CONTRACEPTIVE USE AMONG FEMALE SEX WORKERS IN
MOMBASA COUNTY, KENYA

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DECLARATION

This thesis is my original work and has not been presented for any program of study in any university.

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Supervisors’ approval

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DEDICATION

Dedicated to my daughters Lynne, Stacey and Marble who are all so different but immensely loving.
ACKNOWLEDGEMENT

First and foremost, I thank God for enabling me to make this great achievement. To my supervisors, Prof. Okello Agina and Dr. Jemimah Simbauni, I will forever remain indebted to you for prompt and superb guidance and support throughout the engagement. Special appreciation goes to Mr. Tom Abuto for helping me think through and shape my ideas and for the statistical analysis. To Dr. Charles Moses and Dr. Samuel Guto thank you for an overall critique of the work. I am profoundly grateful to Professor Stanley Luchters, for mentoring and inspiring me into reproductive health research. I am grateful to Mr. Peter Nyongesa for running errands and constant updates. Last but not least, my most sincere gratitude go to my family, my husband Dr. Jared Bosire for urging me on relentlessly and reviewing my work; my daughters, Lynne, Stacey and Marble; you are always, to me, a source of strength and inspiration. To all others who participated in any way that I have not mentioned, may God bless you.
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<tr>
<td>APHIA II</td>
<td>AIDS, Population, and Health Integrated Assistance</td>
</tr>
<tr>
<td>BTL</td>
<td>Bilateral Tubal Ligation</td>
</tr>
<tr>
<td>FAM</td>
<td>Fertility Awareness Methods</td>
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<td>FP</td>
<td>Family Planning</td>
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<td>FSW(s)</td>
<td>Female Sex Workers</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>ICRH</td>
<td>International Centre for Reproductive Health</td>
</tr>
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<td>IMPACT</td>
<td>HIV/AIDS Prevention Project</td>
</tr>
<tr>
<td>IUCD</td>
<td>Intrauterine Contraceptive Device</td>
</tr>
<tr>
<td>KAPCOQ</td>
<td>Knowledge, Attitude and Practice of Contraception Questionnaire</td>
</tr>
<tr>
<td>KDHS</td>
<td>Kenya Demographic Health Survey</td>
</tr>
<tr>
<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NCST</td>
<td>National Council for Science and Technology</td>
</tr>
<tr>
<td>PATH</td>
<td>Program for Appropriate Technology in Health</td>
</tr>
<tr>
<td>PEs</td>
<td>Peer Educators</td>
</tr>
<tr>
<td>PGD-PPM</td>
<td>Post Graduate Diploma in Project Planning &amp; Management</td>
</tr>
<tr>
<td>PI</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection(s)</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Family Planning Agency</td>
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<td>WHO</td>
<td>World Health Organization</td>
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DEFINITION OF OPERATIONAL TERMS

Contraceptive method: Any practice that serves to prevent conception during sexual activity.

Contraceptives: These are devices, drugs or chemical agents that are capable of preventing conception.

Dual method use: Is a strategy that involves the use of condom in combination with any other modern contraceptive method for STI and pregnancy prevention.

Long acting methods: These are contraceptive methods that are non-daily administered and include injectables, norplant, IUCD, BTL and vasectomy.

Family planning: A deliberate effort, based on knowledge, attitude and responsible decision by a couple or an individual to space and limit births using available contraception methods.

Attitude towards contraceptives: Opinions or feelings about methods of birth control that would influence an individual’s behavior towards their use.

Contraceptive knowledge: Awareness of available contraception options and the individual’s risk of pregnancy.

Female sex worker: A female who self-reports to have received money or gifts in exchange for sexual services, either regularly or occasionally, and who may or may not consciously define those activities as income generating.

Modern contraceptive methods: These are contemporary birth control methods that include the use of pills, injectables, intrauterine devices, condoms, male and female sterilization, lactational amenorrhea method, emergency contraception and implants.

Traditional methods: These are cultural birth control methods that focus on fertility awareness (natural family planning periodic abstinence) and withdrawal (coitus interruptus).
Unmet need for family planning: This is phenomenon that depicts a situation whereby a woman who is fecund, sexually active and does not want to have a child soon or wants to stop child bearing all together, is not using any method of contraception.

Unintended pregnancy: This refers to a pregnancy that is mistimed or unwanted.

Youth: Young people aged between 15 and 30 years
ABSTRACT

Globally about 210 million women conceive annually, and 38% of these pregnancies are unintended. The prevalence in Kenya is over 20%, occurring mostly among poor and less educated women such as female sex workers (FSWs) and impacts negatively on the quality of life of the mother, child and family. The overall objective of this study was to determine whether knowledge of contraceptives and attitude towards contraceptives influence use of modern contraceptives by female sex workers in Mombasa County. Specific objectives were to determine the demographic and socio-economic attributes; use of modern contraceptives, and the relationship between knowledge and attitude and current use of modern contraceptives by the female sex workers in Mombasa County. Cross sectional study design employing quantitative techniques was applied. A representative sample of 357 FSWs aged 15-49 years was obtained from a population of 5000 FSWs in Kisauni using snowballing technique. All relevant approvals were obtained and researcher administered questionnaires were used to collect data from consenting respondents. Data was entered into excel and analyzed in SPSS for descriptive and inferential statistics. A response rate of 100% was achieved. Majority of the FSWs (61.6%) were aged 15-30 years. Most of them (96.4%) were literate, Christian (81%) and single (56.6%) with 71.4% having 1-3 children. Further, 90.2% started sex work when aged 15-19 years. Ever use and current use of modern contraceptives was 97.8% and 94.4% respectively. Condoms (66%), injectables (36%) and Norplant (15%) were the most common contraceptive methods currently used. The most commonly mentioned contraceptives were injectables (91.3%), BTL (86.6%) and Pills (82%). Over half of the FSWs (59%) were aware of at least four contraceptive methods. The level of awareness had a significant relationship with the level of education. Only 23% of all the FSWs could articulate their individual risk of pregnancy while 72.6% and 65.3% harbored myths about the coil and BTL respectively (P<0.001). The knowledge levels were significantly different with majority (72.5%) having moderate knowledge. There was no relationship between knowledge levels and ever and current use of modern contraceptives. Most respondents had a positive attitude towards contraceptive use. Attitude had a significant influence on the use of dual and long acting methods (P<0.001; $\chi^2 = 13.698; \text{OR} = 2.446$). Future interventions should focus more on attitude change as opposed to knowledge and directed more to youths who are the majority in sex work and therefore most affected by unintended pregnancies. Further research is required towards formulation of a strategy on attitude change and also a similar multi-locational study to assess whether the trends in this study occur in other counties.
CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Throughout the world, approximately 210 million women conceive annually, and 80 million of these pregnancies are unintended (Speidel, 2008). Unintended pregnancy occurs when a mother has either unwanted or mistimed pregnancy (Trussell et al., 2010). Current global trends of unintended pregnancies are disturbing. Out of these unintended pregnancies, 34 million unintended births occur, coupled with 42 million induced abortions. This situation is worse in developing countries where health care services are inadequate and or inaccessible to many people. In Kenya for instance, over 20% of all pregnancies are either unwanted or mistimed (KNBS, 2010). These rates are highest amongst poor uneducated women. Female sex workers (FSWs) tend to be highly vulnerable due to their typically low educational standards, poor socio economic conditions (Sutherland et al., 2011) and inherently high exposure. Unintended pregnancy is a major cause of maternal deaths and is associated with improper health behaviors during pregnancy that cause adverse effects. For example, women with an unintended pregnancy may delay prenatal care, which may affect the health of the infant, and these pregnancies often lead to unsafe abortions associated with severe consequences. It is estimated that one in 55 Kenyan women die from pregnancy-related causes each year (Guttmacher Institute, 2012).

Ashford (2005) argues that women of all ages may have unintended pregnancies, although some groups, such as teens, and those women approaching menopause, tend to be at a higher risk. The challenge of unintended pregnancies has also been reported as a major reproductive health concern among FSWs who are a vulnerable group owing to the nature of their trade and the stigma associated with it (Sutherland et al., 2011).

Findings from an intervention cohort study done in Mombasa by Thomsen et al., (2006),
revealed that 85% of the FSWs interviewed already had one or more children. Many FSWs do not desire additional children due to the opportunity cost of time away from work to care for their children and/or the cost of an additional mouth to feed. Another pregnancy for an FSW is considered a burden as it forces them to spend money to procure abortion, wastes work time and exposes them to health risks (Todd et al., 2010).

A cohort study assessing HIV incidence involving 400 FSW was conducted between August 2006 and October 2007 in Kisauni and Changamwe Districts in Mombasa County, Coast Province. High pregnancy rates 27% (109/400) were observed in the first year of follow-up, with about 50% (59/109) of the women indicating that the pregnancies were unintended despite sustained access to free contraceptive services (condoms, pills, injectables) throughout the study period. Informal discussions with the women indicated that most of these pregnancies were unintended and more than 20 abortions were recorded (unpublished data at ICRH).

