discussions but they make emphasis on it for those who show interest. Nurses face some issues in their discussions and demonstrations of female condoms.

A 36 years old nurse said *“women come alone in MCH/FP so giving them information alone they are like it will not work because the husband doesn’t know about it, the interest is low”*, a 32 years old nurse said *“the product is not easily available, they want it free of charge and also some time models for demonstrations are lacking”*.

CHAPTER FIVE: DISCUSSION

5.1. Introduction

This chapter presents the discussion of the study findings as captured from the analysis of the study objectives. It discusses the results comparing with other similar studies. The current study demonstrates that sociodemographic characteristics influence knowledge and acceptability of female condom use.

5.2. Sociodemographic characteristics of women influencing female condom use

Almost a half of women were aged between 25 and 34 years of age followed by age between 35-44. People within this age categories are expected to be most sexually active. The majority of the study population were christians and married women. Our study population was relatively well educated, as most of the participants had completed secondary education and had even persued higher education. Most of the women were self employed followed by spouse dependent. This sociodemographic is similar to a study done in Ghana among women of reproductive age except that in their sample a large number of women had no formal education and the majority of the sample were informally employed (Ananga M. *et al* 2017).

5.3. Knowledge on Female Condom use

Our findings revealed that almost all women in the study heard about female condom similarly to a study in Rwanda and Dar-Es-Salaam where 97% and 96.6% respectively have heard about FC (MOH:Rwanda, 2005), (Regina & Edmund 2015). Also in Hong Kong where only one-third of the participants had never heard of female condom (Hua *et al* 2013). More than a half of women of reproductive age in MCH/FP in Kisumu sub-county Hospital had already seen a female condom before the study. Public health facilities were the most places where female condom was heard and seen by most of women in the study. This was revealed also in a study done in South Africa that most of women reported that they had obtained information about female condoms from health facilities than friends (Nomsa & Pranitha, 2016).

In contrast, a study done in Dar-Ess-Salaam, Tanzania among university students stated that most of the respondents heard the information about FC from media and it was observed that the majority of students had never seen the FC (Regina & Edmund, 2015). Also a half of the sex workers in SA

were introduced to the female condom by friend and 12% by a nurse (Chawatama, 2014). Another study done in Italy showed that the existence of the female condom was practically unknown; in fact, very few participants had received any information on the female condom through magazines, newspapers, TV or friends, and none had ever seen one (Laura *et al.*, 2007).

This study revealed that less than a half knew the advantages of female condom as a method to prevent STIs including HIV and unwanted pregnancies contrarily to a study done by (Ananga M *et al.*, 2017) which showed that the majority (70.5%) of females know that using FC during sexual intercourse can prevent HIV and other STIs as well as unwanted pregnancies. The majority of women in this current study don't know any disadvantage of FC. These results show that there is need to increase knowledge about female condom and its benefits among women of reproductive age to improve its usage as it was reported in a study done among female college students which revealed that women with increased level of knowledge on the method are likely to use it (Mugadza *et al.*, 2016). In Nigeria also after the first trial experience that affected negatively the repeated use of FC, the evidence suggests that adequate knowledge and skill about female condom are contributes to its repeated use. There is therefore, the need to provide adequate female condom education to potential users in order to maximize the benefits (Onoriode *et al.*, 2013).

Another study was done in VCT centers Nairobi, Kisumu and Coast showing lack of knowledge or experience about female condoms among clients: female respondents in all the client groups interviewed mentioned that they felt that female condoms were good but they also reported that not so many of them have had a chance to know about them since the device is not common with most females (Mung'ala *et al.*, 2006). This study shows that age group 25-34 and 35-44 had more knowledge on FC use; married women, self-employed and those who had attained secondary school education had the highest percentage of knowledge of FC use. Bivariate analysis for the independent variables showed that age, marital status, source of income and education level were significantly associated with FC knowledge while there was no statistical significant difference in religion. Multivariate analysis was done and the study revealed that age group 25-34 and 35-44 were 3 times and 1 times more likely to have knowledge on FC while age 45-49 were 0.3 times less likely to have FC knowledge. These show that increasing age was associated with less knowledge and married women reported the highest percentage of knowledge of FC use (OR=4.3). The level of education of the respondents and FC Knowledge was increasing as one goes high in education as compared to those who were in primary and all of them were highly associated with

increased knowledge ($p>0.05$). These finds are similar to another study done among except that the percentage of awareness of FC use was highest among Christians (Ananga M *et al.*, 2017)

Similarly to a study done in the Urban United State revealed that characteristics of women associated with FC use included having more education. But in contrast, age did not appear to have any significant bearing on FC use; women of any age group were as likely (or unlikely) to use FC as any other. Other context factors associated with FC use included being separated, widowed, or divorced (but not single or married) (Weeks *et al.*, 2010). Also in Kiamba division, it was shown that there was a significant relationship between knowledge and use of the female condom and the level of education (Mativo, 2010).

