Perceptions and factors influencing accessibility and acceptability of the Female Condom among women in Kiambaa Division, Kiambu District; Kenya

By

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DECLARATION

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

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Supervisors' Approval

We confirm that the work reported in this thesis was carried out by the candidate under our supervision as university supervisors.

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DEDICATION

Dedicated to Caroline Ndoti, Joy Muthoki, Joseph Nzioki and Christian Ngila.

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ABBREVIATIONS AND ACRONYMS.

APHRC	- African Population and Health Research Centre
CONRAD	- CONtraceptive Research And Development
CSWs	- Commercial Sex Workers
DH S	- Demographic and Health Survey
FC	-Female Condom
FGD's	- Focus Group Discussions
FHI	- Family Health International
HIV –AIDS	-.Human Immunodeficiency Virus–Acquired Immune Deficiency Syndrome
IUCD	- Intra-Uterine Contraceptive Device
PS I	- Population Services International
MOH	- Ministry Of Health
RHRU	- Reproductive Health Research Unit
SES	- Social Economic Status
STDs	- Sexually Transmitted Diseases
UNAIDS	- United Nations Program on HIV and AIDS
USAID	- United States Agency for International Development
USFDA	- United States food and Drug Administration
WHO	- World Health Organization
ZNACP	- Zimbabwe National AIDS Co-ordination Program

OPERATIONAL DEFINITIONS

Acceptability of the Female Condom: Ability to embrace, appreciate, find suitable and utilize the Female Condom.

Accessibility of the Female Condom: Ease to access or ability to find and purchase the Female Condom.

Barrier contraceptive: Any form of contraception in which ascending of a sperm into the uterine cervix is blocked by a barrier such as a condom, diaphragm, cervical cap, firm sponges etc.

Chlamydia: Any member of the genus Chlamydia. These are pathogenic bacteria that cause diseases to humans and birds. In humans Chlamydia trachoma is a species, which causes trachoma and conjunctivitis and it is often transmitted from asymptomatic infection of the genital tract.

Consistency Use: Regular use of any device, material, or drug for the purpose of achieving the desired results.

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

Contraceptors: People (women) of reproductive age who are using contraceptives.

Cytomegalovirus – Any of a group of herpes viruses which infect humans, mice and other mammals and which differ in certain physical and chemical properties from other herpes viruses. Cytomegalovirus infection in humans has got different manifestations, including congenital diseases in infants, a mono nucleosis syndrome in normal adults and hepatitis, pneumonia, gastrointestinal diseases, or retinitis in immuno-compromised adults.

Efficacy: The effectiveness of a therapy, drug or other intervention in the theoretical optimal state under ideal conditions.

Etymological: The literal meaning of a word according to its origin.

Gold Standard: This is a reference in medicine: It is any procedure or experiment that has been proven perfect. It is this experiment, design or procedure that is set as a standard against which others are judged. The design provides the greatest justification for concluding causation and is subject to the least number of problems or biases.

Informed Consent: A research participant's voluntary agreement to take part in a given study which is based on a genuine understanding of the nature of the study, its purpose and potential inherent risks and hazards. A person carrying out the study is legally obligated to fully disclose all the details of the study to a potential participant for the purpose of protecting human research objects.

Labia: The lip shaped structures outside the vaginal opening.

Microbicide: An agent that kills microbes (micro-organisms).

ABSTRACT

Advocacy of the female condom emerged in the context of growing evidence that heterosexual intercourse was placing women at increased risk of HIV infection. Since the approval of the Female Condom (FC) in the United Kingdom and the United States of America in 1992 and 1993 respectively more than 90 developing countries have introduced the FC to the public. The study objectives were to identify the perceptions of the women in Kiambaa Division towards use of the FC, to establish their experiences with use of the FC and to establish the factors that influence accessibility and acceptability of the FC among the same group. This was a cross-sectional survey in which the calculated sample size *(n)* was 289. Data was collected using interview schedules and Focus Group Discussions. Quantitative data was analyzed statistically while thematic techniques were used to analyze qualitative data. The study revealed that the perceptions that influenced acceptability of the FC are; the FC is difficult to use (χ^2=71.36, df=2, p<0.05), the FC is uncomfortable to use (χ^2=81.022, df=2, p<0.05) , the FC is associated with prostitutes (χ^2=152.57, df=2, p<0.05), the FC reduces sexual pleasure (χ^2=4.461, df=1, p<0.05), use of FC means no trust to partner, (χ^2=59.47, df=2, p<0.05) and the Male condom (MC) is better than the FC (χ^2=127.02, df=1, p<0.05). There were four experiences that were found to influence acceptability of the FC which include; FC is difficult to use (χ^2=71.36, df=2, p<0.05), FC reduces sexual pleasure (χ^2=4.461, df=1, p<0.05), FC is uncomfortable to use (χ^2=81.022, df=2, p<0.05) and MC is better than FC (χ^2=127.02, df=1, p<0.05). High cost of the FC combined with lack of FC's in the local market were found to be significant factors that influenced accessibility of the FC (χ^2=11.916, df=2, p<0.05). Together with perceptions and experiences other factors that were found to be significantly influencing acceptability of FC among women of reproductive age include; high cost of FCs (Chi square=11.916, df=2, p<0.05), Spouse/partner consent (χ^2=3.026, df=2, p<0.05), preference of other contraceptives (χ^2=57.934, df=2, p<0.05), marital status (χ^2=3.875, df=1, p<0.05), FC's capacity to prevent HIV and other STIs (χ^2=22.124, df=2, p<0.05)and level of education (χ^2=2.390, df=2, p<0.05). The study concluded that there are wide spread perceptions that influenced uptake of the FC among women in Kiambaa Division, MC was more preferred than the FC, absence of the FC in the local market and high cost of the FC were two factors that influenced its accessibility, there were wide spread social-cultural and economic factors that influenced acceptability of the FC and the FC is not being effectively utilized among the same group (prevalence of use:10.4%).This study recommended the Government of Kenya through the Ministry of Health to; allocate or source funds for implementation of a long term FC promotion program, identify and address weaknesses in the FC supply chain, subsidize the price of FC, target men in the promotion of FC and review lessons learned from findings of studies carried out in the global community on utilization of FC and use these findings as a basis to develop a strategic plan that will ensure effective utilization of the FC.

CHAPTER ONE

INTRODUCTION

1.1: BACKGROUND INFORMATION

Advocacy of the female condom emerged in the context of growing evidence that heterosexual intercourse was placing women at increased risk of HIV infection and that the nature of women's intimate relationship often rendered it difficult for them to request male condom use. With the recognition that gender- based inequalities are major forces driving the HIV and AIDS pandemic, the development of a barrier method over which women have some control became imperative (Holmes, 1990 and UNAIDS, 2008 and Reshma N. and Martha B., 2008) .Women's health advocates called for the development of female controlled barrier methods in the early 1990s (Population Council, 2009). The first Female Condom was invented in 1988 by Lasse Hessel (Danish MD) and manufactured by the Female Health Company using polyurethane. (Population Council, 2009). In 1992 the Female Condom was introduced in the United Kingdom and following a rigorous campaign, the U.S Food and Drug Administration (U.S.F.D.A) approved the use of the female condom in the United States in 1993. Since its approval, the device has attracted numerous studies and from those studies, both laboratory and in-vitro-studies have established that polyurethane is impermeable to small viruses such as cytomegalovirus, herpes virus, hepatitis B virus and HIV (Hoffman *et al.*, 2003).

With the support of the joint United Nations Program on HIV and AIDS (UNAIDS), public and private funders and the manufacturer, more than 90 developing countries (Kenya inclusive) have introduced the Female Condoms to the public through public

distribution, social marketing campaigns and commercial outlets (Population Council, 2009).

1.2: PROBLEM STATEMENT

Having been invented and manufactured for the purpose of availing a female initiated dual protection tool for the control of pregnancy, HIV and other STIs; the Female Condom may not be fully accessed, accepted and utilized by the Women in their reproductive age in Kiambaa Division to ensure an effective utilization of the device for the control and prevention of Pregnancy, HIV and other STIs. This is supported by Mung'ala *et al,* (2006) in a study that indicated the prevalence of use of the Female Condom in Kenya as 14% in 2006.

1.3: RESEARCH QUESTIONS

a) What are the perceptions of the women of reproductive age in Kiambaa Division towards the Female Condom?
b) What are the experiences of women of reproductive age in Kiambaa Division with the use of Female Condom?
c) What are the factors that influence accessibility of the Female Condom among women of reproductive age in Kiambaa Division?
d) What are the factors that influence acceptability of the Female Condom among women of reproductive age in Kiambaa Division?

1.4: THE STUDY HYPOTHESES

The null hypothesis of this study was;

Access of the Female Condom does not influence uptake/utilization of the device among women of reproductive age in Kambaa division.

1.5: OBJECTIVES OF THE STUDY

1.5.1: GENERAL OBJECTIVE OF THE STUDY

The general objective of this study was to determine the factors influencing acceptability, accessibility and utilization of the Female Condom among women of reproductive age in Kiambaa Division.

1.5.2 SPECIFIC OBJECTIVES OF THE STUDY

(a) To identify the perceptions of the women of reproductive age in Kiambaa Division towards use of the Female Condom.

(b) To establish the experiences of women of reproductive age in Kiambaa Division with use of the Female Condom.

(c) To establish the factors that influence accessibility of the Female Condom among women of reproductive age in Kiambaa Division.

(d) To establish the factors that influence acceptability of the Female Condom among women of reproductive age in Kiambaa Division.

1.6 : STUDY JUSTIFICATION

In Kenya both the National AIDS Strategic Plan (2009/10-2012/13) and the National Condom policy and strategy (2001-2005) acknowledge that the Female Condom is a valuable female initiated dual protection tool against HIV and AIDS and other STIs. These policy documents further state that priority should be given to ensuring adequate national supplies, accessibility to Female Condoms and optimum National acceptability of the devices. However despite these supportive policies and many potential avenues for distribution, access to female condoms remains limited in Kenya (Population Council, 2009). While research has demonstrated that the Female Condom is an effective and a desired dual protection tool (against pregnancy, HIV and other STIs), little is known about these factors that influence acceptability and accessibility of the device. This justified the purpose for this study.

1.7 : SIGNIFICANCE OF THE STUDY

The findings of this study will be of invaluable use to governments and international organizations that advocate for use of the Female Condom. The study will reveal these factors that influence accessibility and acceptability of the female Condom and suggest the most effective solutions that will enhance Female Condom's accessibility, acceptability and utilization to the public. Women in general will also benefit from the study because any factors that hinder accessibility and acceptability of the Female Condom or dissuade utilization of the female Condom will be established and it is expected that relevant institutions and Government ministries will take action to formulate necessary policies that will promote use of the device by removing such

barriers. Other beneficiaries of the findings will be service providers who dispense the Female Condom to their clients. It will also generate insight on the pertinent issues of concern that they need to put into consideration while dealing with their clientele.

1.7: DELIMITATION AND LIMITATION OF THE STUDY

This study was limited to identifying the perceptions of women of reproductive age in Kiambaa Division towards the Female Condom. The study also sought to establish the experiences of women of reproductive age in Kiambaa Division with the use of the Female Condom. Finally the study also sought to establish the factors influencing accessibility and acceptability of the Female Condom in the same group.

CHAPTER TWO

LITERATURE REVIEW

2.0: INTRODUCTION

In this chapter literature will be reviewed in order starting with the global overview of access and utilization of the Female Condom, the Female Condom in Africa and the Female Condom in Kenya. At the end of the chapter both a summary of the literature review and identification of gaps in the literature review will be presented.