According to the KDHS of 2008-09, sexually active unmarried women have slightly higher levels of knowledge of contraceptives compared to all women with a mean number of 7.6 known methods compared to all women at 7.5 (KNBS, 2010). Sutherland et al., (2011) observed a clear articulation of the benefits of dual method use (for HIV/STI and pregnancy prevention) among FSWs. This appreciation was demonstrated in the high self-reported levels of condom and dual method use in this population. Unmet need for contraceptives among FSWs results from incorrect and inconsistent use of methods (especially pills and condoms). This scenario perhaps stems from the skewed attention that many reproductive health interventions targeting FSWs have adopted, which emphasize the prevention of HIV/STIs and therefore advocate the use of condoms for dual protection.
(Sutherland, et al., 2011) with little specific emphasis on contraceptives. This study investigates the knowledge, attitude and practice of contraception among FSWs. The information obtained will facilitate appropriate interventions that would enhance contraceptive uptake among FSWs, and thereby potentially reduce the risk of unintended pregnancy and its associated negative health outcomes.

1.2 Statement of the Problem

Female sex workers are a vulnerable population who are also highly stigmatized. They have multiple sex partners and their human rights are frequently violated (Sutherland et al., 2011). This vulnerability is compounded by the illegality and criminalization of sex work in Kenya, which limits FSW’s access to reproductive health services, particularly treatment and management of sexually transmitted infections (STI) and contraception. This scenario contributes to an increased risk for unintended pregnancies and HIV/STI infection among this population.

Most FSWs are generally poor, with one or more children to fend for, and depend largely on sex work for their livelihood (Luchters et al., 2008). Additional mouths to feed for these women are undesirable and most of them would prefer to avoid getting pregnant. According to Todd et al., (2010), pregnancy is deemed distressful and costly as one has to spend money to procure an abortion, may fall out of business, and suffer other health and social risks.

Despite the undesirability of pregnancy among FSWs, research continues to indicate that a significant population among them still gets pregnant without intending despite availability of contraceptives. For instance, a cohort study assessing HIV incidence among 400 FSWs in Kisauni recorded 27% pregnancies in the first year of follow up. Informal discussions with
the FSWs indicated that most of the pregnancies were unintended despite being offered continuous counseling and provision of contraceptives throughout the study period.

This observation triggered the need to investigate this apparently ironic trend, and the logical starting point would be an assessment of the FSWs' knowledge of contraceptives, attitude towards contraceptives as factors that may influence the FSWs' use of modern contraceptives.

1.3 Justification

Various studies have been done among FSWs in Mombasa, which have looked at different aspects of reproductive health among FSWs. Scholars have investigated patterns of contraceptive use and unmet need for contraception; effect of introducing the female condoms in a sex worker population; impact of peer mediated interventions on sexual behaviors and STI among FSWs (Sutherland, et al., 2011, Thomsen, et al., 2006; Luchters, et al., 2008). However, although all these studies touch aspects of contraception, none has investigated the relationship of use, and knowledge and attitude towards contraceptives.

While all evidence gathered suggests that contraceptive use among this population has not been effective despite availability and accessibility of contraceptive services, a use, knowledge and attitude study will help to identify the loopholes, be it in the knowledge about contraception, attitude towards the methods and how these variables interact with use of contraceptive products. This information will be useful in the development of viable interventions that would address the specific gaps and possibly enhance contraceptive uptake among FSWs and thereby potentially reduce unintended pregnancies and the associated negative outcomes.
Mombasa County was selected as a suitable study site because of its FSW programs. Female sex workers are a hard to reach population and studies involving them require careful attention when considering the study participant recruitment procedures. In this case, the researcher considered the fact that the IMPACT project and the subsequent APHIA II program have trained FSW peer educators (PEs) in the community through the International Centre for Reproductive Health (ICRH). The researcher was therefore able to recruit the FSWs by going through the ICRH trained and supervised PEs, who acted as mobilizers. Kisauni Division of Mombasa County was randomly selected from the 4 divisions of Mombasa County.

1.4 Research questions

The study sought to answer the following questions:

1. What are the demographic and socio-economic attributes of the FSW in Mombasa County?
2. What is the current use of modern contraceptives among FSWs in Mombasa?
3. What is the relationship between knowledge of contraceptives and current use of modern contraceptives by female sex workers in Mombasa County?
4. What is the relationship between attitude towards contraceptives and current use of modern contraceptives by female sex workers in Mombasa County?

1.5 Null Hypotheses

To determine whether there was a relationship between knowledge, attitude, and use of contraceptives among the FSWs in Mombasa County, the following hypotheses were tested.
HO₁: Knowledge had no significant relationship with use of contraceptives among female
sex workers in Mombasa County.

HO₂: Attitude had no significant relationship with use of contraceptives among female sex
workers in Mombasa County.

1.6 Objectives

1.6.1 General objective
The overall objective was to determine whether knowledge of contraceptives and attitude
towards contraceptives influence use of modern contraceptives by female sex workers in
Mombasa County.

1.6.2 Specific objectives
The study was guided by the following specific objectives:

i. To determine the demographic and socio-economic attributes of the female sex
workers in Mombasa County

ii. To determine the current use of modern contraceptives among female sex workers in
Mombasa County

iii. To determine the relationship between knowledge of contraceptives and current use
of modern contraceptives among female sex workers in Mombasa County

iv. To determine the relationship between attitude towards contraceptives and current
use of modern contraceptives among female sex workers in Mombasa County

1.7 Delimitation and limitation
The study involved FSWs from Kisauni sub-county in Mombasa County only and also
focused only on the knowledge, attitudes and use of modern contraceptives among the
FSWs. It excludes clients, contraceptive providers, operational areas and nature of sexual liaison.

Similarly, the use of snow balling sampling technique which is a non-random sampling method limits the generalizability of the findings from this study.

1.8 Assumptions

The assumption here was that the female sex workers would provide honest answers to the interview questions. It was also assumed that FSWs in Kisauni had access to affordable contraceptives and that they were in heterosexual relationships.

1.9 Significance and anticipated output

The study findings will assist policy makers, contraceptive service providers and organizations implementing reproductive health programs understand what role knowledge and attitude have on contraceptive use decisions by FSWs. This information will assist the development of appropriate policies and better service delivery approaches to enhance contraceptive uptake among the FSWs. It is envisaged that the findings of this study will also lead to a review of the current contraception promotion strategies so as to formulate approaches that address the felt needs of the target population which is a vulnerable group due to the nature of their trade and the stigma associated with it.

1.10 Conceptual Framework

Two groups of variables were used to examine factors influencing use of contraceptives by FSWs (Figure 1.1). Three independent variables influenced contraceptive use for the study population. The first two independent variables were underlying factors, that is, demographic
and socio-economic variables of the study population. The third group of the independent variables was the proximate determinants represented by proxies of women’s knowledge of contraceptives and attitude towards contraceptives. The study had two dependent variables; currently using modern contraceptives and currently not using modern contraceptives.

![Conceptual framework](Source: Korra, 2002)

Figure3.1: Conceptual framework (Source: Korra, 2002)
CHAPTER TWO: LITERATURE REVIEW

2.1 Sex work

Sex work is one of the earliest trades that dates back to time immemorial. Sex workers are female, male, and transgender adults or young people who receive money or goods in exchange for sexual services, either regularly or occasionally, and who may or may not define those activities as income generating (Mutisya et al., 2008). The industry has evolved over the years but the legality of the trade varies from country to country. In some countries such as Belgium and Netherlands sex work is recognized as a formal sector that has laws governing the business. Kenya is among the countries where sex work is still considered illegal and is therefore criminalized. Criminalization of sex work results in the marginalization, stigmatization and discrimination of FSWs. Unfortunately, although there are both male and female players in this trade, only FSWs are frequently arrested and charged in court for “loitering” (Ngugi, 2004).

According to Sutherland et al, (2011) and Luchters et al, 2008, most FSWs in Mombasa are youth in their late 20s, literate, single and having at least one living child. Most FSWs start sex work at around 20 years and only a minority report having an alternative source of income aside from sex work. Majority (64%) rely on bars as their primary source of clients and report to have sexual encounters with an average of 9.3 clients and an income of KSh 3124 per week. In addition, 50% have had at least one unintended pregnancy and more than a third have had an induced abortion at some point in their lives. As a result FSW suffer economic distress, loss of clients and in some cases domestic violence.

2.2 Family Planning

Family planning (FP) enables individuals and couples to anticipate and attain their desired
number of children with satisfactory spacing and timing (WHO, 2010). This is achieved through the use of contraceptive methods and the treatment of involuntary infertility. Child spacing has a direct impact on both the baby and a woman’s health and well-being (WHO, 2010). Besides saving lives, contraceptive use ensures the well-being and autonomy of women, and enhances the health and development of communities as a whole. It also reduces poverty as it makes it possible for couples and individuals to bear the number of children they can support (UNFPA, 2012). Although quite ironically, economically less endowed families tend to have the most number of children compared to the more affluent ones.