A contrast study was done in an impoverished urban area where the study shows no association between adequacy of knowledge on female condoms, considering age, education and marital status, since p-values were greater than 0.05 ($p> 0.05$) which means that proper knowledge is independent of the characteristics of women. The exception to this is observed in religious orientation, where knowledge about the female condom among Catholics is more appropriate than among women of other religions (Smalyanna *et al.*, 2015).

Nurses working in MCH/FP in Kisumu sub-county hospital said that they received training about female condom. They know female condom as a barrier to prevent unwanted pregnancies and STIs including HIV. They were trained about female condom discussion and demonstration and they were given some few models. According to (Aimee *et al.*, 2011), with the high rates of HIV/AIDS globally and particularly in Sub-Saharan Africa and at the study context, HCWs play a key role in educating women, who are the higher consumers of FP services. Training on condom skills and benefits of various methods of FP, particularly the use of FC, as well as in distributing them so that they may prevent HIV/AIDS and other STIs from spreading are of paramount importance

Nurses seemed to have a basic understanding of female condom and its use. Some nurses were saying that female condom is not reliable and that is the reason why it is not preferred; nurses said that unfortunately it is not preferred by women and their spouses because it is not reliable. In a study done among health care workers in Gaborone Botswana found that (9.8%) believed clients preferred the female condom; the majority (84.5%) disagreed and this finding raised an important question “If health care workers believe clients do not prefer the female condom, should the condom be promoted?” (Mashanda & Monareng, 2016). A study done in Francistown, the majority of participants believed that the condoms were not popular with clients and that not enough was being

done to promote them (Lovemore et al.,2012). In a study done among women in the urban United States revealed that the reasons for HCWs behavior include commonly expressed beliefs, often with no knowledge or evidence, that no one will use them, no one likes them; no one will purchase them, and difficulties with insertion and negotiation present insurmountable barriers to adoption of the method (Weeks *et al.*,2010).

5.4. Acceptability of female condom use

This study showed that female condom was accepted by more than a half of women similar to a study done in Italy (Laura *et al.*, 2007) and also women in South Africa expressed acceptability to female condom. They felt safe and protected when using the fc (Nomsa & Pranitha, 2016) in the Dominican Republic also women accepted the female condom (Lara *et al.*, 2009). These current results contradict those obtained in a study done among high school female students in Kumba, Cameroon where the majority of the respondents in the study had unfavorable attitudes towards the female condom (Elvis & Luchuo, 2015).

Multivariate analysis using regression analysis of the independent variables against the FC acceptability for the women of the reproductive age attending Kisumu East sub-County Hospital shows that in age, those aged 25-34 were more likely to accept FC (OR=1.57 CI(0.62, 3.96), p=0.341). The findings are different from another study among women in the urban United States where age did not appear to have any significant bearing on FC use (Weeks et al., 2010). Those married were 2 times more likely to accept FC (OR=2, p=0.13) while those divorced had no association (OR=1, p=1) and those widowed were less likely to accept FC (OR=0.21, p=0.185). This means married women age between 25-34 accepted female condom more than others. In contrary a study done among women in Kiamba revealed that unmarried respondents preferred using the Female condom than the married (Mativo, 2010).

On source of income, those self employed, spouse dependant and farmers were less likely to accept FC as compared to those employed. Those with secondary education, middle level college and university were more likely to accept FC with (OR=3.7, p-value=0.023, OR=5.6, p-value=0.004, OR=7.3, p-value=0.003) respectively as compared to those with primary education similarly to a study done in an impoverished urban area which showed that higher levels of education contribute to positive attitudes towards female condom use (Smalyanna *et al.*,2015).