2.1: Global overview of access and utilization of the Female Condom

A randomized controlled trial of 409 women, recruited from family planning clinics in northern California, who were randomly assigned to the experimental 4-session female condom skills training intervention or the comparison 4-session women's general health promotion intervention and in which participants received condom use instructions at baseline and male and female condoms during the study established that at 3 and 6 months, women in the experimental group were more likely than those in the comparison group to have used the female condom at least once in the prior 3 months. The increase in the percentage of sexual acts protected by female condoms from baseline to the 6-month follow-up was greater for the experimental group. The percentage of sexual acts during which any condom was employed was higher in the experimental group at 6 months. There were no group differences in male condom use. Outcomes suggest that skills training can increase female condom use and protected sexual acts without reducing male condom use among women (Kyung-Hee *et al*, 2008).

A workshop on "the potential role of the female condom" held on 22nd, October 1993 by the Contraceptive Research And Development Project (CONRAD) of Family Health International (FHI) in collaboration with U.S.A.I.D reported that before approving the female condom in may 1993, the U.S.F.D.A required a six-month clinical trial in the effectiveness of the female condom in protecting against pregnancy, HIV and other STIs. The resulting study was an open-label, non-comparative and multi-centre clinical trial conducted in nine research cities (Six in the U.S and three in Latin America). In this study a total of 377 women in mutually monogamous relationships and who agreed to use the condom were enrolled. 328 women in that group contributed data for assessing contraceptive efficacy of the device.

In this clinical trial the overall 6month pregnancy rate was 15.1 per 100 women. Perfect use resulted in pregnancy rates considerably lower: 4.3 per 100 women and were similar to perfect use rates of the diaphragm. The efficacy was found to be high if the device is used consistently and correctly. Half of the women in the study said the device was comfortable. An equal percentage said the device had a negative impact on sexual mood. Four-fifths of the women perceived the device as easily torn. Some 70% of the women said the device was easy to keep in place. 3/5 of the women said they would use the female condom in the future and most would recommend the female condom to a friend. In the workshop, Henry Gabelink (CONRAD, 1993) presented a study on reinfection by *Trichomoniasis vaginalis* and *Chlamydia* which found that compliant use of the female condom prevented any cases of reinfection, whereas inconsistent use resulted in combined (*Trichomoniasis vaginalis* plus *Chlamydia*) reinfection rates of 23%. The

findings also revealed that the risk of acquiring HIV infection from an infected partner could be reduced from 1 in 5 (with no barrier method used) to 1 in 167 when the female condom was used.

In April 1997, a study was done on the female condom in Sao Paulo, one of the largest cities in the world located in Brazil with about 15 million inhabitants. The study designed by AIDS CAP women's initiative Project of family Health International (FHI) focused on the users of the recently marketed female condom in the region, (Kalckmman *et al.*, 1997).The research established that 92 percent of the 400 women recruited in the study had used the female condom. Only 2% had tried to use it but did not manage to insert it adequately. The insertion of the device was considered easy at first attempt by 44% and difficult by 46%.

McGill *et al.,* (1998) conducted a study on general awareness and use of the female condom in five U.S cities among STD high-risk clinic clients. Of the 413 clients interviewed, 77% had heard of the female condom, 5.6% knew someone who had used it, and 2.7% had tried it themselves. Eldridge *et al*., (1995) conducted a non-use study of low-income African- American women entering health clinics. The 178 women in his sample were asked to rank order five barrier methods in order of preference. The male condom was most often ranked first and the female condom was most often ranked second. Harrison (1996) reported on focus groups conducted in three sites in the United States in Delaware, St. Louis, and North Carolina. In the first session, 30 women were introduced to female condoms, asked to discuss their initial reactions and instructed to

use them, then to return in two weeks to discuss their positive and negative reactions. Virtually all of the women reported difficulties in inserting the Female Condom the first time because the lubrication made it slippery and difficulty to grasp.

In a preliminary study aimed at evaluating the perception of the female condom among new users in the United States Leeper (1990) reported that the main complaint of the study participants was aesthetics. Other individuals reported cases were the Female condom was dislodged during intercourse; the penis entered the Vagina outside the female condom (penile misrouting) or the entire device was pushed up into or pulled out of the vagina during intercourse.

2.2: THE FEMALE CONDOM IN AFRICA

A study conducted in Ghana in 2008 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 Recently been limited;. Minimal efforts are in place to identify and target appropriate sub-groups, so information and supply points are generalized, not tailored for the most likely prospective users; Though early acceptability studies of the FC in Ghana were positive, many in the provider and programming communities perceive that acceptability is low due to concerns that the product is big, messy, noisy, costly, and cumbersome to use; Socio-cultural factors may play a role in dissuading use of the FC. For example, gender dynamics may limit women's ability to negotiate use of a female condom, adolescent girls and women may feel shy to buy the FC for fear of being seen as promiscuous, and females may feel uncomfortable with the idea of having to touch or guide the penis prior

to or during intercourse; □High cost of the FC may deter some prospective buyers, especially youth and others with limited income. Prices vary in the public versus private sector; however, there is at least a 10- fold difference in price between male and female condoms. □Due to a relatively low national HIV prevalence (2.2%), the perceived need for dual protection is low; many couples do not view themselves as the intended users of the FC. For example, some see the FC as a product for commercial sex workers, while others perceive it as something used by the more educated or "elite." □Many providers have a bias against the FC, often due to negative perceptions about acceptability and lack of personal experience with the product. Thus, providers are likely not promoting or championing the product very actively (Reshma Naik and Martha Brady, 2008).

A cross-sectional study of female condom awareness, usage and concerns among the female undergraduates of the University of Ibadan conducted in September 2004 revealed that 850 out of the 879 female students research participants over 80% had knowledge of the female condom as a form of modern contraception and the majority of them learnt about it through the mass media (39.9%) and health workers (34.4%). However, only 11.3% had ever used the female condom; with most (40%) using it to prevent both unwanted pregnancy and sexually transmitted infections including HIV. The sexual partners' approval was appreciable, accounting for about 42.7% among those that had experience of the female condom usage. Major concerns mentioned such as difficulty of inserting it into the vagina and lack of sexual satisfaction, were not different from those in earlier studies. The result of this study looks promising judging from a high awareness level of the female condom, even though its usage is low (OkunlolaA *et al* 2006).

In July 1997, population services international (P.S.I) at the request of the Zimbabwe National AIDS Co-ordination Programme (Z.N.A.C.P), launched a social marketing program for the female condom in Zimbabwe. Immediately after the social marketing program, the horizons project and P.S.I conducted a descriptive, cross-sectional study of female condom users, male condom users and non users of any barrier method. This research, established that users of the female condom were generally in their mid twenties to late thirties and compared to the male condom users and non-users of either method, the female condom users had higher levels of education and access to household resources. Both the male and the female users of the female condom concurred that; women, more than men initiate dialogue about using the female condom, decide on its use and procure the product. Pregnancy prevention and disease prevention were the most common topics discussed by survey participants in the negotiation process. An interesting finding in this research is that 13 percent of women reported using the female condom without their partner's knowledge. Women also reported using female condoms when their husbands come home late at night or when they suspect infidelity (Kerrigan *et al*., 2000).

Elsewhere in Zambia, research conducted by Smith *et al.*,(2001) on the reuse of the female condom reports that the major motivator to reuse was identified as protection from disease and pregnancy. Distrust of male partners was common and contributed to reuse motivations. Other reported motivations included the need for the protection in hurry or being temporarily out of barrier protection. The Commercial Sex Workers

(CSWs) cited fear of loosing a customer as a motivation. In 1994, the National Department of Health and the Reproductive Health Research Unit (R.H.R.U) of South Africa in conjunction with the World Health organization (WHO) undertook an assessment of reproductive Health Services in South Africa. In this study, it was established that the initial female condom acceptors were mainly females because most were family planning clinic clients. Women of over 30 years of age were likely to return for re-supplies of the female condom. The majority of the initial female condom acceptors were not male condoms users and there was generally a negative attitude towards the male and female condom users (Tshkudu *et al.*,(1999).

Another study done by the Medical Research Council Research Program on AIDS in Uganda in acceptability methods for protection against HIV and other STIs in South Western Uganda revealed that; the female condom was relatively popular, but attitudes were ambivalent, the women did not like its size and shape, some complained of discomfort and the fact that they could not use it secretly and some generally liked it because it offered more certain protection against pregnancy, STIs and HIV (Nyanzi *et al.*, 2000).

2.3: THE FEMALE CONDOM IN KENYA

A prospective study assessing the effects of introducing the female condom in a sex worker population in Mombasa, Kenya in which Introduction of the female condom in an HIV/AIDS prevention project targeting sex workers was done led to small, but significant, increases in consistent condom use with all sexual partners. However, there

was a high degree of substitution of the female condom for male condoms. It was concluded that the female condom has some potential for reducing unprotected sex among sex workers. However, given its high cost, and the marginal improvements seen here, governments should limit promotion of the female condom in populations that are already successfully using the male condom (Thomsen S C *et al*, 2006).

Among the first studies of the female condom as a woman controlled protection method against unwanted pregnancy, HIV-AIDS and other STI's in Kenya was a study done by Ruminjo *et al*., in 1995. The study revealed that before the introduction of the female condom, very few women were aware of their own risk of HIV infection. Their range of protective devices against HIV was also limited. Use of the male condom was minimal, particularly among married couples who mainly "trusted in God" for protection.

Some participants had initial difficulties with the device, both in inserting and removing it and some were afraid of inserting it. However, after continued use of the female condom and participation in the study, the women seemed to like it. Among older women of high socio-economic status, the proportion of liking the device decreased from 66% to 50%.

Further the women felt more relaxed when using the female condom, and in particular could enjoy post-coital relaxation with their partner. This contrasted with their experience of using the male condom when they said, the partner "jumped out" after

ejaculation in order to dispose of it leaving his female partner highly “dry” and unsatisfied.

Welsh, *et al*., (2001) conducted a cluster randomized community intervention trial at several Kenya Agricultural sites to measure the impact of the female condom on sexually transmitted infection prevalence. In the study, 6 intervention sites received a community risk-reduction campaign and distribution of both the female condoms and the male condoms, while six control sites received the same campaign with male condoms only. The study revealed that at 6 months, 39% of women at intervention sites reported never using female condom, and 11% reported consistent use. At 12 months, the corresponding percentages were 58% and 7%. The main reasons given by women for not using female condoms consistently were partner rejection (29% at 6 months and 30% at 12 months). The second most common reason was, didn’t need protection and mutually faithful with partner (8% and 9% respectively). In models of the frequency of female condom use, the effects of follow up visit, age group and marital status were not statistically significant.

2.4: SUMMARY AND IDENTIFICATION OF GAPS

Since the approval of the female condom by the United States Food and Drug Administration (USFDA) in 1993, scientists around the world have made the device a major subject of research. This is evident in the previous pages of literature review. Nevertheless, there are some pertinent issues of concern that have not yet been addressed by previous studies on this device.

A critical evaluation of the literature review reveals that most studies on the female condom were aimed at evaluating efficacy of the device (as barrier to prevent and control pregnancy, HIV and AIDS and other STIs). More than 10 years have elapsed since the device was introduced and marketed in Kenya. Little is known about the perceptions of women of reproductive age towards the use of the Female Condom, Experiences of the women with the device, and also these social-cultural and economic factors that influence accessibility and acceptability of the Female Condom. This constitutes a gap of knowledge that this study sought to fill.