Various challenges inhibit women’s correct and consistent use of contraceptives resulting in many unintended conceptions. One major barrier that has been documented is poor access to contraceptive services and counseling (PATH, 2009). Although the Government of Kenya endeavors to provide free contraceptives to all women, contraceptive stock-outs for popular methods such as injectables are common (Mulama, 2009). Consequently, many poor women engage in sex without protection which would lead to unintended pregnancies (PATH, 2009).

2.3 Unmet need for FP

Unmet need for FP is a phenomenon that describes married women or women in a sexual relationship, who are sexually active and fecund (15-49 years old), and want to stop giving birth or to postpone the next pregnancy but are not using contraceptives (UNFPA, 2010). An estimated 222 million women in developing countries would like to delay or stop childbearing but are not using any method of contraception (WHO, 2012). Unmet need for FP does not necessarily mean that contraceptive services are not available but can result
from a combination of factors including lack of knowledge, inadequate service delivery and gender inequalities (UNFPA, 2010). Unmet need for FP is the primary cause of unintended pregnancy globally. Sutherland et al (2010) indicates that unmet need for FP among FSWs results from improper and inconsistent use of contraceptives. Although there is high reported use of condoms and other contraceptives, failure to use condoms with all sexual partners or adhere to instructions on proper use of contraceptives inflates their unmet need for contraceptives.

Calculating the population with unmet needs is complex and can vary slightly depending on which categories of women are included in the definition. However, for the purpose of this study, our focus will primarily be women with unmet need for spacing (women who want a child after two or more years), and those with unmet need for limiting (women who want no more children) (UNFPA, 2012).

2.4 Unintended pregnancy and associated adverse outcomes

Unintended pregnancy refers to those conceptions that are identified by the mother either as mistimed (occur earlier than wanted) or unwanted (Dragoman & Davis, 2008). Each year, throughout the world, approximately 210 million women become pregnant (WHO, 2010) and about 130 million deliver live-born infants. As many as 80 million pregnancies are unintended (Glasier et al., 2006; Singh et al., 2011). Unintended pregnancy can carry serious consequences for women, their families and societies (Singh, et al., 2011). One particularly harmful consequence of unintended pregnancies is unsafe abortion. Estimates indicate that over 42 million pregnancies are voluntarily terminated each year with 35 million (83%) occurring in developing countries (WHO, 2004). Approximately 20 million of these are unsafe abortions and claim the lives of 67,000 women as a result of abortion
12

related complications (Curtis & Huber, 2010).

Female sex workers have an increased risk of unintended pregnancy (Sutherland et al., 2011). In a study conducted among FSWs in Madagascar (Khan et al., 2009), 52% reported a prior unwanted pregnancy, 45% at least one induced abortion and 86% of the FSWs indicated that preventing future pregnancy was important to them. During their last sex act, 24% used a hormonal method, 36% used a male condom, 2% used a traditional method and 38% used no method. In another study in Afghanistan, most FSWs (82.3%) had been pregnant at least once, among whom unplanned pregnancy was 36.9% (Todd et al., 2010).

In Kenya 20% of all pregnancies are unwanted and another 25% are mistimed, and occur most commonly amongst poor, uneducated women (KDHS, 2008-09). Women in Kenya have a 1-in-25 lifetime risk of dying from a pregnancy-related cause. The maternal mortality rate is estimated to be between 414 and 590 deaths per 100,000 live births in Kenya per year. Unsafe abortion causes 30% to 40% of maternal deaths in Kenya (National Coordinating Agency for Population and Development., Ministry of Health, & Statistics, 2005).

2.5 Female sex workers’ knowledge of contraceptives

If anyone has to use contraceptives appropriately to prevent pregnancy, knowledge of contraceptive methods is a prerequisite. A study done in Pakistan revealed that illiteracy is one of the factors that affect knowledge regarding contraception. Another factor is the exposure to contraceptive messages through mass media (Mustafa et al., 2008). Currently in Kenya, married women and sexually active unmarried women have high levels of contraceptive knowledge at 94.6% for married women, and 97.6% for sexually active
unmarried women (KDHS 2008-09). Women tend to understand more about modern methods compared to traditional methods; 95% of women know at least one modern method and only 9% know a traditional method. The mean number of contraceptive methods known by sexually active unmarried women, who include FSWs, is 7.6 compared to currently married women at 7.5 (KDHS, 2008-09).

Specifically, knowledge of the male condom in sexually active unmarried women is 96% and second in preference after injectables compared to 90% among married women (KNBS, 2010). This may possibly be due to the fact that reproductive health interventions for FSWs have tended to focus predominantly on the condom as the priority contraceptive option for FSWs because of its dual protection against sexually transmitted infections (STIs) and pregnancy.

2.6 Attitudes towards contraceptives

According to Ajzen & Fishbein (2005), an individual will reason out the consequences of his behavior before actually performing it. They also argued that the intention to perform behavior is predicted by attitude towards the specific behavior, subjective norms and perceived behavioral control. Attitude can be positive or negative. When someone has a positive attitude towards contraceptives they are likely to adopt their use, while a negative attitude may lead to refusal to use. Subjective norms in this case are FSWs beliefs about how people they care about will view their use of contraceptives. These beliefs are as important as the person's attitudes. Emotional sexual partners of FSWs are likely to influence the decision to use or not use contraceptives through their attitude towards contraception. Partner attitude can be real or imaginary as perceived by the FSW. Perceived behavioral control influences the FSW's perceptions of their ability to use or not use
contraceptives (Ajzen & Fishbein, 2005).

Female sex workers surveyed demonstrated an ambivalent attitude towards contraceptives. While they appreciated the importance of contraception for them as sex workers, they were as individuals hesitant to use them for fear of the side effects. Their attitude towards the condom was positive as it has dual protection and no side effects (unpublished data at ICRH, 2009).

2.7 Use of contraceptives by FSWs

Findings from a study conducted in Mombasa and Naivasha in 2010, reported 93% self-reported contraceptive use among FSWs (Sutherland et al., 2011) with heavy reliance on condoms though inconsistently used. The findings also showed that although there were high reported levels of contraceptive use, inconsistent use was prevalent. According to the MOH (2005) report there is also wide self-reported condom use for FP among FSWs. While this is indeed a positive observation, condom effectiveness in pregnancy and STI prevention has been well documented, it raises concerns of effectiveness in pregnancy prevention because with typical use the condom is about 86%, which is much lower than typical use effectiveness of many other methods such as injectables and pills whose effectiveness with typical use is 99.7% and 94% respectively (WHO, 2013). Condom failure can be attributed to incorrect and inconsistent use. Consistent condom use with emotional partners (non-paying) has been found to be lower than with the casual (paying) partners (Thomsen et al., 2006). It is however important to note that FSWs do recognize and appreciate the dual protection benefits of the condom for disease and pregnancy prevention (Sutherland et al., 2011).
Dual protection is a strategy that offers protection against both diseases and pregnancy (Yam et al., 2013). The condom alone offers dual protection when correctly and consistently used. Dual method however refers to the use of the condom alongside a modern contraceptive like pills, injectables and implants. Although using two contraceptive methods may appear to be burdensome, this strategy has been observed in various contraceptive use studies involving FSWs.

The use of natural methods by sex workers has also been highlighted severally. Natural methods do not involve use of hormones, chemicals or mechanical manipulations. Instead, to avoid pregnancy, these methods require avoidance of sexual intercourse during the time when an egg is available to be fertilized by a sperm. This necessitates awareness of one’s fertility; that is, knowing when a woman ovulates each month. Hence these methods are also referred to as fertility awareness methods (FAM). In order to use a FAM, it is necessary to watch for the signs and symptoms that indicate ovulation has occurred or is about to occur (Stoppler, 2014). Some of these methods include calendar, billings, withdrawal, lactational amenorrhea among others. For most women ovulation occurs averagely 14 days before her next expected menstrual flow. But because the egg survives 6 to 24 hours after ovulation and the sperm can live 48 to 72 hours, (up to even 5 days in fertile mucous), the actual time during which a woman may get pregnant (unsafe days) may stretch over 10 or so days around the time of ovulation (Stoppler, 2014).

Though FAM has been known to be effective for women in the general population, it may not be a method of choice for FSWs who depend on sex work for their livelihood as it requires abstinence around the time of ovulation.
CHAPTER THREE: MATERIALS AND METHODS

3.1 Research design

A cross-sectional research design applying quantitative techniques was used. In a cross-sectional study information is gathered from the study subjects at one point in time. The researcher seeks to understand the behavior of the subjects at that given point and therefore acts as a snapshot.