The current study shows that the acceptability and use of female condom is based on knowledge that women have about the product. Almost three-quarter of women who did not accept female

condom gave a reason that the product is not well known. This was found also in a study done in VCT centers Nairobi, Kisumu and Coast showing lack of knowledge or experience about female condoms among clients: female respondents in all the client groups interviewed mentioned that they felt that female condoms were good but they also reported that not so many of them have had a chance to know about them since the device is not common with most females (Mung'ala *et al.*, 2006). It was reported by FHI that the female condom must be acceptable to both men and women in order to be used consistently and correctly and also women need more information about female condom during counseling in MCH and FP clinic sessions and promotion campaigns (FHI, 2007). Some studies showed low acceptance of female condom like a study done in Zimbabwe where the acceptability of the FC is low due to its convenience in terms of ease of access and difficulty in inserting it (Francis & Natshalag, 2003). Similar findings were observed in Ghana among women of reproductive age and the study recommended thorough and vigorous public health action to increase awareness and acceptance of the FC as low acceptance of FC poses a danger to the health and wellbeing of the women and the nation as a whole (Ananga M *et al.*, 2017).

Women in this current study wished to know more about female condom and were willing to use it if they had a chance to know more about it. This was shown in Italy that almost all the women who were described the device showed a certain interest and willingness, and accepted to try it after having been shown the condom (Laura *et al.*, 2017). Even in a study done in Zimbabwe where following education and counseling, reported use of the female condom greatly increased over a 2 months period (Napierala *et al.*, 2008). Age, marital status, source of income and level of education in this current study showed significant difference in willingness to use FC while religion was not associated with FC willingness to use. Greater proportion of those that showed willingness to use FC were aged 25-34 and those married were more willing to use FC. In the source of income and level of education, those self employed and those with secondary education level were the majority in willingness to use FC. The main reason why some women were not willing to use female condom was that it is too expensive they can not afford it as it was seen among monogamous Hong Kong Chinese female STI patients where out of those who had heard of female condoms, 68.3 % were willing to use female condoms if such condoms were provided to them free (Hua *et al.*, 2013).

5.5. Barriers to Female Condom Use

This study shows that the majority of women heard about female condom but very few of them had ever used it as it was reported in KDHS,2009 that although the female condom was introduced in

1993, very few women in Kenya have ever used female caondom (only 0.3 % of women aged 15–49 years in 2003 and 0.1 % in 2009). This study shows that even with knowledge about female condom adequate training and counseling before the first attempt at use of female condom are very important for women. Some women who tried to use it once were not comfortable to continue using the device; some of the issues they complained about were that it makes noise during intercourse and insertion procedure was so difficult while others said there was no sexual pleasure in using female condom during intercourse. This was also reported in a study done by Mung'ala that the female condom is too big and it makes noise during intercourse while others said the inserting procedure was cumbersome (Mung'ala *et al.*, 2006). A similar study was also reported in Kiamba division, Kiambu district that women who used the female condom responded that the female condom is not comfortable to use, women complained that the FC makes a lot of noise, its too slippery and too often they felt the inner rings during intercourse which made sex uncomfortable (Mativo, 2010).

Some studies found that certain technical characteristics of the female condom can give negative first impressions to some users and pose continuing barriers to end-user adoption (Telles *et al.*, 2006). Some women say that the device is too long and its outer ring hangs outside of the body (Valappil *et al.*, 2005). This barrier was also reported in a study in SA where women said that the first time they used the device they experienced difficulties in inserting and properly positioning it. (Mathenjwa & Maharaj, 2012) and Sarkar reported the same stating that the discomfort of the device is revealed as an important barrier to its use (Sakar, 2008). However, a study done by Onoriode, 2013 on female condom use in Nigeria shows that even after difficulties with first time use, the majority of the participants and their partners preferred the female condom over their currently used method and stated that they would like to switch to using it in the future; They experienced the female condom as a safer and more natural and comfortable than the male condom while some men perceived use of the female as freedom from having to use a condom themselves, and stated that it increases male enjoyment and provides maximum pleasure and protection.

This study also shows that female condoms are not available in Kisumu city, the majority of the women mentioned that they had only seen female condoms in public health facilities whereas they are rare in shops and that they are too expensive (KShs 150 to 200), women were not able to afford them. A survey in Kiambu town revealed that in the chemists a pack of three female condoms was going for Kshs. 450/= while a single piece was going for Kshs. 250/= (Mativo, 2010). A similar barrier also was shown in a study done in VCT centres where women said that the device is