CHAPTER THREE

MATERIALS AND METHODS

3.0: INTRODUCTION

In this chapter both the research methodology and the materials used in this study will be discussed in order starting with the study area, the research design, variables in the study, the study population and the target population, the sampling procedure as well as the study participants selection criteria, data collection tools and finally data management and analysis**.**

3.1: THE STUDY AREA

This study was carried out at Kiambaa Division of Kiambu district in the Central Province of Kenya. Data collection took place at Kiambu District hospital and in the administrative area around the hospital that encompass the Kiambaa Division. The hospital is situated at Kiambu town, which is the Kiambu District Headquarters (The maps of the study area are in appendices V and VI of this document).

3.2: THE RESEARCH DESIGN

This study was a cross-sectional survey done in two phases. Phase one involved data collection using questionnaires administered to women in their reproductive age (18-49 years) seeking clinical services at Kiambu District hospital. Phase two involved conducting two Focus Group Discussions (FGDs) with women of at least 18 years of age. (One group composed of married women and the other one composed of unmarried women).

3.3: VARIABLES IN THE STUDY

The independent variables in the study were those factors influencing acceptability and accessibility of the Female Condom as well as the social - cultural and the economic factors that influence acceptability and accessibility of the female condom among women of reproductive age in Kiambaa division.

While the dependent variables were acceptability, accessibility and use or non-use (uptake) of the female condoms within the same group.

3.4: THE STUDY TARGET POPULATION

The study target population was women of reproductive age (18-49 years).

3.4.1: STUDY POPULATION

The study population in this study was women of reproductive age in Kiambaa Division .The total number of women in there reproductive age in Kiambu District was 234 961 persons. In Kiambaa Division the number of women in there reproductive age was 44 726 persons (2002-2008, Kiambu District development plan).

3.4.2: INCLUSION CRITERIA

To be eligible for inclusion in this study, an individual was to be;

(i) Willing and able to give informed consent.

(ii) A female within the age of 18 to 49 years of age seeking clinical services from Kiambu District Hospital.

3.4.3: EXCLUSION CRITERIA

Individuals who were excluded from this study were;

(I) A female within the age of 18 to 49 years of age seeking clinical services from Kiambu District Hospital who were not willing or not able to give informed consent.

(II) Female who were **not** within the age of 18 to 49 years.

(III) Men in general.

3.5: THE SAMPLING PROCEDURE

The study employed two sampling techniques. Purposive sampling was done to identify the study area on the basis of specific considerations by the researcher such as, accessibility of the area and availability of the female condoms in the area.

Convenient sampling was used to identify the research participants.

3.6: SAMPLE SIZE DETERMINATION

The total number of women in their reproductive age was given as 44 726 persons in Kiambaa Division (2002-2008, Kiambu District development plan.) This number exceeds 10,000. Therefore the minimum sample size was obtained using a formula as used by Fisher *et al* (1998).The formula is as follows;

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

Where; n= is the desired sample size when the study target population is over 10,000

Z - Is the normal deviate=1.96 .

P - Proportion of the target population estimated to have the desired characteristics.

Q= I – P

d = Error margin = 0.04

D - Is the design effect = 1 (since there will be no comparison between two study areas)

The proportion of the target population estimated to have the desired characteristics is 14/100. (14% is the prevalence of the female condom uptake as reported by Mung'ala *et al*, (2006) in Kenya). Therefore;

P = 14/100 or 0.14

q = 1-p = 1- 0.14 = 0.86

Hence, the desired sample size (n) was calculated as follows.

$$n = \frac{Z^2pqD}{d^2} = \frac{1.96^2 \times 0.14 \times 0.86 \times 1}{(0.04)^2}$$

$$n = \frac{0.46252864}{0.0016}$$

n = 289.08 which is approximately 289.

3.7: RESEARCH INSTRUMENTS

3.7.1: INTERVIEW SCHEDULES

Interview schedules were administered to a minimum sample of *n* =289 research subjects. In this schedules questionnaires were administered by the researcher and some hired research assistants.

3.7.2: FOCUS GROUP DISCUSSIONS

Two Focus Group Discussions (FGDs) were conducted. Each group was made up of 8 women of 18 years and over. One group was made up of married women while the other

was made up of unmarried women. FGD note-taker forms were used to make notes during the Focus Group Discussions.

3.8: PILOT STUDY

A pilot study was mounted to pretest the questionnaire by randomly selecting a few research participants with the desired characteristics and administering the questionnaire to them. In this, the questionnaire was standardized to ensure that the questions provided the desired answers. This guaranteed the validity of the questionnaire. Research assistants were also trained and examined in this pilot study to ensure that they were competent and could administer the questionnaires in the right way. This guaranteed reliability of the research instrument.

3.9: ETHICAL CONSINDERATIONS

Permission for carrying out this proposed study was sought from the relevant authorities who include; the Graduate School of Kenyatta University, the Office of the President, and the Medical Officer of Health (MOH) in Kiambu District. In addition, informed consent was sought from the study participants and Confidentiality of the study participants was also maintained.

3.10: DATA ANALYSIS AND MANAGEMENT

Quantitative data was analyzed using proportions and Chi square tests to test associations and levels of significance. The level of significance was fixed at a P value of 0.05 level of

significance (P=0.05). Qualitative data was analyzed using thematic techniques. Descriptions, contingency tables and graphics were used for data presentation.

Data was managed using appropriate computer software (SPSS version 11.5).

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1: INTRODUCTION

In this chapter data will be presented, and interpreted. The findings of this study will also be presented and analyzed in regard to the stated hypotheses, research questions and the study objectives. Discussion will therefore follow on specific and relevant areas as per the study objectives and hypotheses.

4.2: DEMOGRAPHIC DATA

4.2.1: AGE OF THE RESEARCH SUBJECTS

As pertains the age of the research subjects 11.4% were between the age of 15-20 years, 26% were aged between the age of 21-25 years, 27.4% were aged between 26-30 years , 23.2% were aged between 31-35 years, 11.1% were aged between 36-40 years and 0.01% over 40 years. This is presented by the frequency table below.

Table.4.1: Frequencies and percentages of different age sets of the participants

		Frequency	Proportion (%)
Valid	15-20	33	11.4
	21-25	75	26.0
	26-30	79	27.4
	31-35	67	23.2
	36-40	32	11.1
	>40	3	0.01
	Total	**289**	**100.0**

4.2.2: UPTAKE OF THE FEMALE CONDOM

About 89.6% of the participants had not used the Female Condom before while 10.4% had used the FC hence prevalence of use of the Female Condom among women of

reproductive age in Kiambaa Division was found to be **10.4%.** These results are presented by the following frequency table.

Table: 4.2: Frequencies and Proportions of uptake of the Female Condom

Use of FC		Frequency	Proportion (%)
Valid	No	259	89.6
	Yes	30	10.4
	Total	**289**	**100.0**

Further analysis done on uptake of the Female Condom revealed that majority of the participants who had used the FC were between the ages of 21-30 years and their proportion was 19/30 (63%). In the15-20 years age bracket 5/30 (17%) had used the FC. While in the 31-35 years age bracket 4/30 (13%) had used the FC and lastly 2/30 (0.7%) of the participants in the age bracket of 36-40 years had used the FC. No research participant over the age of 40 years had used the FC. This is presented by the following table that shows a cross-tabulation between age of the research participants and uptake of the female condom.

Table 4.3: Age against uptake of the Female Condom

		Uptake of female condom		Total
		No	**Yes**	
Age	15-20	26	5	31
	21-25	67	10	77
	26-30	72	9	81
	31-35	60	4	64
	36-40	31	2	33
	>40	3	0	3
Total		**259**	**30**	**289**

4.2.3: LEVEL OF EDUCATION OF THE PARTICIPANTS

About 11.4% of the research participants had acquired Primary level of education while, 55.4% and 33.2% had acquired secondary Level of education and University/college level of education respectively. This is represented by the following frequency table.

Table 4.4: Participants frequencies and proportions of different levels of education

Level of education		**Frequency**	**Proportion (%)**
Valid	Primary level	33	11.4
	Secondary level	160	55.4
	University/college level	96	33.2
	Total	**289**	**100.0**

Further analysis of data on level of education of participants revealed that 1/30 (3.3%) of the participants who had used the FC had primary level of education. While 17/30 (56.7%) and 12/30 (40%) of the participants who had used the FC had secondary Level of education and university/college level of education respectively. This is presented by the cross tabulation below.

Table 4.5: Level of education of participants against uptake of Female Condom

		Uptake of female condom		**Total**
		No	**Yes**	
Education level	**Primary level**	32	1	33
	Secondary level	143	17	160
	University/college level	84	12	96
Total		**259**	**30**	**289**

4.2.4: MARITAL STATUS

About 53.6% of all the research participants were married while 46.4% were not married. Further analysis revealed that majority of women who were using the FC were not married as data analysis showed that 11/30 (37%) of the participants who had used the FC were married while 19/30 (63%) of the participants who had used the FC were not married. These results are presented by the following frequency table and cross tabulation.

Table 4.6: Frequencies and proportions of the marital status of the participants

Marital status		**Frequency**	**Proportion (%)**
Valid	Married	155	53.6
	Not Married	134	46.4
	Total	**289**	**100.0**

Table 4.7: Participant Frequencies on Marital status against uptake of the FC

		Uptake of female condom		**Total**
		No	Yes	
Marital status	**Married**	144	11	155
	Not married	115	19	134
Total		**259**	**30**	**289**

4.3: FINDINGS OF THE STUDY

4.3.1: PERCEPTIONS OF WOMEN TOWARDS USE OF THE FEMALE CONDOM

4.3.1.1: Female Condom reduces sexual pleasure

About 88.2% of the participants responded that they perceived that use of the Female Condom reduces sexual pleasure while 11% of the participants did not know whether use or non-use of the Female condom had the capacity to reduce sexual pleasure or not. This is presented by the pie chart below.

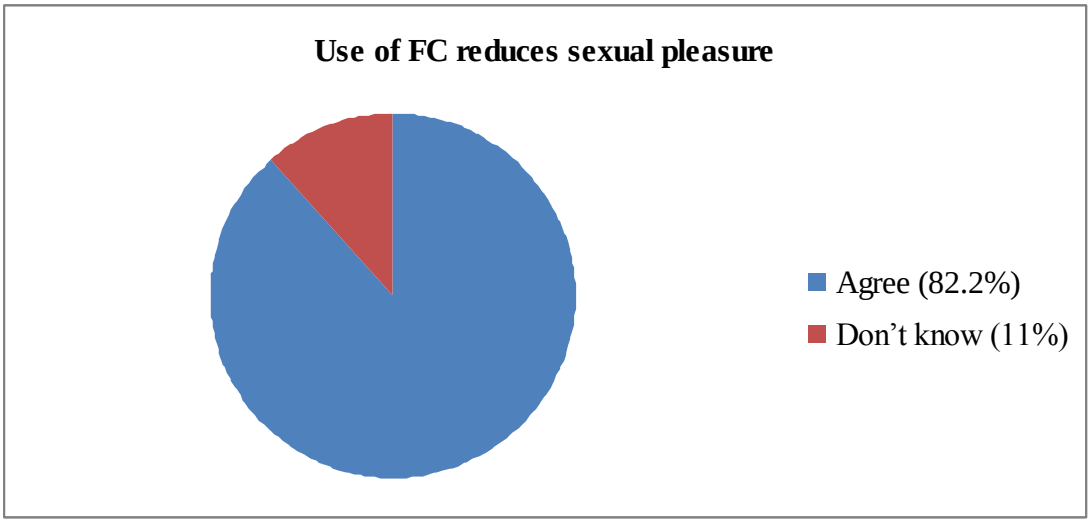

Figure 4.1: Participant's Perception FCs' capacity to reduce sexual pleasure

A chi-square test revealed that this perception was a significant factor that influenced uptake of the Female Condom at 0.05 level of significance *(χ^2=4.463, df=1, p=0.033).* The two Focus Group Discussions agreed that they perceived that use of the FC has the capacity to reduce sexual pleasure.