3.2 Main study variables

3.2.1 Knowledge of contraceptives

A key objective of the study was to measure contraceptive knowledge of female sex workers. The study questionnaire assessed knowledge using various questions. A composite measure for knowledge was developed compiling responses from four different questions to establish a knowledge variable representing “poor knowledge”, “moderate knowledge” and “excellent knowledge”. The four questions addressed knowledge of contraceptive methods, knowledge related to certain conception and sexual beliefs, and knowledge of the menstrual cycle. No formal validation was done of this measure, but the composite knowledge variable facilitated assessment of the association between contraceptive knowledge and the primary outcome measure, contraceptive use.

A score of 1 was allocated to a correct answer and 0 to an incorrect answer for questions 14, 15 and 16 (appendix III). For question 10, 1 point was allocated for each contraceptive method mentioned and 0 for each method not mentioned. The maximum score was 15 points and minimum score 0 points. Those who had a total score of 11 or more had “excellent
knowledge”, those with a score of 6-10 had “moderate knowledge” and those with 0-5 were classified as “poor knowledge”.

3.2.2 Attitude towards contraceptives

Attitude was measured on a 5-point Likert scale whereby respondents were expected to either: “strongly agree”, “agree”, “be undecided”, “disagree” or “strongly disagree”. For each question the response that represented the most favorable response for someone with a positive attitude toward contraceptives was accorded 5 points. Followed by 4, 3, 2, and 1 for the least favorable. The total scores for each individual for the attitude composite variable was obtained. The maximum score was 35 (for scoring 5 in all the 7 questions) and the minimum score was 7 (for a score of 1 in all the 7 questions). Scores between 7-21 were considered negative attitude and 22-35 positive attitude.

3.2.3 Contraceptive use

Contraceptive use was used as the main measure of outcome. Two questions addressed contraceptive use. The first measure of contraceptive use assessed ever use of contraception and was defined as “ever used anything or tried in any way to delay or avoid pregnancy”. A second measure assessed current use of contraception and was defined as: “currently on any method”. To assess the association between contraceptive knowledge and contraceptive use, as well as contraceptive attitudes and use, we constructed a binary variable and defined contraceptive use as “current use of modern contraceptive method” as per the WHO definition (WHO, 2013). For this variable, women reporting to currently use hormonal pills, injectables, IUCD, condoms, Norplant, bilateral tubal ligation, or reported to have a partner with vasectomy, were categorized as currently using a modern contraceptive method.
3.3 Location of the study

The study was conducted in Mombasa County which was purposively selected due to an active peer education (PE) program implemented by APHIA plus through the International Centre for Reproductive Health. The peer educators (PEs) in the program assisted to mobilize the FSWs to participate in the interviews. Kisauni sub-County was randomly selected out of the 5 sub-counties in Mombasa County to be the sampling unit (Appendix I). Kisauni sub-County is situated to the north of Mombasa County and covers an area of approximately 109.7Km² (Mombasa District ‘Strategic Plan 2005-2010, 2005). The sub-county comprises three locations, namely Kisauni, Kongowea and Bamburi with several sub-locations. The sub-county has approximately 250,000 inhabitants, 70,000 households and a population density of 2,278 persons/km². It borders the sea and is a popular tourist spot. It is characterized by many bars, guesthouses, and disco halls. Mombasa is a major economic center for Kenya and East Africa with important port, railway and industrial enterprises. The county as a whole is also an important holiday resort for tourists from around the world.

3.4 Study population

Kisauni sub-county has approximately 5000 FSWs depending on the season (unpublished data from ICRH, 2011). There were three categories of FSWs based on where they get their clientele: home-based, bar/guest house-based and street-based women.

3.5 Study eligibility criteria

In order to participate in the study, the subjects had to be subjected to selection criteria as discussed below.

3.5.1 Inclusion criteria

FSW who met the following criteria were included in the study:
i. Self-reported to be female sex workers

ii. Aged 15-49 years

iii. Lived in Kisauni Division for at least one year prior to the study.

iv. Willing and voluntarily consented to participate in the study.

3.5.2 Exclusion criteria

Women who met any of the following criteria were excluded from the study:

i. FSW under the influence of drugs or alcohol, or were incoherent and inconsistent (if obviously intoxicated, not audible, or gave responses that were conflicting).

ii. Those who qualified as per the inclusion criteria but were unwilling to participate in the study.

3.6 Sampling

3.6.1 Sampling technique

Snowballing sampling technique was used to recruit the FSWs into the study because FSW’s are difficult to locate. The research assistants collected data on the few members of the target population of FSWs that could be located, and then asked those individuals to provide information needed to locate other members whom they knew. Although this method might not have yielded a completely randomized sample, it was suitable for identifying respondents in this study because the FSWs are a hidden population.

3.6.2 Sample size

Based on the population of 5000 FSWs in Kisauni, at 95% confidence level, the desired
The sample size was automatically generated using an online sample size calculator by Creative Research Systems (2012) http://www.surveysystem.com/sscalc.htm. The formula applied by the calculator is as follows:

\[ ss = Z^2 \times (p) \times (1-p) \]

Where:
- \( ss \) = sample size
- \( Z \) = 1.96 (the Z value for 95% confidence level)
- \( p \) = 0.5 (degree of variability, expressed as a decimal)
- \( c \) = 0.05 (confidence interval, expressed as a decimal)

\[ ss = 1.96^2 \times (0.5) \times (0.5) = 384.14 \]

Correction for a finite population:

\[ \text{New } ss = \frac{ss}{1 + \frac{ss-1}{pop}} \]

That is:

\[ \text{New } ss = \frac{385.14}{1 + \frac{385.14-1}{5000}} = 357.47 \]

A total of 357 FSWs were interviewed.

3.7 Research instrument

The study used an instrument known as the Knowledge, Attitude and Practice on Contraception Questionnaire (KAPCOQ) to generate quantitative data (Appendix III). The
questions in this instrument were based on the study objectives. These questions were mostly closed ended with a few open-ended questions where specific individual clarification was needed.

3.8 Validity and reliability

3.8.1 Validity of the research instrument

The items in KAPCOQ were scrutinized and reworded appropriately for relevance, completeness, inclusiveness, glitches in wording of questions and clarity of instructions to ensure appropriateness to the study. The order of the questions was reviewed to ensure that they followed a logical sequence.

3.8.2 Reliability of the research instrument

The KAPCOQ was pre-tested with 35 respondents (10% of the sample size), with similar characteristics as the actual participants in Changamwe sub-county. Test retest method was used to test reliability of the single item questions. A reliability coefficient of 0.85 was obtained. Likert scale questions were subjected to a split half test to yield Cronbach’s alpha coefficient for reliability of 0.75. These coefficients indicated suitable stability and adequate internal consistency of the tool.

3.9 Data collection techniques

The female sex workers in this study area had been exposed to peer education programs for HIV prevention, care and support facilitated by International Centre for Reproductive Health (ICRH). The researcher passed through ICRH in order to access the FSWs. The required data was collected from the sampled FSWs using the KAPCOQ administered with the help of two trained research assistants. The respondents’ verbal responses were coded and
recorded in the questionnaire by the research assistants.

3.10 Logistical and ethical consideration

3.10.1 Approvals

Approval to conduct this study was given by the Board of Post Graduate Studies. Ethical approval was obtained from Kenyatta University Ethics Review Committee (Appendix IV). The research permit was granted by the National Council for Science and Technology (NCST) (Appendix V).

3.10.2 Informed consent

Each respondent indicated voluntary willingness to participate by verbally consenting after receiving information about the study (Appendix II).

3.10.3 Confidentiality

All data collected as part of this study was confidential. Only coded identifiers were utilized and any materials with names were separated from the data. Access to the data required a password known to the PI only.

3.11 Data analysis procedures

Frequencies and percentages were used to analyze the data to respond to objective 1 and hence answer the corresponding research question. To test the relationship between contraceptive knowledge and contraceptive use, as well as between attitude and contraceptive use, chi-squared test ($\chi^2$ test) and odds ratios (OR) were used with a significance level of 0.05. In order to achieve this, knowledge and attitude responses were categorized in composite measures as described above. Knowledge was categorized into
"excellent knowledge", "moderate knowledge" and "poor knowledge", whereas Attitude was categorized in a binary measure of "negative attitude" and "positive attitude".

The data was coded and entered into Microsoft Excel and Statistical Package for Social Sciences (SPSS) from where all the required outputs were generated. These were then summarized using tables and presented in graphical form for quick visual interpretation.
CHAPTER FOUR: RESULTS

4.1 Demographic and socio-economic characteristics

4.1.1 Age distribution of respondents

A total of 357 FSWs aged 15-49 years from Mombasa County participated as respondents in this study. Majority (61.6%; 220/357) of the respondents were youths aged 15-30 years (Figure 4.1).