expensive and not many of them could afford to buy it, unless they could get it for free (Mung'ala *et al.*, 2006). Another study also found that accessibility of the FC from nearby shops or pharmacies and health centers is extremely low. However, the majority of the sample did not know whether the FC was available from nearby shops/pharmacies and health centers. It was further revealed that 11.6% of the sample reported that the FC is expensive while almost half of the sample did not know about the cost of the FC (Chawatama, 2014). In SA, inadequate availability of FC remains an important barrier to FC use. The women said that FCs are not easily accessible. They pointed out that the device is not widely available in stores, hospitals and clinics (Mathenjwa & Maharaj, 2012). This is also supported by Seedat who argues that despite the introduction of the device over a decade ago, however its supply and utilisation remains insufficient (Seedat, 2011). According to Peters *et al.*, 2014, inadequate investments from donors and the lack of confidence from the government's side hinder the widespread distribution of the device. This lack of access could affect acceptance of the FC and its usage as some earlier studies have reported (Chipfuwa *et al.*, 2014); (Moore *et al.*, 2015).

According to nurses in MCH/FP of Kisumu East sub-County confirmed that female condom is not that available as male condom they just mention it in their discussions but they make emphasis on it for those who show interest similar to a study done in Kenya that most of counselors are not comfortable with female condoms, as much as they say they are important (they do not sound convincing), lack of being too familiar with the product (limited knowledge), female condom is mostly discussed and demonstrated to those clients who show interest on the device and more emphasis is put on the male condom (Mung'ala *et al.*, 2006).

Some of the issues that they face in discussions and demonstrations of female condoms were mentioned by nurses in the interview such as that women come alone in MCH/FP so giving them information alone they are like it will not work because the husband doesn't know about it, the interest is low. This shows that without male cooperation and support or training for women in sexual negotiation skills, female end-users may be unable to assert their right to an independent choice of contraception. Another issue was that the product is not easily available, that they want it free of charge and also some time models for demonstrations are lacking. According to Mashanda, with regards to perception of HCWs towards the use of a FC, it is interesting to note that most of the respondents were undecided in their responses which may be because most of them had not used a FC before or had used it few times (Mashanda & Maharaj, 2012).

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1. CONCLUSION

1. This study has established that sociodemographic characteristics influence knowledge on female condom use among women of reproductive age visiting MCH/FP in Kisumu East sub-County Hospital, Kenya. This study showed that older women were less knowledgeable about FC, farmers had less knowledge compared to those employed women and knowledge of FC increases as level of education increases, women with higher education were likely to be knowledgeable about FC than women with lower level of education. Religion had no association with knowledge on female condom.
2. The study showed that female condom was accepted by more than a half of women. Married women age between 25-34 accepted female condom more than others. Acceptability was increasing with increased level of education. Those self employed, spouse dependant and farmers were less likely to accept FC as compared to those employed. Religion was not associated with acceptability of FC. The women wished to know more about female condom and were willing to use it if they had a chance to know more about it.
3. Lack of information about female condom is a leading barrier for female condom use. Nurses' source of information too about female condom was limited. The study shows that even with knowledge about female condom, adequate training and counseling before the first attempt at use of female condom is very important for women. Female condoms are not available in MCH/FP clinics in Kisumu East Sub- County Hospital.

6.2. RECOMMENDATIONS

1. Formulation of information and education intervention programmes that aim to increase knowledge of female condoms should stress the advantages and address the disadvantages, tailored to local ideas and appropriate target groups.
2. Female condom programmes should explore the reasons why female condoms are acceptable or not with certain partners and address the objections. Educating men and women together and letting men take the lead in introducing female condoms to make it more acceptable in societies like Kenya.
3. Programmes can continue to target women with negotiation skills and female condoms should be made more widely available; increase the number of free female condoms and reduce its cost. Female condom promotion to women as to men should always be accompanied by a demonstration and have a female vagina model within the MCH/FP to facilitate easy demonstration. Also, service providers should be trained to meet the needs of the potential female condom users.

6.3 RECOMMENDATION FOR FURTHER RESEARCH

1. Factors influencing knowledge about female condom in rural settings of Kisumu County
2. Involvement of males in female condom acceptability and use as a family planning method in Kisumu East sub-county.
3. Attitude of healthcare providers towards female condom use in Kisumu County