4.3.1.2: Female Condom is difficult to use (Insertion is difficulty)

About 95.5 % of the research participants responded that they perceived that the female condom is difficult to use, 2.8% responded that it was not difficult to use FC and 1.7% responded that they did not know whether it was difficult to use FC or not.

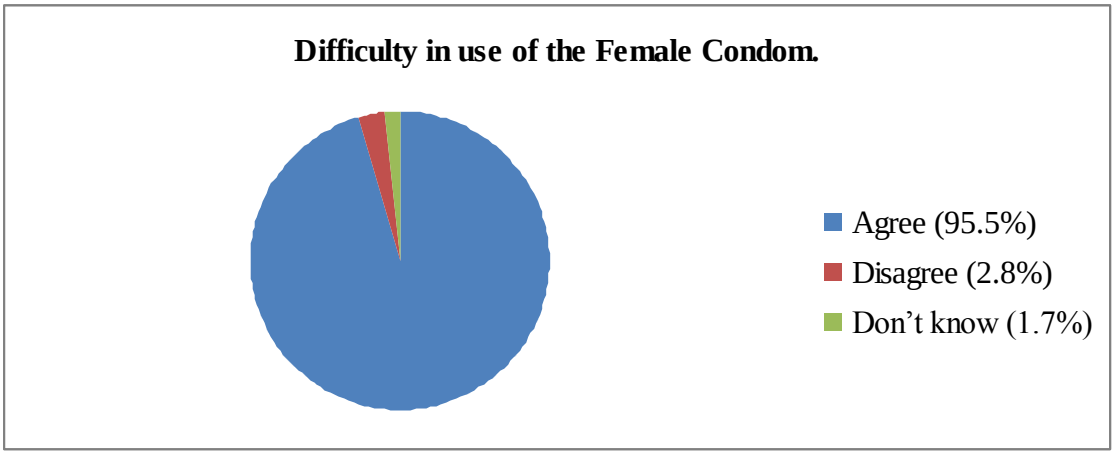

Figure 4.2: Participant's perception in use of the FC in regard to difficulty in use

A Chi-square test showed a significant association between the perception that FC is difficulty to use and uptake of the device at 0.05 level of significance *(χ^2=71.368, df=2, p=0.001)*.All the Focus Group Discussions perceived that use of the FC is difficult.

4.3.1.3: Female Condom is not comfortable to use

As pertains comfort and discomfort in use of the FC, 92.4% of the respondents agreed that they perceived the Female Condom to be uncomfortable to use, 3.1% disagreed and responded that the use of the female condom is comfortable while 4.5% responded that they did not know whether the use of the female condom is comfortable or no. These results are presented by the following pie chart.

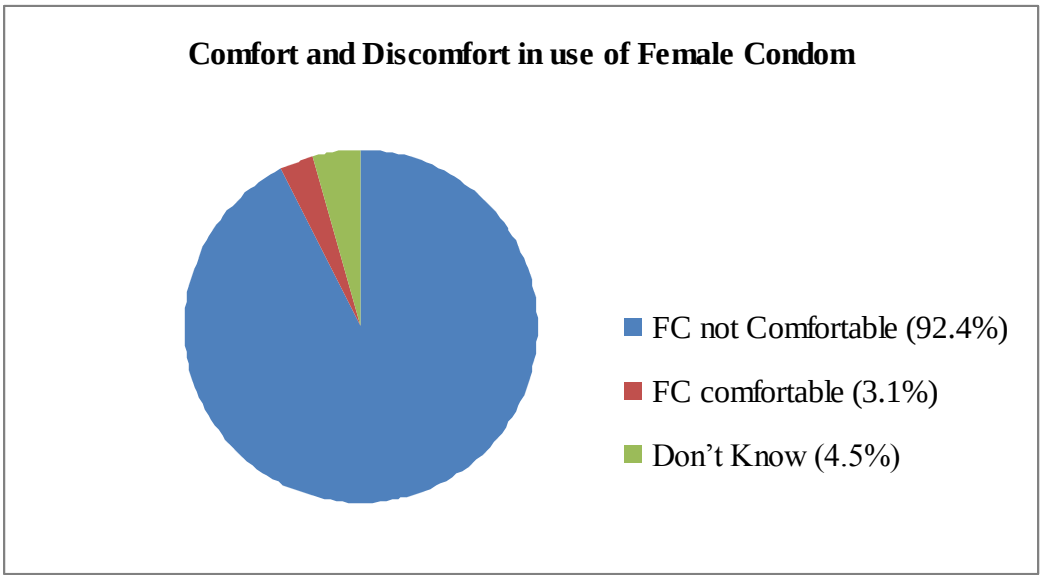

Figure 4.3: Participant's perception in use of FC in regard to comfort

A Chi-square test revealed that there was a significant association between uptake of the female condom and the perceived lack of comfort in use of FC at 0.05 level of significance *(χ^2=81.022, df=2, p=0.01)*.The two Focus Group Discussions conducted in this also perceived use of the Female Condom to be uncomfortable. Majority cited perceived feeling of the rings during intercourse while a minority cited the perception that the FC is too big to fit properly in the vagina and "it occupies a lot of space" hence making it uncomfortable to use.

4.3.1.4: Female Condom is associated with prostitutes

It also emerged that 68.5% of the respondents perceived that FCs are associated with prostitutes, 18% disagreed with this perception and 13.5% responded that they did not know whether the device is associated with prostitutes or not. A Chi-square test revealed that there was a significant association between uptake of the female condom and the

perceived association of FC with prostitutes at 0.05 level of significance *(χ^2=152.568, df=2 ,p=0.001).*

The following figure shows a pie chart showing the presentation of the participant's response in the perception that the FC is associated with prostitutes.

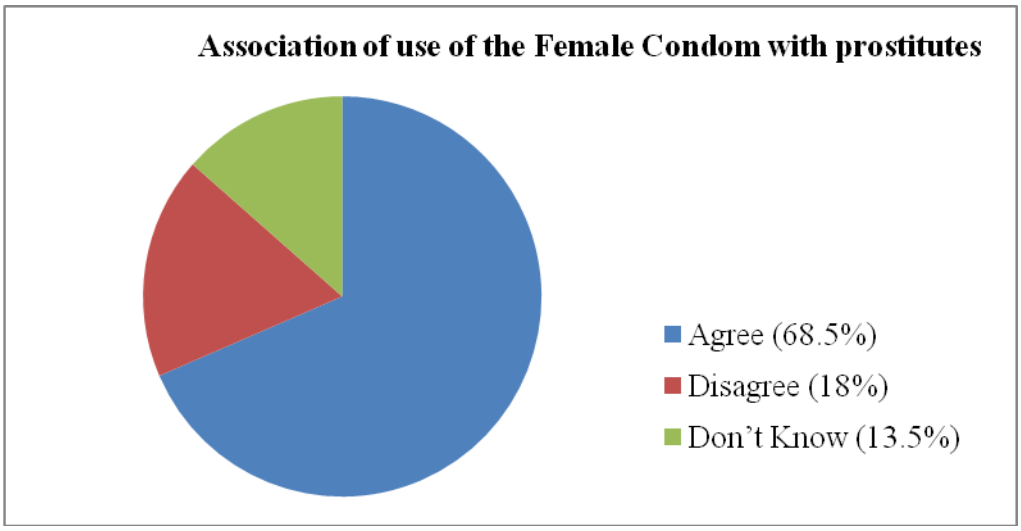

Figure 4.4: Participant's perception in use of FC in regard to its association with prostitutes

4.3.1.5: Use of Female Condom can prevent STI's and HIV infection

Data on the respondent's perception on FC's capacity to prevent STI's and HIV infection revealed that 60.2% of the respondents acknowledged that they perceived that proper use of the female condom can prevent STI's and HIV infection, 28% had the perception that proper use of the FC cannot prevent STI's and HIV infection while 11% did not know. A Chi-square test revealed a significant association between uptake of the female condom and the perceived capacity of the Female Condom to prevent HIV and other STI's at 0.05 level of significance *(χ^2=22.124, df=2, p= 0.01).* All the Focus Group discussions gave this as one of the positive attributes that acted as a motivation for the use of the Female Condoms. The figure in the following page shows a pie chart showing the presentation of

the participant's response in the capacity for the female Condom to prevent STDs and HIV infection.

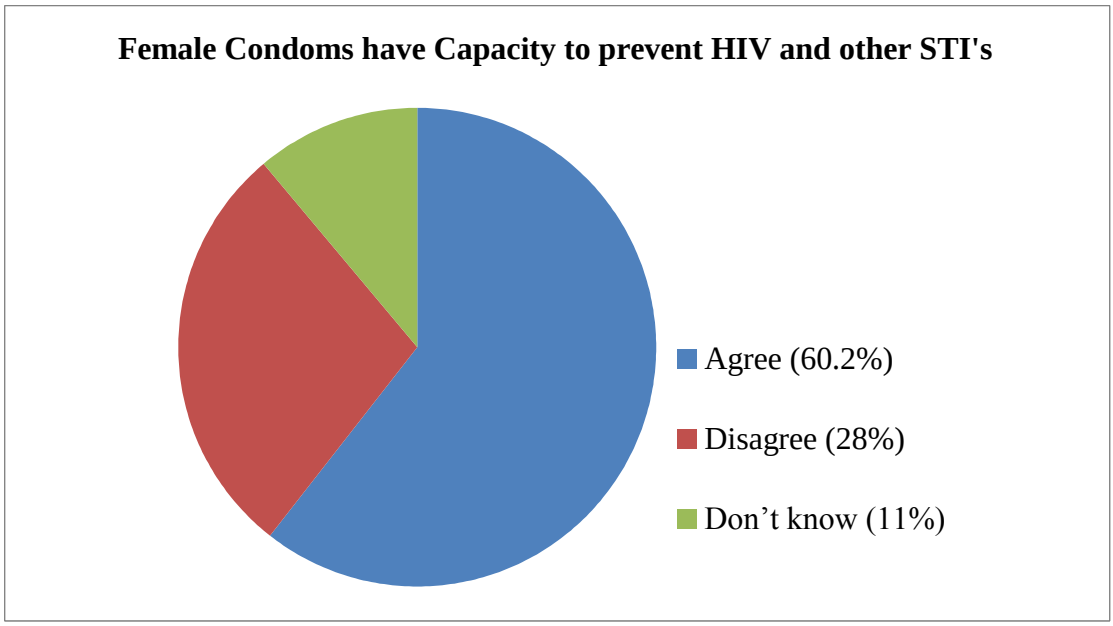

Figure 4.5: Participant's perception in use of FC in regard to prevention of STDs and HIV infection

4.3.1.6: Use of female Condom implies lack of trust for spouse/partner

It also emerged that use of the FC implied that the user did not trust their spouse/partner with 92% of the respondents responding that use of the female condom implies that one did not trust their partner/spouse, 4.8% disagreed with this perception and said that use of the female condom did not imply that one did not trust their partner/spouse and finally 3.1% said that they did not know the implications of use of the female condom in regard to trust of a partner/spouse. A Chi-square test revealed that there was a significant association between uptake of the female condom and the perception that use of the Female Condom implies that one does not trust their partner/spouse at 0.05 level of significance *(χ^2=59.469, df=2, p=0.01).*