![Age distribution of respondents](image)

Figure 4.1: Age distribution of respondents

4.1.2 Marital status

Slightly more than half (56.6%; 202/357) of the respondents were single and 23.8% (85/357) were separated or divorced (Figure 4.2).

![Proportion by marital status](image)

Figure 4.2: Proportion by marital status
4.1.3 Level of education

Almost all (96.4%; 344/357) the participants had some formal education. Over half (51.8%; 185/357) had either completed or not completed primary school and only 6.2% (22/357) had attained tertiary education (Figure 4.3).

Figure 4.3: Level of education

4.1.4 Religion

Majority of the respondents were either Catholic (41.5%; 148/357) or Protestant (39.5%; 141/357) with only 17.9% (64/357) professing Islam (Figure 4.4).

Figure 4.4: Proportion by religion
4.1.5 Age at sex debut

Close to ¾ of the FSWs interviewed (73.4%; 262/357) had their first sexual encounter at 15-19 years (Figure 4.5).

![Figure 4.5: Proportion of FSW by age at sex debut](image)

4.1.6 Age at start of sex work

Approximately 85% (303/357) of the respondents started sex work activities when aged 15-24 years (Figure 4.6).

![Figure 4.6: Age at start of sex work](image)
4.1.7 Number of children

The overwhelming majority (81.2%; 290/357) of respondents had one or more children (Figure 4.7).

![Figure 4.7: Number of children already born to FSWs](image)

4.1.8 Preferred number of children

Moreover 60.6% (216/357) said they preferred to have 2 or 3 children (Figure 4.8).

![Figure 4.8: Preferred number of children](image)
4.1.9 Weekly earnings from sex work

Slightly over 2/3 (61.3%) said they earn more than KSh. 2000 from sex work alone in a week (Figure 4.9).

![Graph showing average weekly income from sex work](image)

**Figure 4.9: Average weekly income from sex work**

4.1.10 Other sources of income

Further, 63% (225/357) indicated that they had other sources of income that included boyfriend, petty commerce, casual labor and formal employment (data not presented). Approximately 21.8% (78/357) reported earnings from other sources of over KSh 2000 per week.

![Graph showing other sources of income](image)

**Figure 4.10: Other sources of income**
4.2 Contraceptive use

4.2.1 Ever use

Respondents were asked whether they had ever used any method or tried in any way to delay or avoid pregnancy. Nearly all (97.8%) respondents had used a modern contraceptive (Figure 4.11).

![Figure 4.11: Ever used a modern method to prevent pregnancy]

4.2.2 Methods ever used

The methods most commonly ever used were condoms, injectables, and pills at 267/357 (74%), 232/357 (65%) and 174/357 (49%) respectively (Table 4.1).

<table>
<thead>
<tr>
<th>Method</th>
<th>Frequency of mention</th>
<th>N=791</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condoms</td>
<td>267</td>
<td></td>
</tr>
<tr>
<td>Injectables</td>
<td>232</td>
<td></td>
</tr>
<tr>
<td>Pills</td>
<td>174</td>
<td></td>
</tr>
<tr>
<td>Norplant</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>IUCD</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Tubal Ligation</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
4.2.3 Current use

Current use of modern contraceptives was at 94.4% (337/357). Those not using modern methods were using traditional methods such as calendar and withdrawal (Figure 4.12).

![Figure 4.12: Current use of modern contraceptives](image)

4.2.4 Methods currently used

Condoms were the most common contraceptive method currently used by the FSWs (66.0%; 236/357) followed by injectables (36%; 129/357) and norplant (15%; 52/357) (Table 4.2). Pills, IUCD, withdrawal, calendar and tubal ligation were the least popular contraceptive methods each currently used by less than 10% of the FSWs.

<table>
<thead>
<tr>
<th>Table 4.2: Contraceptive methods currently used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
</tr>
<tr>
<td>Modern (coitally dependent)</td>
</tr>
<tr>
<td>Modern (long acting)</td>
</tr>
<tr>
<td>Modern (long acting)</td>
</tr>
<tr>
<td>Modern (daily administered)</td>
</tr>
<tr>
<td>Modern (long acting)</td>
</tr>
<tr>
<td>Traditional</td>
</tr>
<tr>
<td>Modern</td>
</tr>
</tbody>
</table>

Dual method use was also observed in approximately 34% of the FSWs interviewed. The use of condom together with another modern contraceptive method, and the use of long acting methods offer more reliable protection from pregnancy among FSW.
4.3 Knowledge of contraceptives

Knowledge was measured as a composite variable assessing three major areas of contraceptive knowledge; awareness of contraceptive methods, awareness of individual risk of pregnancy and myths and misconceptions.

4.3.1 Awareness of methods

Awareness of methods was assessed by the number of methods an individual could mention spontaneously when prompted. The top three contraceptive methods that respondents were aware of were injectables (91.3%; 326/357), BTL (86.6%; 309/357) and pills (82.0%; 293/357) (Table 4.3). The least commonly mentioned contraceptive methods were calendar (11.2%; 40/357), withdrawal (7.6%; 27/357) and vasectomy (3.9%; 14/357).

Table 4.3: Awareness of contraceptive methods

<table>
<thead>
<tr>
<th>Categories</th>
<th>Method</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern (long acting)</td>
<td>Injectables</td>
<td>326</td>
<td>91.3</td>
</tr>
<tr>
<td>Modern (permanent)</td>
<td>BTL</td>
<td>309</td>
<td>86.6</td>
</tr>
<tr>
<td>Modern (daily administered)</td>
<td>Pills</td>
<td>293</td>
<td>82</td>
</tr>
<tr>
<td>Modern (coitally dependent)</td>
<td>CD</td>
<td>270</td>
<td>75.6</td>
</tr>
<tr>
<td>Modern (long acting)</td>
<td>Norplant</td>
<td>207</td>
<td>58</td>
</tr>
<tr>
<td>Traditional</td>
<td></td>
<td>77</td>
<td>21.6</td>
</tr>
<tr>
<td>Modern (permanent)</td>
<td>Vasectomy</td>
<td>14</td>
<td>3.9</td>
</tr>
</tbody>
</table>

Further, more than half of the respondents (59%; 169/357) could mention at least 4 contraceptive methods and only 1% (4/357) one method (Figure 4.13).

Figure 4.13: Number of contraceptive methods mentioned by FSWs
There was a significant relationship between level of education and awareness of at least 4 methods ($df=1; \chi^2=13.29; P=0.02$). More years of schooling resulted in better awareness of contraceptive methods (Figure 4.14).

![Figure 4.14: Proportion of FSW aware of more than 4 methods by level of education](image)

4.3.2 Awareness of individual risk of pregnancy

Regarding awareness of individual risk of pregnancy, most respondents (85.7%; 306/357) could recall their last menstrual period (LMP) and 88% (314/357) were aware of an unsafe period in the menstrual cycle. However, it was only 23% (82/357) who could correctly identify the timing of the unsafe period (Table 4.4).

**Table 4.4: Unsafe period**

<table>
<thead>
<tr>
<th>When is pregnancy more likely to occur?</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just before periods</td>
<td>116</td>
<td>32.5%</td>
</tr>
<tr>
<td>During periods</td>
<td>8</td>
<td>2.2%</td>
</tr>
<tr>
<td>Right after periods end</td>
<td>166</td>
<td>46.5%</td>
</tr>
<tr>
<td>Half way between periods</td>
<td>82</td>
<td>23.0%</td>
</tr>
<tr>
<td>Other times</td>
<td>7</td>
<td>2.0%</td>
</tr>
</tbody>
</table>
4.3.3 Myths and misconceptions

Two myths were assessed on the coil and BTL. A few of the respondents (27.4%; 98/357) correctly indicated that if a woman with a coil got pregnant, the coil would not get stuck on the baby’s forehead at birth (P<0.001) (Table 4.5).

Table 4.5: Myth on coil

<table>
<thead>
<tr>
<th>If a mother who is using a coil conceives, the coil will get stuck on the baby’s forehead at birth.</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>119</td>
<td>33.3</td>
</tr>
<tr>
<td>No</td>
<td>98</td>
<td>27.5</td>
</tr>
<tr>
<td>Don’t know</td>
<td>140</td>
<td>39.2</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In addition, significantly more respondents (65.3%; 233/357) either said that BTL either inhibits sexual pleasure or were not sure (P<0.001) (Table 4.6).

Table 4.6: Myth on BTL

<table>
<thead>
<tr>
<th>A woman who has had BTL does not experience sexual pleasure.</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>126</td>
<td>35.3</td>
</tr>
<tr>
<td>No</td>
<td>124</td>
<td>34.7</td>
</tr>
<tr>
<td>Don’t know</td>
<td>107</td>
<td>30.0</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3.4 Total knowledge level

Overall for the knowledge variable, majority of the respondents (72.5%; 259/357) had moderate knowledge on contraceptives followed by poor knowledge (22.7%; 81/357) (Figure 4.15). There was a significant difference between the different levels of knowledge of contraception (P <0.001).
4.4 Attitude towards contraceptives

Based on the analysis of the Likert scale, most of the FSWs (73.1%; 261/357) had a positive attitude towards contraceptive use (P<0.001) (Figure 4.16).