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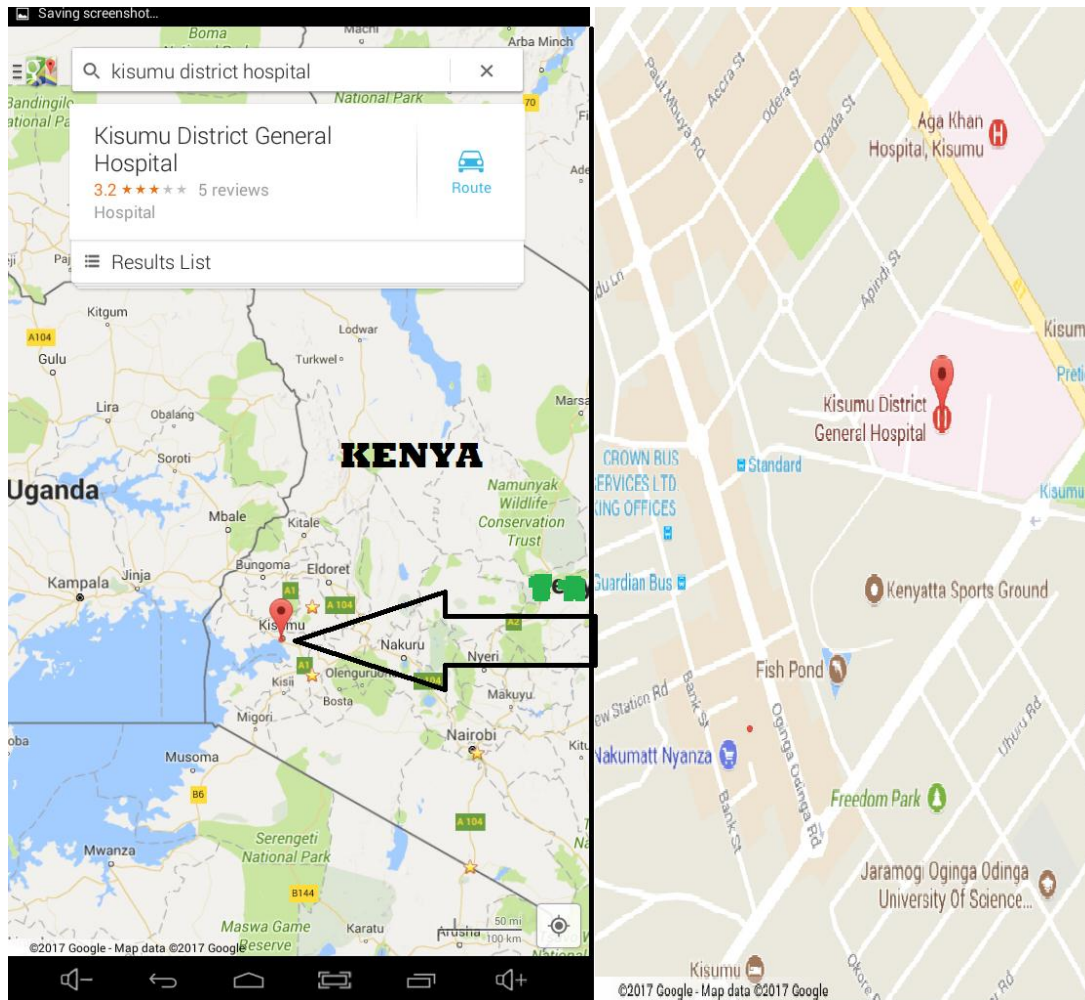
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APPENDICES

Appendix I: Map of study area



Kisumu East sub-county Hospital formerly Kisumu District General Hospital

Appendix II: Introduction and Consent

Hallo, my name is..... from Maseno University, School of Public Health and Community Development. We are collecting information from women visiting FP and MCH in Kisumu East Sub-County Hospital. The information that you provide will be kept confidential and will be used to make recommendations for improving reproductive health status of women. Your name will not be mentioned anywhere. The questions will take 10 – 15 minutes. Participation in this exercise is voluntary and you are free to stop the interview at any stage. If there is a question you do not wish to answer, just let me know and I will move to the next question, however I will be glad if you agree to answer the questions because we value your views.

For any concerns and/or complaints you are free to contact Maseno University Ethics Review Committee (MUERC) at the following contacts:

Tel: +254 057 351 622 Ext: 3050 Private Bag -40105, Maseno, Kenya

Fax: +254 057 351 221 Email: muerc-secretariate@maseno.ac.ke

Appendix III: Questionnaire

SERIAL NUMBER DATE OF INTERVIEW.....		
FACTORS INFLUENCING KNOWLEDGE AND ACCEPTABILITY OF FEMALE CONDOM AMONG WOMEN VISITING KISUMU DISTRICT HOSPITAL.		
SECTION A: BACKGROUND INFORMATION OF THE RESPONDENT		
First i would like to ask you some questions about yourself		
	QUESTION	CODING CATEGORY
1	How old are you?	15-24 years.....1 25-34 years.....2 35-44 years.....3 45-49 years.....4
2	What is your religion?	Christian.....1 Muslim.....2 Other(specify)3
3	What is your marital status?	Single.....1 Married.....2 Divorced.....3 Widowed.....4
4	What is your source of income?	Employed.....1 Self-employed.....2 Spouse dependent.....3 Farmer.....4 Other(specify).....5
5	What is your level of education?	Didn't go to school.....1 Primary.....2 Secondary.....3 Middle level college.....4 University.....5