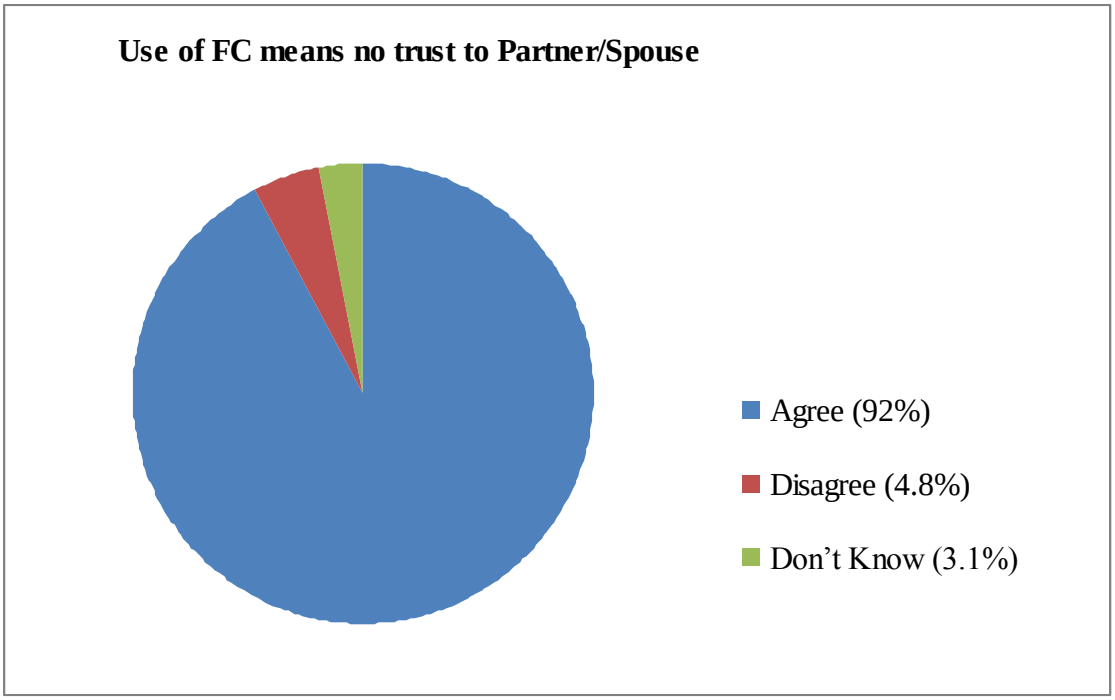

Figure 4.6: Participant's perception in use of the FC in regard to spouse trust

4.3.1.7: Male Condom is better than Female Condom

Another significant perception among the research respondents is that the male condom was better than the Female Condom with 95.2% of the respondents responding that they perceived the Male Condom to be better than the Female Condom and 4.8% did not know which condom is better between the Male Condom and the Female Condom. A Chi-square test revealed that there was a significant association between uptake of the female condom and the perception that the Male Condom is better than the Female Condom at 0.05 level of significance (χ^2= 127.020, df= 1, p=0.001).

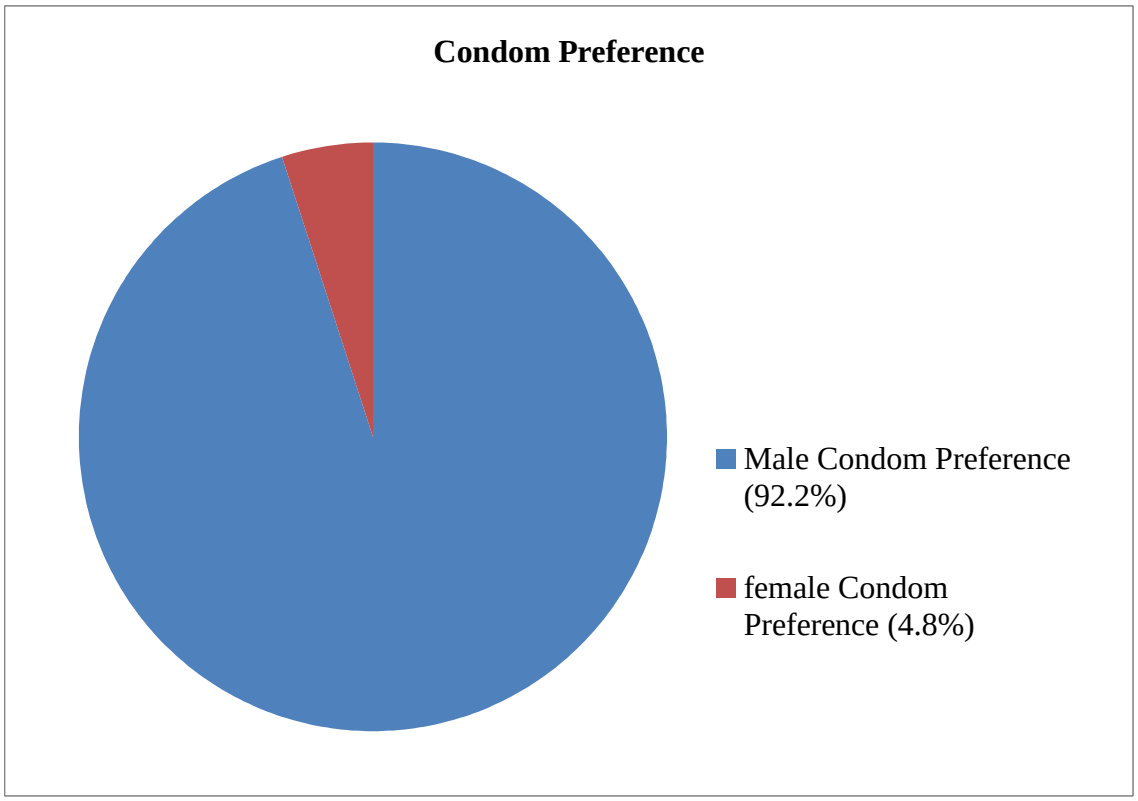

Figure 4.7: participant's perception in use of FC in regard to condom preference.

4.3.2. EXPERIENCES OF WOMEN IN USE OF THE FEMALE CONDOM

4.3.2.1: Female Condom reduces sexual pleasure

A cross tabulation between two variables; uptake of FC and Female Condom's capacity to reduce sexual pleasure revealed that 30/30 (100%) of all participants who had used the FC responded that use of the Female Condom reduces sexual pleasure. A Chi-square test revealed a significant association between uptake of the female condom and Female Condom's capacity to reduce sexual pleasure at 0.05 level of significance (χ^2= 4.461, df= 1, p= 0.033). These results are summarized by the following table;

Table.4.8: Uptake of female condom against its capacity to reduce sexual pleasure

			Female condom reduces sexual pleasure		Total
			Don't know	Agree	
Uptake of the Female Condom	Yes	Count	*0*	*30*	*30*
		Total%	*.0%*	*10.4%*	*10.4%*
	No	Count	*34*	*255*	*259*
		Total%	*11.8%*	*77.9%*	*89.6%*
Total		Count	*34*	*255*	*289*
		Total%	*11.8%*	*88.2%*	*100%*

(χ^2 = 4.461, df= 1,p= 0.033)

Harrison (1996) in a study in Delaware (USA) had 50 percent of his respondents reporting that use of the Female Condom reduced sensation during intercourse. Leeper (1990) upholds the same views states that "too much lubrication made insertion difficult, messy and caused frustration" hence reducing sexual pleasure. Leeper (1990) also reported that; it interrupted lovemaking, was not spontaneous, and it required forethought and planning.

Population council (2008) in its report on the Female Condom in Ghana also reports the same experience among Ghanaians. Okunlola et al (2006) in the study on the Female condom awareness, use and concerns among Nigerian female undergraduates reports the same experience having been experienced by the female undergraduate students of the University of Ibadan, Nigeria. Although all the 30 subjects who had used the Female Condom before agreed that the FCs reduced sexual pleasure, it was however observed that this group had two motivating factors that motivated them to continue using the Female Condom despite its capacity to reduce sexual pleasure. These are; the ability of the Female Condom to prevent HIV and other STIs and the ability of the Female Condom

to prevent pregnancy. Both FGDs agreed that sex without a condom is better than sex with a condom.

4.3.2.2. Female Condom is difficult to use (insertion is difficulty)

A cross tabulation between two variables; uptake of FC against difficult in use of FC revealed that 22/30 (73.3%) of the participants who had used the Female condoms responded that the FC is difficult to use.(insertion of the FC was difficulty.) while 8/30 (26.7%) responded that using the FC was not difficulty. A Chi-square test revealed that there was a significant association between uptake of the female condom and difficulty in use of the Female Condom at 0.05 level of significance (χ^2=71.36,df=2, p=0.001). The FGD made up of the Unmarried women unanimously agreed that the FC is difficult to use (insertion is difficult) and some participants argued out that the FC looks like "it occupies a lot of space." In the literature review Kalckmman A. S *et al*, 1997 reports this experience in his research in which 46% of the participants affirmed that the Female Condom is difficult to use. Leeper (1990) reports the same experience in stating that "regarding insertion, study participants said that it was difficult to insert, required practice prior to use and they did not like the removal procedure". And "the female condom was slippery and cumbersome; and too much lubrication made insertion difficult, messy, and caused frustration and quick abandonment of the method".

This is demonstrated by the following cross tabulation;

Table 4.9: Uptake of female condom against difficulty in use of the Device

			Female condom is difficult to use			Total
			Don't know	Agree	Disagree	
Uptake of the Female Condom	Yes	Count	*0*	*22*	*8*	*30*
		Total%	*.0%*	*7.6%*	*2.8%*	*10.4%*
	No	Count	*5*	*254*	*0*	*259*
		Total%	*1.7%*	*87.9%*	*.0%*	*89.6%*
Total		Count	*5*	*276*	*8*	*289*
		Total%	*1.7%*	*95.5%*	*2.8%*	*100.0%*

(χ^2=71.36, d.f=2, p=0.001).

Okunlola *et al*, (2006) in a study on the Female condom awareness, use and concerns among Nigerian female undergraduates reports the same experience having been experienced by undergraduate Female students of the University of Ibadan, Nigeria. A more recent report by the Ghana AIDS Commission published in 2008 also reports the same experience among the Ghanaians.

4.3.2.3. Use of the Female Condom is not comfortable

A cross tabulation of two variables; Uptake of female Condom against lack of comfort in use of the FC revealed that 21/30 **(**70%) of Women who used the Female Condom responded that the Female Condom is not comfortable to use while 9/30 (30%) said that use of the FC was comfortable. Reasons given by 70% of women who experienced discomfort in using the FC were 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. A Chi-square test revealed that there was a significant association between uptake of the female condom and discomfort in use of the Female Condom at 0.05 level of significance (χ^2 = 81.022, df= 2, p=0.001). This is demonstrated by the following cross tabulation.

Table 5.0: Uptake of female condom against comfort of the Device

			Female Condom is not comfortable to use.			Total
			Agree	Disagree	Don't know	
Uptake of the Female Condom	Yes	Count	*21*	*9*	*0*	*30*
		Total%	*7.3%*	*3.1%*	*.0%*	*10.4%*
	No	Count	*246*	*0*	*13*	*259*
		Total%	*85.1%*	*.0%*	*4.5%*	*89.6%*
Total		Count	*267*	*9*	*13*	*289*
		Total%	*92.4%*	*3.1%*	*4.5%*	*100.%*

(χ^2= 81.022, df= 2, p=0.001)

This experience is reported by Eldridge *et al*, (1995), in his study of low-income African-American women entering health clinics in United States of America. His research revealed that one of the obstacles against the use of the female condom is its discomfort in use and inhibition. Leeper (1990) reported that women complained feeling the inner rings thus making it uncomfortable to use and that the female condom was slippery and cumbersome and that it frustrated their love episode and that the mechanics of the device were unacceptable to some study participants because they reported it was too long, too large or didn't feel right. Okunlola *et al*, (2006) in a study on the Female condom awareness, use and concerns among Nigerian female undergraduates reports that the FC was uncomfortable to use as experienced by undergraduate Female students of the University of Ibadan.