4.5 Relationship of knowledge and attitude with use of contraceptives

Both knowledge and attitude had no significant relationship with ever use and current use of modern contraceptives as a whole. Further analysis comparing knowledge and attitude with aspects of contraceptive use, found that level of knowledge had no effect on the FSWs'
current use of either dual or long acting contraceptive methods (dual method: $df=2; \chi^2=3.762; P=0.152$; long acting: $df=2; \chi^2=0.554; P=0.758$). However, the relationship between attitude and current use of long acting methods was significant ($df=1; \chi^2=13.698\); $P<0.001$; OR=2.446) (Table 4.7). Respondents with a positive attitude were two times more likely to use long acting methods compared to those with a negative attitude.

Table 4.7: Cross tabulation of attitude and current use of long acting methods

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Current use of long acting methods</th>
<th>Total</th>
<th>Chi square value ($\chi^2$)</th>
<th>P-value</th>
<th>Odds ratio</th>
<th>Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>60.5%</td>
<td>39.5%</td>
<td>73.1%</td>
<td>13.698</td>
<td>&lt;0.001</td>
<td>2.446</td>
</tr>
<tr>
<td></td>
<td>(158/261)</td>
<td>(103/261)</td>
<td>(261/357)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>38.5%</td>
<td>61.5%</td>
<td>26.9%</td>
<td>9.962</td>
<td>0.02</td>
<td>2.366</td>
</tr>
<tr>
<td></td>
<td>(37/96)</td>
<td>(59/96)</td>
<td>(96/357)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>54.5%</td>
<td>45.4%</td>
<td>357</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(195/357)</td>
<td>(162/357)</td>
<td>(357)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Similarly, there was a significant relationship between attitude and current use of dual contraceptive methods ($P<0.02; \chi^2=9.962; \text{OR}=2.366$) (Table 4.8). Respondents with a positive attitude were 2 times more likely to use dual method compared to those with a negative attitude.

Table 4.8: Cross tabulation of attitude and current use of dual method

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Use of dual method</th>
<th>Total</th>
<th>Chi – Square Value ($\chi^2$)</th>
<th>P value</th>
<th>Odds ratio</th>
<th>Confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>60.2%</td>
<td>39.8%</td>
<td>73.1%</td>
<td>9.962</td>
<td>0.02</td>
<td>2.366</td>
</tr>
<tr>
<td></td>
<td>(157/261)</td>
<td>(104/261)</td>
<td>(261/357)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>78.1%</td>
<td>21.9%</td>
<td>26.9%</td>
<td>0.02</td>
<td>1.374</td>
<td>4.075</td>
</tr>
<tr>
<td></td>
<td>(75/96)</td>
<td>(21/96)</td>
<td>(96/357)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>65%</td>
<td>35%</td>
<td>357</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(232/357)</td>
<td>(125/357)</td>
<td>(357)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER FIVE: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

This study contributes to the body of knowledge on factors that influence contraceptive use among female sex workers. The fact that most FSWs are youth aged 15-30 years who mostly started sex work at the age of 15-19 years, already have one or more children with 40% depending entirely on sex work for their livelihood, highlights the importance of targeting the youth early with relevant reproductive health strategies to avert crises of unintended pregnancies which are not only a problem among FSWs but also among in-school-youth and women in the general population (Luchters et al., 2008). The socioeconomic demographics were similar with what was reported by Sutherland et al., 2011 except in their case, most FSW had no other alternative source of income contrary to what this study observed that only 41.5% had no alternative source of income other than sex work. This difference can be explained by the individual differences between Changamwe sub-county where Sutherland’s study was conducted and Kisauni sub-county where this study was based. Changamwe FSWs tended to be relatively more literate and also seemed to earn relatively more from sex work compared to Kisauni FSWs (Luchters et al., 2008). Lower earnings from sex work may be compelling Kisauni FSWs to look for alternative sources of income.

Ever use and current use of modern contraceptives was nearly 100% yet unintended pregnancies persist in the population. This raises concern on proper and consistent use of the methods. FSWs have been reported both use and non-use of condoms depending on the type of partner. They tend to use condoms consistently with casual clients and less consistently with emotional clients (Thomsen et al., 2006). Current use compared with ever use of modern contraceptives reflects a shift in preference from the pill to norplant. Pills pose
specific challenges to FSW, that particularly relate to adherence to the regimen. The FSW's lifestyle involves unpredictable movements to look for or accompany clients, coupled with drunkenness. These two scenarios compromise adherence to daily regimens. This may explain the low levels of use of the pill and the high preference for injectables and norplant which are non-daily administered.

These findings are consistent with other studies; Sutherland et al., (2011) documented very high reported levels of modern contraceptive use among FSW at 93%, and KDHS (2008-09), 76% for FWS, which was slightly higher than for married women or women in the general population. Existing evidence suggests that for FSWs the stakes are high when considering whether to bear another child. As sole bread winners and with majority already having one or more children (Thomsen et al., 2006), FSWs desire to prevent pregnancy. Pregnancy and child care reduces their agility and hinders their work (Curtis & Huber, 2010). The alternative is abortion which is expensive and exposes them to severe health risks.

Exposure to more years of schooling appeared to influence the number of methods FSWs could mention. This is in line with the findings of studies in India and Pakistan that demonstrated that increase in the level of education positively influences the level of awareness of contraceptive options (Narzary, 2009; Mustafa et al., 2008). Likewise Tilahun et al., (2013), based on a study in Ethiopia among married couples, reported that formal education was the most important factor associated with better contraceptive awareness.

This ideally should support the conventional and well established maxim that education enhances awareness levels although this does not necessarily correlate with contraceptive use as will be discussed later. For instance, in Vietnam, a very low link was found between high
levels of awareness/access to voluntary FP services and the rate of induced abortions in women (19 abortions per 100 women accessing FP), suggesting that in some cases, awareness and access do not necessarily lead to improved reproductive health choices (Nguyen & Budiharsana, 2012). This largely agrees with the findings of this study that although FSWs were aware of various contraceptive options available, this has not translated into avoidance of unintended pregnancies. The popularity of modern contraceptives would partly be attributed to their high rates of effectiveness to prevent pregnancy with typical use, and ease of use, compared to the traditional methods (WHO, 2014). The findings tally with those reported in rural Nigeria (Tilahun et al., 2013) and Ethiopia (Asfaw & Gashe 2014).

Evidently, the FSWs had limited understanding of purported and actual side effects of contraceptives, which may lead to improper use of methods. These findings concur with findings of a study in Pakistan, which showed low levels of IUCD use associated with myths and misconceptions (Azmat et al., 2012). Similarly a study among refugee youths in Nigeria reported that fear of purported harmful effects of contraceptives prevented use of methods resulting to high unintended pregnancies (Okanlawon et al., 2010).

Likewise, FSWs did not clearly understand the extent of individual risk of pregnancy at various periods during their menstrual cycle. Lack of consciousness of individual risk of pregnancy has been shown to be the most common cause for not using contraception (Kumar et al., 2012); a situation referred to as incomplete or inaccurate knowledge (Decat et al., 2011) followed by opposition from sexual partners and fear of side effects (Fotso et al., 2014).
Most FSWs had moderate levels of knowledge. This agrees with the KDHS 2008-2009 (KNBS, 2013) which recorded even higher contraceptive knowledge levels of 97.6% for sexually active unmarried women.

This study observed consistency in terms of knowledge and use unlike other studies that have observed a knowledge-practice gap in the use of contraceptives. The knowledge in this study was favorable and use was at nearly 100% which ideally should result in minimal unintended pregnancies suggesting that there are other underlying reasons critical in determining the eventual successful use of contraceptives beyond knowledge and use. Kim et al., (1970) in Korea, Onwuzurike & Uzochukwa (200) in Nigeria, Mustafa et al., (2008) in Pakistan and Fotso et al., (2014) in Kenya among others studying diverse populations found that high and favorable knowledge levels and even access to contraceptive services did not necessarily lead to corresponding high use rates.

Apart from the use of condom that has become widespread among FSWs for dual protection and as a dual method, FSWs preferred non-daily administered contraceptive methods i.e. injectables and norplant which do not pose specific challenges to adherence. The findings agree with those reported by Delvaux et al., (2003) and also supported by Gebremariam & Addissie, (2014); Bulto et al., (2014) and Sutherland et al., (2011) who reported that FSWs would prefer methods that are non-daily administered as sex work circumstances often interfere with the correct and consistent use of methods that require daily administration. Additionally, it is hypothesized that due to the uncertainty and general risks associated with female sex work, non-daily administered methods are more likely to mitigate these challenges, hence more preferred among this population. For instance, in a cross-sectional study of contraceptive needs of FSWs in Kenya, Sutherland et al., (2011) found that although
condom use was a popular FP method at the level of awareness among this population, there was widespread inconsistency in its use, hence strengthening the case for non-daily administered methods.