SECTION B: KNOWLEDGE OF WOMEN ABOUT FEMALE CONDOM		
6	Have you ever heard about Female Condom?	Yes.....1 No.....2

7	If yes, where did you hear about it?	Public health facility.....1 Private health facility.....2 Workplace.....3 Pharmacy.....4 Kiosk.....5 Friend.....6 Media.....7 Other(specify).....8
8	Have you ever seen a female condom?	Yes.....1 No.....2
9	If yes, where did you see it?	Public health facility.....1 Private health facility.....2 Workplace.....3 Pharmacy.....4 Kiosk.....5 Friend.....6 Media.....7 Other(specify).....8
10	What are the advantages of female condom?	
11	What are the disadvantages of female condom?	

SECTION C: ACCEPTABILITY OF FEMALE CONDOM AMONG WOMEN

12	Do you support female condom usage?	Yes.....1 No.....2
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13	If no, why?	
14	Would you like to know more about female condom?	Yes.....1 No.....2
15	If no, why?	
16	Would you be willing to use the female condom with your partner?	Yes.....1 No.....2
17	If no, why?	
SECTION D: BARRIERS TO FEMALE CONDOM KNOWLEDGE, ACCEPTABILITY AND USE		
18	Have you ever used a female condom?	Yes.....1 No.....2(go Q20)
19	If yes, what challenges have you seen in using it?	Yes.....1 No.....2
20	Q18. If no, why?	
21	Have you ever seen female condom in shops here in Kisumu?	Yes.....1 No.....2
22	If yes, how much is it?	
23	Did your nurse/counsellor discuss with you about condom use?	Yes.....1 No.....2
24	What type of condom was discussed?	Male.....1 Female.....2 Both.....3
25	Did the nurse/counsellor demonstrate to you how to use female condom?	Yes.....1 No.....2

26	If no, why?	I refused.....1 He/she didn't ask.....2 No model of demonstration.....3 Other(specify?.....4
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Appendix IV: Key Informant Interview guide

1. What form of knowledge/understanding do you have about female condoms? In regard to discussing and demonstrating female condoms do you have any form of training?
2. What do you think about female condoms/What are your feelings towards female condoms?
3. Do you discuss and demonstrate female condoms with your clients?
4. What are some of the issues that arise from these discussions and demonstration that are of concern to you?

Appendix V. Ethical Approval



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

FROM: SECRETARY - MUERC

DATE: 22nd November, 2013

TO: Chantal Akumuntu

REF: MSU/DRPC/MUERC/000042/13

School of Public Health and Community Development

PG/MPH/00164/2011

Maseno University, Maseno, Kenya

**ETHICAL APPROVAL: PROPOSAL REFERENCE NO.: MSU/DRPC/MUERC/00042/13
FACTORS INFLUENCING KNOWLEDGE AND ACCEPTABILITY OF FEMALE CONDOMS
AMONG WOMEN VISITING KISUMU EAST DISTRICT HOSPITAL**

This is to inform you that Maseno University Ethics Committee (MUERC) determined that the ethics issues were adequately addressed in the proposal presented.

Consequently, the study is granted approval for implementation effective this 22nd day of November 2013 for a period of one (1) year.

Please note that authorization to conduct this study will automatically expire on 23rd November 2014. If you plan to continue with the study beyond this date, please submit an application for continuation approval to the MUERC Secretariat by 22nd October 2014.

Approval for continuation of the study will be subject to successful submission of an annual progress report that is to reach the MUERC Secretariat by 22nd October 2014.

Please note that any unanticipated problems resulting from the conduct of this study must be reported to MUERC. You are required to submit any proposed changes to this study to MUERC for review and approval prior to initiation. Please advise MUERC when the study is completed or discontinued.

Thank you.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Dr. Bonuke Anyona'.

Dr. Bonuke Anyona,
SECRETARY,

Maseno University Ethics Review Committee.

Cc: Chairman, Maseno University Ethics Review Committee