4.3.2.4: Male Condom is better than the Female Condom

This study established that 16/30 of the participants who used the Female Condom (53%) responded that the Male Condom was better than the Female Condom**.** Reason given was

that sex felt better with the male Condom than the Female condom and that the Female condom was cumbersome to use as compared to the male condom. A Chi-square test revealed that there was a significant association between uptake of the female condom and male condom preference at 0.05 level of significance (χ^2=127.02, df=1, p = 0.001). This is demonstrated by the following cross tabulation.

Table 5.1: Uptake of female condom against Condom preference

			Condom preference		Total
			Don't know	Male condom	
Uptake of the Female Condom	Yes	Count	*14*	*16*	*30*
		Total%	*4.8%*	*5.5%*	*10.4%*
	No	Count	*0*	*259*	*259*
		Total%	*.0%*	*89.6%*	*89.6%*
Total		Count	*14*	*275*	*289*
		Total%	*4.8%*	*95.2%*	*100.0%*

(χ^2=127.02, df=1, p = 0.001)

A prospective study assessing the effects of introducing the female condom in a sex worker Population in Mombasa by Thomsen S C *et al* (2006) reported the same experience by stating that "there was a high degree of substitution of the female condom for male condoms" . All the FGDs unanimously agreed that use of the Male Condom is better than the Female Condom.

4.3.3: FACTORS INFLUENCING ACCESS OF THE FEMALE CONDOM

This study established two major factors that influenced access of the female condom in Kiambaa Division. These are;

4.3.3.1*:* Availability of the female condom in the locality

This study established that the female condom was not easily available in the local shops, supermarkets and chemists. When asked whether the Female condom was easily available in the local shop a majority 87.9% said No while 12.1% said that they did not know whether it was available or not. When asked whether the FC was available in the local supermarket 84.1% said No, 7% said Yes while 15.2% did not know. When asked whether they could find the FC in the local chemist 87.2% said NO while 3.8% said Yes and 9% said they did not know. When asked whether they could access the FC from the nearby dispensary 38.8% said yes, 55.0% said NO while 6.2 % said that they did not know. These findings (summarized in table below) clearly show that the female condom is not easily accessible to the women in their reproductive age in Kiambaa Division.

Table.5.2: Participants response on availability of the FC in the Locality

No	Availability of FC	YES (%)	NO (%)	Don't know.(%)
1.	Availability in local shop.	0	97.9	2.1
2.	Availability in local supermarket.	0	85	15
3.	Availability in local chemist	3.8	87.2	9
4.	Availability in local dispensary/ health centre.	38.8	55.0	6.2

Both FGDs also revealed that the FC was not easily available in the local shops, supermarkets and chemists.

4.3.3.2: Cost of the Female condom

When asked whether the female condom is expensive 93.8% said Yes it was very expensive, 0.7% said that it's not expensive and 5.5% said that they did not know

whether the FC is expensive or not. A survey in the chemists in Kiambu town revealed that a pack of three female condoms was going for Kshs. 450/= while a single piece was going for Kshs. 250/=. This in the view of 93.8% of the participants is quite expensive. The FGDs also revealed that the cost of FC was quite high and beyond the reach of the majority of women in the Division. However a few participants in the FGDs argued that they were ready to pay anything to protect themselves from STDs and more importantly HIV and AIDS.

Table 5.3: Participant's responses on cost of the Female Condom

FC is Expensive:		**Frequency**	**Proportion (%)**
Valid	Agree	271	93.8
	Disagree	2	0.7
	dont know	16	5.5
	Total	289	100.0

4.3.3.3: Participants response on influence of accessibility of the FC by combination of the two factors: unavailability of FC in the locality and high cost

When the participants were asked whether they thought the female condom was not accessible due to the combination of both its high cost and unavailability in the locality, 67.8% acknowledged that they could not access the female condom because it's both expensive and unavailable. 29.8% disagreed and commented that even though the female condom was expensive it was available while 2.4% responded that they did not know. This is summarized by the following table.

Table.5.4: Participant's responses on Female Condoms' lack of accessibility due to unavailability of FC in the locality and high cost

FC not accessible due to High cost and unavailability.		**Frequency**	**Proportion (%)**
Valid	Agree	196	67.8
	Disagree	86	29.8
	Don't know	7	2.4
	Total	**289**	**100.0%**

A cross tabulation revealed that 183/196 (93.4%) participants who agreed that FC is not accessible due to high cost and unavailability had not used the FC and even a more disturbing observation is that 69/86 (80%) participants who disagreed with the statement that FC is not accessible due to high cost and unavailability in the locality (meaning to them the FC is available and not expensive) had also not used the FC before. A Chi-square test revealed that there was a significant association between accessibility of the Female condom and uptake/utilization of the female condom at 0.05 level of significance *(χ^2= 11.916, df = 2, p =0.003).* These results are summarized by the following tables.

Table 5.5: Accessibility of the FC (in regard to cost and unavailability of FC in the local market) against uptake of female condom

(χ^2= 11.916 , df = 2, p =0.003)

		Uptake of female condom		**Total**
		No	**Yes**	
FC not accessible due to high cost and unavailability.	Agree	183	13	196
	Disagree	69	17	86
	Don't know	7	0	7
Total		**259**	**30**	**289**

This finding therefore implies that the null hypothesis; “Access of the female condom does not influence utilization of the device among women of reproductive age in Kiambaa Division.” Is rejected and thus the alternative hypothesis; “Access of the female condom influences utilization of the device among women of reproductive age in Kiambaa Division.” is accepted.

3.4.4: FACTORS INFLUENCING ACCEPTABILITY OF THE FEMALE CONDOM

The factors influencing acceptability of the Female Condom among women of reproductive age in Kiambaa Division in this study were established and subsequently categorized into two broad categories namely; Perceptions and experiences (as one category) and other social-cultural and economic factors.(as the second category).

3.4.4.1 Perceptions and Experiences

The perceptions and experiences discussed under objective one and objective two were found to be significant factors that influenced acceptability of the Female condom among women of reproductive age in Kiambaa Division. These perceptions and experiences include;

a) Female Condom reduces sexual pleasure.

b) Female Condom is difficult to use.

c) Female Condom is uncomfortable to use.

d) Female Condom is associated with prostitutes.

e) Use of Female Condom can prevent STI's and HIV infection.

f) Use of Female Condom implies lack of trust to partner.

g) Male Condom is better than Female Condom.

Table 5.6: Perceptions and experiences of women towards the use of the FC

No.	Perception	Agree (%)	Disagree (%)	χ^2 value	df	p-value (<0.05)
1.	FC reduces sexual pleasure	88.2	11.8	4.461	1	0.033
2.	FC is difficult to use.	95.5	2.8	71.36	2	0.001
3.	FC is uncomfortable to use	92.4	3.1	81.022	2	0.001
4.	FC is associated with prostitutes.	68.5	13.5	152.568	2	0.001
5.	Use of FC can prevent STIs and HIV infection.	60.2	28.0	22.124	2	0.001
6.	Use of FC implies lack of trust to partner/spouse.	92.0	5.8	59.469	2	0.001
7.	MC is better than FC	95.2	0	127.020	1	0.001

3.4.4.2: Other social –cultural and economic factors

3.4.4.2.1: Cost

When asked whether the female condom is expensive a majority 93.8% said yes it was very expensive, 0.7% said that it's not expensive and 5.5% said that they did not know whether the FC is expensive or not. When asked the reasons why they were not using the FC In the open questions in the questionnaire the same 93.8% responded that it was very expensive. A chi square test revealed that cost was a significant factor influencing acceptability of the Female Condom among women of reproductive age in Kiambaa division at 0.05 level of significance (χ^2= 11.916, df= 2, p = 0.003). In the two FGDs it

was also unanimously agreed that cost is a major factor that has made the female condom unacceptable by women in their reproductive age in Kiambaa Division.

3.4.4.2.2: Spouse/Partner consent

The study established that 83% of the participants would seek the partner/spouse consent before they make the decision of using the female condom. Only 10.7% said that they can make decisions independently and 6.2% did not know whether they needed partners/spouse consent in the use of the female condom or not. Hence the implication of these findings is that 83.0% of the study participants had to depend on their partner's acceptability of the Female condom. A chi square test revealed that partner/spouse consent was a significant factor influencing acceptability of the Female Condom at 0.05 level of significance (χ^2= 3.026, df=, 2, p = 0.020).

Table 5.7: Participant's responses on spouse/partner consent

		Frequency	**Proportion (%)**
Valid	Agree	240	83.0
	Disagree	31	10.7
	Don't know	18	6.2
	Total	289	100.0

(χ^2= 3.026, df=, 2, p = 0.020)

The FGDs also agreed that the male partners where a major stakeholder in using the Female condom and hence influenced there partners in either accepting to use or rejecting the use of the device.

3.4.4.2.3: Preference of other Contraceptives

In regard to using the Female condom as a contraceptive data revealed that 86.5% would prefer other contraceptives besides the Female condom. Only 8% responded that given

the female condom as a contraceptive and other contraceptives, they would choose the Female Condom. The reason given by the 8% for preferring the FC as opposed to the other contraceptives was that they perceived all the other contraceptives to be having side effects on their health while the female condom presented no threat to their health. 5.5% did not know whether to choose the FC or the other contraceptives. A chi square test revealed a significant association between uptake of FC and preference of other contraceptives at 0.05 level of significance (χ^2= 57.934, df = 2, p = 0.001). A cross tabulation between uptake of FC and preference of other contraceptives beside the FC revealed that 233/289 (80.6%) participants who preferred other contraceptives besides the FC had not used the FC and only 13/289 (4.4%) participants who preferred the FC than other contraceptives had used the FC.

However majority of the FGDs participants who were unmarried argued that though they were not using any contraceptives or even the Female Condom, they would prefer using the female condom as a contraceptive as opposed to other forms of contraception because they believed that other contraceptives had adverse side effects in their health than the FC. These results are summarized by the following tables.

Table 5.8: Participant's responses on contraceptive preference

Prefer other Contraceptives than FC		**Frequency**	**Proportion (%)**
	Agree	250	86.5
	Disagree	23	8.0
	Don't know	16	5.5
	Total	289	100.0

Table 5.9: Uptake of Female Condom against Preference of other contraceptives

			Preference of other contraceptives			Total
			Agree	Disagree	Don't know	
Uptake of the Female Condom	**Yes**	**Count**	*17*	*13*	*0*	*30*
		Total%	*5.9%*	*4.5%*	*.0%*	*10.4%*
	No	**Count**	*233*	*10*	*16*	*259*
		Total%	*80.6%*	*3.5%*	*5.5%*	*89.6%*
Total		**Count**	*250*	*23*	*16*	*289*
		Total%	*86.5%*	*8.0%*	*5.5%*	*100.0%*

(χ^2= 57.934, df = 2, p = 0.001).

3.4.4.2.4: Marital status

Data analysis revealed that there is a significant relationship between marital status and utilization of the Female Condom at 0.05 level of significance (χ^2= 3.875, df=1, p=0.038). A cross tabulation of marital status and actual utilization/uptake of the female condom revealed that 11/155 married respondents had utilized the female condom compared to19/134 unmarried respondents who also utilized the female condom. This reveals that unmarried respondents in Kiambaa division preferred using the Female condom than the married. However in the FGDs the FGD with the unmarried group was categorical in showing displeasure in the use of the Female condom as opposed to the married group. These results are summarized by table 4.6.