Attitude had a significant relationship with both use of dual methods and use of long acting methods. This suggests that those with a positive attitude may have better adherence and may be keen to use methods that are more reliable with high effectiveness rates. Bryant (2009) reports that attitude towards contraceptives affects consistency of use while Ehsanpour et al., (2010) argues that attitude influences the choice of contraceptive methods. These findings assert that FSWs appreciate the use of dual method for pregnancy and STI prevention. Dual method strategy addresses the two key challenges in sex work (unintended pregnancy and HIV/STI) and is becoming popular among FSWs. This strategy is more reliable and recommended for FSWs as studies have shown that condom use consistency with emotional partners is lower compared to regular and casual clients (Thomsen et al., 2006; Feldblum et al., 2007). In addition, condom use alone for pregnancy prevention effectiveness with typical use is about 86%, is much lower than the typical use effectiveness of many other methods such as injectables and pills which is 99.7% and 94% respectively (WHO, 2014). This means that combining the condom with a modern method will provide FSWs with better protection from pregnancy with all partners. Dual method use has been observed in a number of studies (Yam et al., 2013; Kraft et al., 2009; Lawani et al., 2014; Decker et al., 2014). Sutherland et al., (2011) concluded that promotion of dual methods among FSWs could help meet their broader reproductive health needs for as long as there is consistency in use.

Lawani et al., (2014) noted in their study that the awareness and uptake of dual methods amongst HIV infected women in southeast Nigeria was still low and thus associated with a
higher risk of STIs and unplanned pregnancy. They thus proposed that increased awareness, uptake and consistent use of dual methods would help prevention new infections of HIV/STIs and unplanned pregnancy. Asfa and Gashe (2014) found male condom to be the only predominant FP method among HIV positive women in Ethiopia and strongly recommended the promotion of dual method for infection and pregnancy prevention. Use of dual method and long acting methods would respond to the issue of correct and consistent use of methods that may result in reduced pregnancies.

5.2 Conclusions

The socio-demographic assessment of sex workers in Mombasa County revealed that most were aged 15-30 years, literate, single, Christian, has sex debut at 15-19 year, with one or two children and about 40% depended entirely on sex work for their livelihood.

Ever use and current use of modern contraceptives was high at (97.8%) and (94.4%) respectively. The most commonly used contraceptives were condoms, injectables and norplant while the least commonly used were BTL and traditional methods.

Most of the FSW had moderate knowledge of contraceptives with 59% demonstrating ability to mention more than 4 methods of contraceptives. However, only 23% were aware of their individual risk of pregnancy, while 72.6% and 65.3% harbored myths and misconceptions regarding IUCD and BTL respectively.

Knowledge of contraceptives neither had a relationship with ever use and current use of modern contraceptives as a whole nor use of dual and long acting methods.
Most FSWs (73.1%) had a positive attitude towards contraceptives based on the Likert scale analysis.

Though attitude had no significant relationship with ever use and current use of modern contraceptives as a whole, it influenced use of long acting and dual method. Women with positive attitude were two times more likely to use either long acting ($\chi^2=13.698; P=0.001; \text{OR}=2.446$) or dual ($\chi^2=9.962; P=0.02; \text{OR}=2.366$) method of contraceptives.

5.3 Recommendations

On the basis of the findings of this study, the following recommendations have been made for policy and for further research.

5.3.1 Recommendations for policy

i. Future campaigns and interventions should focus more on:

   a. Change of FSWs' attitude towards contraceptives as it influences use of long acting and dual methods among sex workers.

   b. Youths who are the majority in sex work and therefore most affected by unintended pregnancies.

ii. More focus should be on attitude as opposed to knowledge of contraception as attitude has a positive relationship with use of dual and long acting methods.

5.3.2 Recommendations for Further Research

From the findings of this study, the following areas are recommended for further research:

i. There is need for further investigation towards formulation of a strategy on attitude change

ii. There is need to carry out a similar multi-locational study to determine whether the trends in this study occur in other counties.
REFERENCES


 http://www.surveysystem.com/index.htm


APPENDICES

Appendix I: Map of Mombasa County
Appendix II: Consent form

Introduction
Good morning/afternoon/evening. My name is __________ and I am conducting a research study titled the knowledge, attitude, and practice of contraception among female sex workers which will contribute to the requirements for a master’s program in Public Health at Kenyatta University.

This is a study to assess FSWs’ level of knowledge about contraception, establish FSWs’ attitudes towards contraception, determine the extent of contraceptive use among FSWs, and investigate the relationship between the knowledge, attitudes, and use of contraceptives among FSWs. I am going to give you information and invite you to be part of this study. This is to make sure that you understand the study well. Please ask me to stop and give clarification at any point. If you have any questions later, you can also ask me, or any of the staffs involved in this study.

Why is this study being done?
We are doing this study in order to gain information on the reasons why FSWs continue to suffer unintended pregnancies despite availability and accessibility of FP products and services. The information obtained will contribute to improved access and uptake of FP products by FSWs. This may contribute to reduced cases of unintended pregnancies among FSWs in Kisauni Division, Mombasa.
What does the study involve?

This study is being conducted at different places where FSWs may be reached including bars, guest houses, homes, streets and at Kisauni FSW drop in center. Three hundred and fifty seven FSWs will be interviewed and their responses recorded on paper. Respondents who wish to participate will provide verbal consent to confirm their willingness to participate in this study.

Procedures to be followed

If you consent to participate in the study you will be interviewed for 10-15 minutes. You will be asked questions about your knowledge of FP products, what your opinions are regarding the available methods and your experience in the use of FP. The interviewer will write down your responses.

Benefits

You may not directly benefit from the study as an individual, but FSWs in general may benefit through the new strategies to reduce unintended pregnancies and therefore the subsequent associated dire consequences.

Risks

The risks of participating in the study are minimal. There may be some discomfort, embarrassment, psychological stress or anxiety when issues such as sexual behavior are discussed as this may elicit unpleasant memories. All efforts will also be made to maintain confidentiality and cushion the survivors against psychological stress.
Confidentiality

All staff involved in this study will receive appropriate training on research ethics emphasizing the importance of confidentiality. Privacy and confidentiality shall be ensured throughout the study process. Interviews will be conducted where other people do not hear the discussion.

All information will be kept in a locked cabinet. No names or personal identifiers (i.e., address) will be recorded on any study instruments. Electronic data records in the computers will be pass-word protected and only accessed by the study principal investigator.

Right to refuse or withdraw

Your participation in this study is voluntary. If at any time you do not want to answer any interview question, you may skip that question. You are free to withdraw from the study at any time. Your decision to take part or not to take part in the interview or your decision not to answer any question will have no impact on your well being or will not jeopardize services you may seek in this community.

Compensation

You will not be compensated in any way for participating in the study but refreshment may be served during the interviews.

What happens if I have any problems with the study?

You are free to ask questions before agreeing to participate. Do you have any questions?

In case you have any further questions you may contact the Principal Investigator, Wilkister Nyanumba on phone number 0703733742. In case you have any ethical concerns you may also contact Prof. Nicholas Gikonyo of Kenyatta University ERC on P.O Box 43844-00100, Nairobi or phone number: 02 8710901/12.
Statement of consent

I have read/been read to the foregoing information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this study and understand that I have the right to withdraw from the study at any time without affecting any services that I may require.

Name of RA: ___________________________________________

Signature: ____________________________________________

Date: ________________________________________________
Appendix III: The knowledge, attitude and practice on contraception questionnaire

(KAPCOQ)

Demographic characteristics
I am going to start by asking you some questions about yourself. Please try and relax, there are no right or wrong answers. Remember that everything you tell me will be kept confidential and that you can refuse to answer any question you do not want to answer.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How old are you?</td>
<td></td>
</tr>
<tr>
<td>2. What is your current marital status?</td>
<td>Married, Single, Cohabiting, Separated/divorced, Widowed</td>
</tr>
<tr>
<td>3. What is your highest level of education?</td>
<td>None, Not completed pri. School, Completed pri. School, Not completed sec school, Completed sec school, Completed tertiary training</td>
</tr>
<tr>
<td>4. What is your religion?</td>
<td>Protestant, Catholic, Muslim, Other</td>
</tr>
<tr>
<td>5. How many children do you have?</td>
<td>One, Two, Three, Four or more, None</td>
</tr>
<tr>
<td>6. In the last 3 months, what are your sources of income?</td>
<td>Sex work, Husband/boyfriend, Petty commerce, Formal employment, Casual labour, Other</td>
</tr>
<tr>
<td>(multiple sources of responses are possible)</td>
<td></td>
</tr>
<tr>
<td>In the last 3 months, what is your average weekly income from sex work alone?</td>
<td>Less than Ksh. 100, Ksh. 101-500, Ksh. 501-1000, Ksh. 1001-2000, Ksh. 2001 &amp; above</td>
</tr>
<tr>
<td>In the last 3 months, what is your average weekly income from your other sources?</td>
<td>Less than Ksh. 100, Ksh. 101-500, Ksh. 501-1000, Ksh. 1001-2000, Ksh. 2001 &amp; above</td>
</tr>
<tr>
<td>8. How old were you when you first started sex work?</td>
<td></td>
</tr>
</tbody>
</table>
**Knowledge**

I will now ask you about what you know about family planning and fertility. Feel free to tell me the truth. Your honest responses and those of the other respondents we shall interview will help us understand what challenges women like you encounter when making decisions to use FP. Remember all your responses will be kept secret.

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Yes</th>
<th>No</th>
<th>DK</th>
<th>Other (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. What do you understand is the meaning of FP?</td>
<td>Planned parenthood</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Stop giving birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Give birth to one or two children DK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Which method of contraceptives have you ever heard of?</td>
<td>Pills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Injectables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IUCD Condoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Norplant Tubal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ligation</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Vasectomy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Withdrawal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calendar</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Do you remember when you had your last menstrual flow? (use a calendar to help her remember) If yes, indicate the date</td>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. When counting the days of your cycle, which is the first day?</td>
<td>The first day of the flow</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The last day of the flow</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. From one menstrual period to the next, are there certain days when a woman is more likely to become pregnant if she has sex?</td>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>DK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Is this time just before her period begins, during her period, right after her period has ended, or halfway between two periods?</td>
<td>Just before her period begins</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>During her period</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Right after her period has ended</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Halfway between two periods DK</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. If a mother who is using the coil conceives, the coil will get stuck on the baby’s forehead at birth</td>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don’t know other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. A woman who has had BTL does not experience sexual pleasure</td>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Don’t know other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>Where did/do you get information about the methods from?</td>
<td>Media</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peer educators</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Health personnel</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social circle</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nurse counselor during the study</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other(specify)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Where do you get your supplies of FP products from?</td>
<td>Chemist</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Municipal clinic</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Private health centre or hospital</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Community health workers</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>I do not need</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other(specify)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Attitude toward contraception**

| 19. | Contraceptives are good for me | Strongly Disagree | 1 |
|     |                                 | Disagree | 2 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 4 |
|     |                                 | Strongly Agree | 5 |
| 20. | I would advise my friends to use contraceptives always | Strongly Disagree | 1 |
|     |                                 | Disagree | 2 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 4 |
|     |                                 | Strongly Agree | 5 |
| 21. | I fear using contraceptives | Strongly Disagree | 5 |
|     |                                 | Disagree | 4 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 2 |
|     |                                 | Strongly Agree | 1 |
| 22. | Contraceptives cause more harm than good to women | Strongly Disagree | 5 |
|     |                                 | Disagree | 4 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 2 |
|     |                                 | Strongly Agree | 1 |
| 23. | My body is not meant for contraceptives | Strongly Disagree | 5 |
|     |                                 | Disagree | 4 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 2 |
|     |                                 | Strongly Agree | 1 |
| 24. | The use of contraceptives reduces the pleasure in sexual intercourse | Strongly Disagree | 5 |
|     |                                 | Disagree | 4 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 2 |
|     |                                 | Strongly Agree | 1 |
| 25. | My customers run away when I insist on using some contraceptives | Strongly Disagree | 5 |
|     |                                 | Disagree | 4 |
|     |                                 | Undecided | 3 |
|     |                                 | Agree | 2 |
|     |                                 | Strongly Agree | 1 |

**Practices of contraception**
| 26. | Have you ever used anything or tried in any way to delay or avoid getting pregnant? | Yes | 1 |
|     | If yes, what have you used? | No | 2 |
|     | Pills | 1 |
|     | Injectables | 2 |
|     | IUCD Condoms | 3 |
|     | Norplant Tubal ligation | 4 |
|     | Vasectomy | 5 |
|     | Withdrawal | 6 |
|     | Calendar | 7 |
|     | Other (specify) | 8 |
|     | 9 |
| 27. | When you first used contraceptives, how many living children did you have at that time? | 10 |
| 28. | Are you currently on any method? | Yes | 1 |
|     | No | 2 |
| 29. | Which method are you currently using? | Pills | 1 |
|     | Injectables | 2 |
|     | IUCD Condoms | 3 |
|     | Norplant Tubal ligation | 4 |
|     | Vasectomy | 5 |
|     | Withdrawal | 6 |
|     | Calendar | 7 |
|     | Other (specify) | 8 |
|     | 9 |
| 30. | What are your reasons for using contraceptives? | My family is complete | 1 |
|     | To space births | 2 |
|     | Improve the health of my family and I | 3 |
|     | Economic problems | 4 |
|     | Other (specify) | 5 |
| 31. | If no, why? | Lack of knowledge | 1 |
|     | Partner opposition | 2 |
|     | Fear of side effects | 3 |
|     | Other (specify) | 4 |

Finally, what other ideas would you want to share about the use of contraceptives based on your own experience?

Thank you so much for your willingness to talk to us. The information you have given us will be absolutely useful in helping us understand the challenges women encounter in deciding to use or in using FP. This may help service providers come up with better ways of helping the FSWs avoid unintended pregnancies.
Appendix IV: Approval by Kenyatta University Ethics Review Committee

KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Fax: 8711242/8711575
Email: kuercc.chairman@ku.ac.ke
kuerc.secretary@ku.ac.ke
Website: www.ku.ac.ke

P. O. Box 43844
Nairobi, 00100
Tel: 8710901/12

Our Ref: KU/R/COMM/51/187

Date: June 28th, 2013

Wilkister Kerebi Nyanumba
School of Public Health
Kenyatta University
P. O. Box 43844-00100, Nairobi.

Dear Mr. Wilkister,

APPLICATION NUMBER PKU/124/1109 OF 2013 – ‘THE KNOWLEDGE, ATTITUDE AND PRACTICE OF CONTRACEPTION AMONG FEMALE SEX WORKERS IN MOMBASA COUNTY, KENYA’.

1. IDENTIFICATION OF PROTOCOL

The application before the committee is with a research topic ‘The Knowledge, Attitude and Practice of Contraception among Female Sex Workers in Mombasa County, Kenya’ received on 28th May 2013.

2. APPLICANT

Wilkister Kerebi Nyanumba
School of Public Health
Kenyatta University
P. O. Box 43844-00100, Nairobi

3. SITE

Mombasa County, Kenya

4. DECISION

The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines, and is of the view that against the following elements of review,

(i) Scientific design and conduct of study,
(ii) Recruitment of research participants,
(iii) Care and protection of research participants,
(iv) Protection of research participant’s confidentiality,
(v) Informed consent process,
(vi) Community considerations.

AND APPROVED and that the research may Proceed ON CONDITION that you incorporate its advise below.
5. **ADVICE/CONDITIONS**

With respect to matters of scientific design and conduct of study and recruitment of research participants, the following specific conditions must be fulfilled in writing before an approval can be granted. **The manner of fulfilling these should be outlined and submitted to KU-ERC as soon as possible.**

i. Update Work plan
ii. Informed consent is insufficient
iii. Indicate where ethical approval will be obtained.
iv. Indicate where research permit will be obtained from
v. Translate the research tools to Swahili language.

When replying, kindly quote the application number above.

If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.

PROF. NICHOLAS K. GIKONYO  
CHAIRMAN: KENYATTA UNIVERSITY ETHICS REVIEW COMMITTEE

I ......... K. KEREKI, J. NYAMUBA  
accept the advice given and will fulfill the conditions therein.

Signature............................................ Dated this day 17th of July, 2013.

cc. Vice-Chancellor  
Director: Institute for Research Science and Technology
Appendix V: Research authorization by National Council for Science and Technology

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Tel: 254-020-2213471, 2241349, 254-020-2671350
Mobile: 0713 788 787, 0735 404 245
Fax: 254-020-2213215
When replying please quote
secretary@ncst.go.ke

Our Ref: NCST/RCD/12A/013/127

Date: 5th August 2013

Wilkister Kerebi Nyanumba
Kenyatta University
P.O Box 43844-00100
Nairobi.

RE: RESEARCH AUTHORIZATION

Following your application dated 1st August, 2013 for authority to carry out research on "The Knowledge, Attitude and Practice of Contraception among Female Sex Workers in Mombasa County, Kenya." I am pleased to inform you that you have been authorized to undertake research in Mombasa County for a period ending 31st October, 2013.

You are advised to report to the County Commissioner and County Director of Education, Mombasa County before embarking on the research project.

On completion of the research, you are expected to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. M. K. RUGUTI, PhD, HSC.
DEPUTY COUNCIL SECRETARY

Copy to:
The County Commissioner
The County Director of Education
Mombasa County.