3.4.4.2.5: Level of education

Data analysis revealed that there was a significant relationship between use of the female condom and the level of education at 0.05 level of significance (χ^2= 2.390, df = 2, p =0.031). A cross tabulation between level of education against uptake of the female Condom revealed that only 1/33 participants who had primary level of education had

utilized the female Condom compared to 17/160 participants who had secondary level of education and 12/96 participants who had college/university education and had also utilized the FC. These results are summarized by table 4.4.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1: INTRODUCTION

This chapter provides a summary of the study findings, conclusions, recommendations for implementation and recommendations for further research respectively.

5.2: SUMMARY OF THE STUDY FINDINGS

5.2.1: PERCEPTIONS OF WOMEN TOWARDS THE USE OF THE FC

This study revealed that there are wide spread perceptions that significantly influence acceptability of the Female condom which include; the Female Condom is difficult to use(χ^2=71.36, df=2, p<0.05), the FC is uncomfortable to use (χ^2=81.022, df=2, p<0.05) , the FC is associated with prostitutes (χ^2=152.57, df=2, p<0.05), the FC reduces sexual pleasure (χ^2=4.461, df=1, p<0.05), use of FC means no trust to partner, (χ^2=59.47, df=2, p<0.05) and the Male condom is better than the FC (χ^2=127.02, df=1, p<0.05). All these perceptions influence acceptability of FC at P=0.05.

5.2.2: EXPERIENCES OF WOMEN USING THE FEMALE CONDOM

There were four significant experiences that were found to influence acceptability of the FC which include; FC is difficult to use (χ^2=71.36, df=2, p<0.05), FC reduces sexual pleasure (χ^2=4.461, df=1, p<0.05), FC is uncomfortable to use (χ^2=81.022, df=2, p<0.05) and Male Condom is better than FC (χ^2=127.02, df=1, p<0.05).

5.2.3: FACTORS INFLUENCING ACCESSIBILITY OF FEMALE CONDOM

Chi square tests revealed that high cost of the FC combined with lack of FC's in the local market was a significant factor that influenced accessibility of the FC among women of reproductive age in Kiambaa Division (χ^2=11.916, df=2, p<0.05).

5.2.4: FACTORS INFLUENCING ACCEPTABILITY OF THE FEMALE CONDOM

Both perceptions and experiences were found to be significant factors that influenced acceptability of the Female condom. Together with perceptions and experiences other factors that were found to be significantly influencing acceptability of FC among women of reproductive age are; high cost of FCs (Chi square=11.916, df=2, p<0.05), Spouse/partner consent (χ^2=3.026, df=2, p<0.05), preference of other contraceptives (χ^2=57.934, df=2, p<0.05), marital status (χ^2=3.875, df=1, p<0.05), FC's capacity to prevent HIV and other STIs (χ^2=22.124, df=2, p<0.05)and level of education (χ^2=2.390, df=2, p<0.05).

5.3: CONCLUSIONS

a) There are wide spread perceptions that influence uptake of the Female Condom among women of reproductive age in Kiambaa division.
b) Use of the Male Condom is more preferred than use of the Female Condom among women of reproductive age in Kiambaa division.

c) Absence of the female Condom in the local market and high cost of the Female Condom are two major factors that influence access of the Female condom among women of reproductive age in Kiambaa division.

d) There are wide spread social-cultural and economic factors that influence acceptability of the Female Condom among women of reproductive age in Kiambaa division.

e) The Female Condom is not being effectively utilized for the prevention and control of Pregnancy, HIV and other STIs since the prevalence of use of the Female Condom is 10.4%.

5.4: RECOMMENDATIONS FOR IMPLEMENTATION

a) The Government of Kenya through the Ministry of health should carry out intensive interventions such as development of Information, Education and Communication (IEC) materials accompanied by extensive peer education. This will ensure that targeted population is well-equipped not only with appropriate knowledge of the product, but also skills to use it comfortably and effectively and help in combating the negative perceptions that dissuade utilization of the Female Condom.

b) The Government through the Ministry of Health should allocate or source funds for implementation of a long-term Female Condom promotion program composed of among other things development of an innovative social marketing strategy that should include developing local branding and attractive packaging, collaborating with the mass media and enlisting popular

figures to serve as product "champions," among others. This will ensure that the Female Condom is as popular as the male condom making the two products to compete favorably in the market. The Government should understand that short-term promotion of FCs are inadequate for initiating and sustaining wide-scale client interest and that client commitment to the FCs will require sustained political and financial support for all relevant aspects of product promotion.

c) The Government through the Ministry of Health should identify and address weaknesses in the supply chain of the FCs. This is for the purpose of avoiding stock-outs and ensuring consistent availability of the FCs in all areas at all times, so that client interest and patronage can be encouraged and sustained.

d) The Government through the Ministry of Health and other development partners should come up with a policy that will ensure that the price of the Female Condom is reduced by introducing a subsidy in the consumer price of the FC. Alternatively the Government should considers procuring the new model of the Female Condom (FC-2) produced by the Female Health Company in 2005 (population council, 2009) which is less expensive and more user friendly (e.g. less noisy during use), its entry into the health system will provide an ideal opportunity for re-introduction of FCs and promotion.

e) The Ministry of health and other development partners involved in promotion of the FCs should target and involve men in promotion of FCs. This will address the problem of seeking spouse (male spouse) consent that appears to

limit women's ability to negotiate use of the female condom hence combating one of the social cultural factors that dissuade use of the Female Condoms.

f) The Government of Kenya through the ministry of Health should review lessons learned from findings of studies carried out in the global community on utilization of FCs and use these findings as a basis to develop a strategic plan that will ensure effective utilization of the FCs.

5.5: RECOMMENDATIONS FOR FURTHER RESEARCH

A social behavioral research should be conducted. It is necessary to carry out some operational research for the purpose of informing development of appropriate advocacy, distribution, and marketing strategies for the Female Condom. Other issues to be explored by research should include: Factors affecting Demand of the female Condom as well as the factors affecting supply of the Female Condom, methods for overcoming social- cultural barriers that currently discourage use of the Female Condom, debunking myths and misconceptions that are currently discouraging use of the Female Condom and developing appropriate Information Education and Communication (IEC) materials.

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APPENDICES

APPENDIX I

INFORMED CONSENT

(i) Introduction

This is to inform you that a student studying Masters of Public Health (MPH) Degree in Kenyatta University is carrying out a research to address some pertinent/relevant issues of concern in Public Health. The research has been approved by the Department of Public Health in Kenyatta University, Medical Officer of Health (MOH) in Kiambu District and the acting District Officer in Kiambaa Division.

You have been identified as a potential study participant and an appeal is being extended to you now, to read through/listen to the information contained in this document with the aim of giving your consent on whether you will agree to participate in the study.

(ii) Reason for the research

You are being asked to join this study to help the researcher to understand some issues pertaining the use of a woman barrier method used in the prevention and control of pregnancy, HIV and AIDS and other STDs.

(iii) Information about the research

It has been planned that women in their reproductive age who will be seeking post-natal or pre-natal clinical services in Kiambu District Hospital will be talked to in a private place. It has been preferred that a questionnaire will be filled on your behalf by the researchers. After the study is over a study report will be written.

(iv) Your part in the study.

If you agree, a researcher will take some part of your time which will be approximately 10 – 15 minutes. As you may be aware, one of the women barrier methods which is capable of controlling and preventing pregnancy, HIV-AIDS and other STD's in the female condom. Therefore, if you agree, you will be asked some questions about the female condom. There is absolutely no penalty if you decide not to participate/take part in the study.

(v) Benefits of the study

What the researchers will learn from this study may not help you now. Later it will help to protect your health or the health of others. We hope to learn useful things about your perceptions and attitudes towards the female condom. We would also learn the factors that hinder or promote the use of the Female condom in the society you are living in.

(VI) Risks in participating in the study

There is a chance that things we discuss may make you feel uncomfortable. You may refuse to answer any question at any time. You may as well propose to end your talk at any time.

(vii) Confidentiality

An individual (Research assistant) will talk with you in a private place. He/she will not ask you your name instead he/she will give you a number. Research study papers will be kept in a secure place. Neither your name nor number will appear anywhere in the study report.

(viii) Compensation.

Joining the study is on a voluntary basis. There is no compensation available for study participants.

(ix) Leaving the study

You are free to leave the study anytime. However, we will highly appreciate your co-operation during the study period which will last between 10 to 15 minutes.

(x) Declaration

I have read/ listened to the information contained in this document and clearly understood it. I therefore agree to participate in the study.

SIGNATURE……..

DATE……

APPENDIX II

QUESTIONNAIRE FOR EXAMINING PERCEPTIONS, ATTITUDES, ACCEPTABILITY AND UTILIZATION OF THE FEMALE CONDOM AS WELL AS THE SOCIAL- ECONOMIC AND CULTURAL FACTORS THAT HINDER

PART A.

INITIAL INTERVIEW – DEMOGRAPHIC

PARTICIPANT NUMBER _____

DATE OF INTERVIEW DAY ☐☐ **MONTH** ☐☐ **YEAR** ☐☐☐☐

INTERVIEWER NUMBER ☐☐

INTERVIEWER: Ask each question carefully and exactly as written. Be sure there is an answer for each question. Use a black ball point pen to record the respondents answer.

1. How old are you in years? ☐☐

2. How many living children do you have? ☐☐

3. What is your level of Education?

Primary ☐

Secondary ☐

College/university ☐

4. What is you primary occupation? _____

5. Do your religious beliefs affect whether you use contraception or not?

No = 0 Yes = 1 ☐

6. Have you ever seen this pack?

Interviewer: Display a pack of the female condom

No = 0 Yes = 1 ☐

7. What does the pack contain? _____

8. How did you get to know the female condom?

_____

_____

_____9. Are you aware of how the female condom is used?

No = 0 Yes = 1 ☐

10. Has your Doctor/nurse advised you to use the female condom?

No = 0 Yes = 1 ☐

11. Has your Doctor/Nurse advised you of not using the female condom?

No = 0 Yes = 1 ☐

12. If yes in question 16 above please give the reasons your doctor gave you.

_____

_____

_____

Part B

The following are statements about the female condom. Please tell me whether you Agree, disagree or don't know.

1. Using the female condom can prevent pregnancy.

Agree	1	
Disagree	2	
Don't Know	3	☐

2. Using the female condom during sex can prevent HIV and other STDs.

Agree	1	
Disagree	2	
Don't Know	3	☐

3. Using the female condom interferes with my sexual pleasure/sensation.

Agree	1	
Disagree	2	
Don't Know	3	☐

4. The female condom is difficult to use/insert.

Agree 1

Disagree 2

Don't Know 3 ☐

5. The female condom fresh from the pack can transmit an infection when used during Sexual intercourse.

Agree 1

Disagree 2

Don't Know 3 ☐

6. Using a female condom during sex is **not** comfortable.

Agree 1

Disagree 2

Don't Know 3 ☐

7. The female condom makes noise when used during sexual intercourse.

Agree 1

Disagree 2

Don't Know 3 ☐

8. The female condom is too wet or too slippery.

Agree 1

Disagree 2

Don't Know 3 ☐

9. The female condom has got an unpleasant scent.

Agree	1	
Disagree	2	
Don't Know	3	☐

10. My spouse/main partner does not like me to use the female condom when we having sex.

Agree	1	
Disagree	2	
Don't Know	3	☐

11. If I have sex with other partner (s) they do not like me to use the female condom.

Agree	1	
Disagree	2	
Don't Know	3	☐

12. I insert/ put on the female condom before I start any sexual act as a measure to prevent unwanted pregnancy.

Never	1	
Sometimes	2	
Most of the time	3	
All the time	4	☐

13. I insert/put on the female condom before I start any sexual act as a measure to prevent HIV and other STDs.

Never 1

Sometimes 2

Most of the time 3

All the time 4 ☐

14. Using a female condom means that I do not trust my partner.

Agree 1

Disagree 2

Don't Know 3 ☐

15. I do not like it if my spouse/main partner asks me to use a female condom.

Agree 1

Disagree 2

Don't Know 3 ☐

16. Sex feels better without condoms.

Agree 1

Disagree 2

Don't Know 3 ☐

17. The female condom is easily available in the nearby shop or chemist.

Agree 1

Disagree 2

Don't Know 3 ☐

18. The Female condom is easily available in the nearby dispensary/health centre.

Agree 1

Disagree 2

Don’t Know 3 ☐

19. The female condom is not easily accessible due to unavailability in the local market and high cost.

Agree 1

Disagree 2

Don’t Know 3 ☐

20. The female condom is expensive.

Agree 1

Disagree 2

Don’t Know 3 ☐

21. Sex feels the same with or without the female condom.

Agree 1

Disagree 2

Don’t Know 3 ☐

22. I prefer other contraception’s such as pills and hormonal injections to the female condom

Agree 1

Disagree 2

Don’t Know 3 ☐

23. What do you like in the female condom?

_____

_____

_____

24. What do you dislike in female condom?

_____

_____

_____

25. Does your culture allow women to use the female condom?

Agree 1

Disagree 2

Don’t Know 3 ☐

26. Does your Religion allow women to use the female condom?

Agree 1

Disagree 2

Don’t Know 3 ☐

27. The female condom is associated with prostitutes/commercial sex workers.

N0 = 1 Yes= 2 ☐

28. I need the consent of my husband on whether to use the female condom or not.

N0 = 1 Yes= 2 ☐

29. Which condom do you prefer?

Male ☐ Female. ☐

Give reasons for your answer.

_____

_____

_____

_____

_____

30. What has made you to continue using the female condom? (Question for those who have been using the device.)

_____

_____

_____

_____

31. What has barred you from using the Female Condom? (Question for those who have not been using the device.)

_____

APPENDIX III

FOCUS GROUP DISCUSSION QUESTION GUIDE

1. The female condom is one of the female barrier methods used as an intervention tool for the prevention and control of pregnancy, HIV-AIDS and other STDS. Has anyone of you ever seen it?
2. For these who have seen the device do you know how it is used?
3. Do you think the device has brought any significant difference in the lives of women in Kenya in regard to sex? Explain.
4. Do you think the device can affect an episode of sex/ a sexual encounter in any way? For example;
   (a) Can it reduce sexual pleasure? How?
   (b) Do you think the device can prevent a woman from acquiring HIV and AIDS or other STDs?
   (c) Can the device help control and prevent pregnancy?
5. Does your religion allow you to use the device during sex? Explain.
6. Does your culture allow you to use the device during sex? Explain.
7. Do your partners have any problem in regard to the use of this device? (Please specify)
8. Do you think women have accepted to use the female condom as a tool for prevention and control of pregnancy, HIV and AIDS and other STDs?. Please explain.
9. Has any one of you had the opportunity of using the female condom?
10. If yes, what was your experience with the device?

11. For those of you who have not used the device, why have you made a choice of not using it?
12. Do you think the device is easily available? Explain why it is easily or not easily available.

REMARKS

Thank you all for coming and taking part in this discussion. Please sign the reimbursement forms.

APPENDIX IV

DISCUSSION NOTE-TAKER FORM

FORM NO. _____ DATE_____

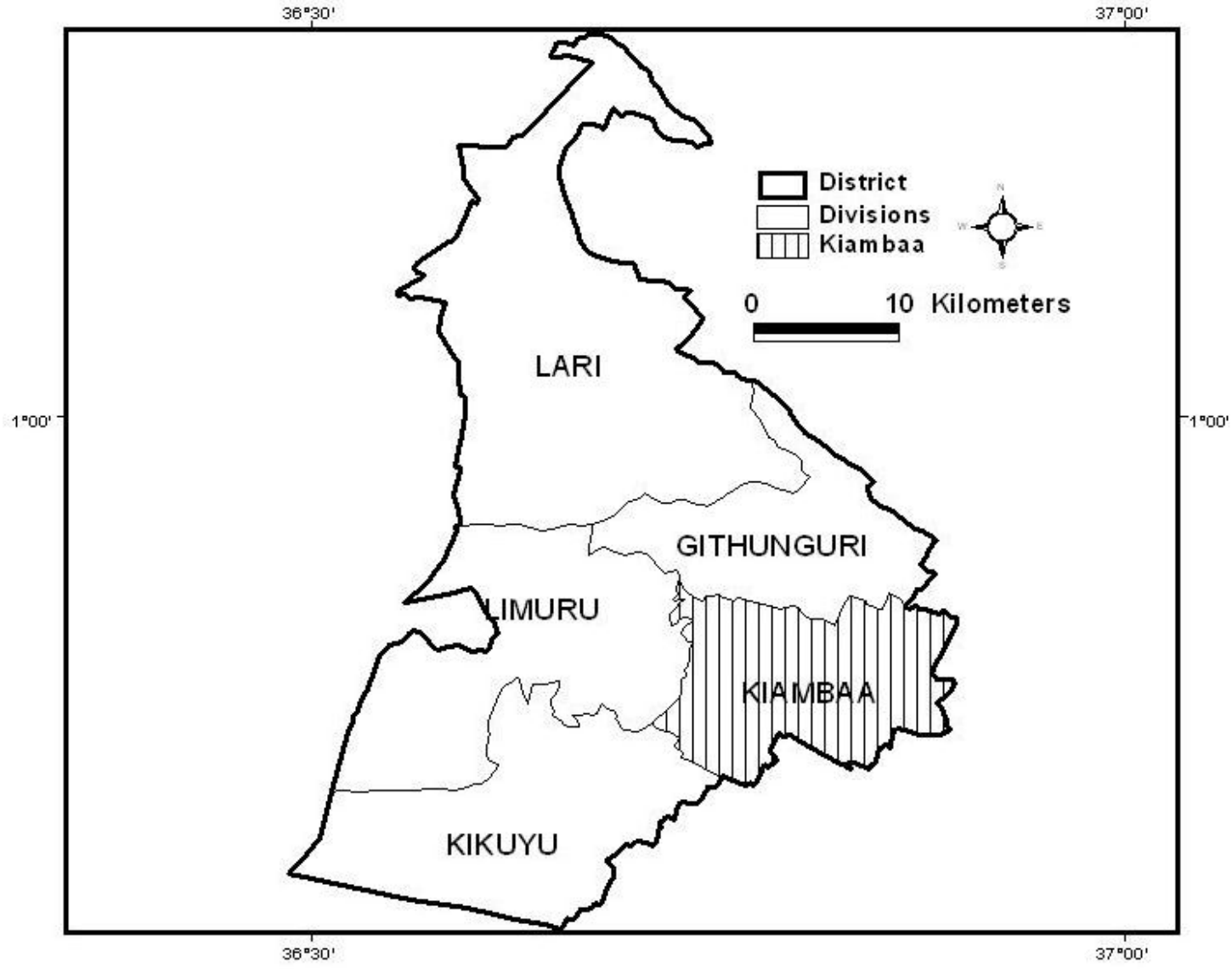
NOTE-TAKER NO._____

QUESTION	RESPONSES	OBSERVATIONS

NOTE – TAKER ……..

SIGNATURE…….

APPENDIX V



MAP OF KIAMBU DISTRICT SHOWING THE POSITION OF KIAMBAA DIVISION

APPENDIX VI:

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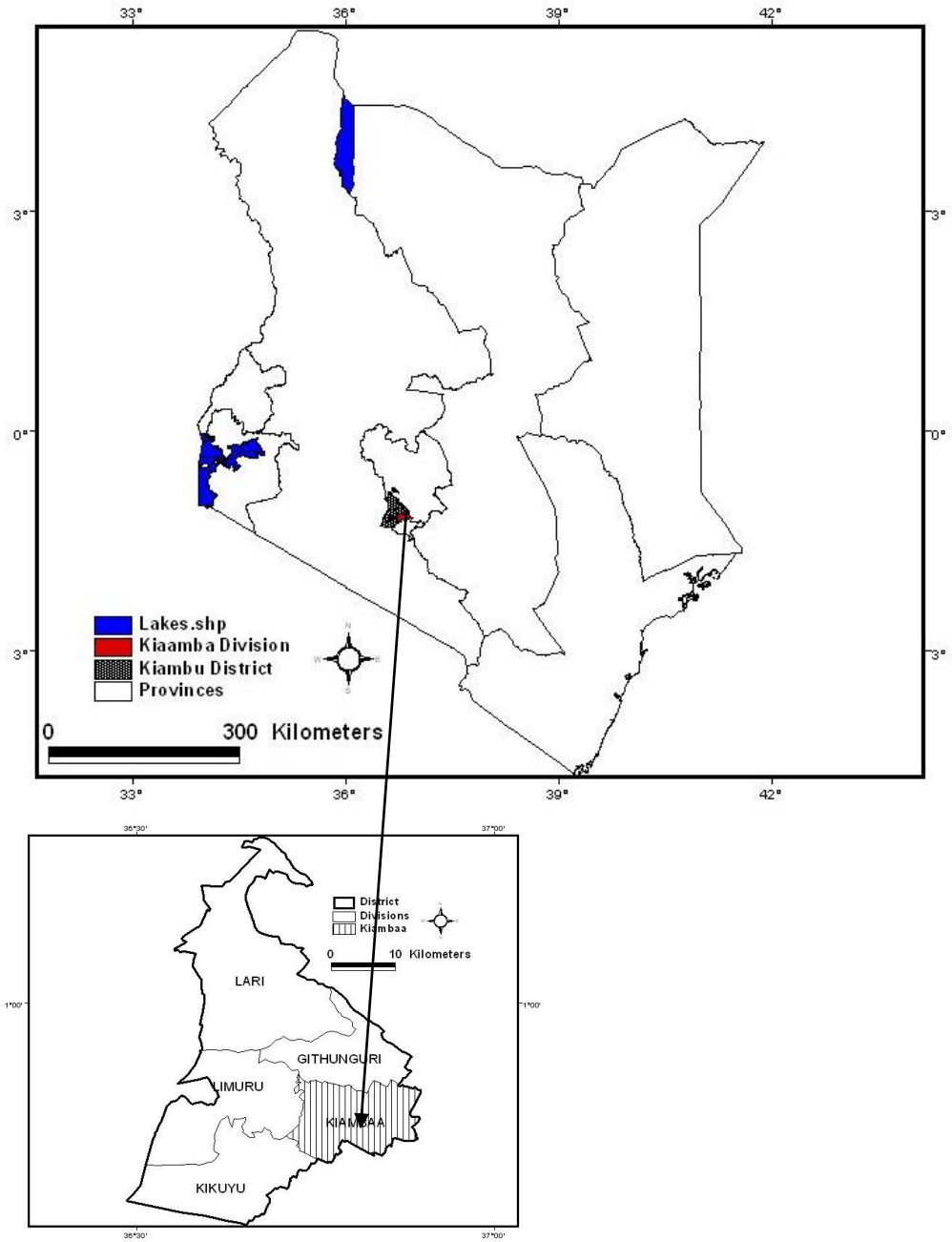

MAP OF KENYA SHOWING THE POSITION OF KIAMBU DISTRICT IN KENYA