

**DETERMINANTS OF INTRAUTERINE CONTRACEPTIVE  
DEVICES USE AND DECLINE AMONG FAMILY PLANNING  
SEEKERS IN NAIROBI, KENYA.**

**BY**

**JENNIFER WANJIRU MWANGI (HND. CHN, BSN)  
REG.NO.I57/11344/04**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE IN THE  
SCHOOL OF HEALTH SCIENCES OF KENYATTA UNIVERSITY.**

**APRIL 2009**

Mwangi Jennifer  
*Determinants of  
intrauterine*



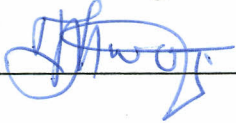
2009/339456

**DECLARATION**

I, Jennifer Wanjiru, do hereby declare that "this thesis is my original work and has never been presented for the award of degree in any other university."

Jennifer W. Mwangi

Sign



Date

5/05/09

This thesis has been submitted for examination purpose, with our approval as the Kenyatta university supervisors.

Sign

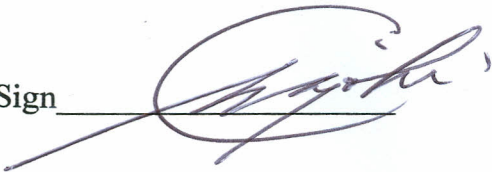


Date

7/05/09

Dr Margaret Keraka  
Department of Public Health  
School of Health Sciences  
Kenyatta University

Sign



Date

05/05/09

Prof. Ephantus W. Kabiru  
Department of Pathology  
School of Health Sciences  
Kenyatta University

## DEDICATION

I dedicate this project to my husband Nazareno Kariuki, my children Wangeci, Munene and Wanja who encouraged and supported me throughout, and my beloved parents for their prayers and patience.

## ACKNOWLEDGMENT

I would like to express my sincere appreciation to all those who helped me in one way or another in writing and compiling this thesis. I would humbly wish to extend my most sincere gratitude to my supervisors, Dr M. Keraka and Prof. E. W. Kabiru for their dedication, untiring guidance and support throughout the study period. I thank Kenyatta University, through the department of public health for giving me the chance to advance in career development. I am deeply indebted to my employer the Ministry of Health, for releasing me to undertake the MPH course. I also wish to extend my gratitude to the Provincial nursing officer, Mrs. Salome Kangangi for her support and concern while I studied. A lot of thanks go to my cousin, Alex Wamondo for giving me his laptop computer for the entire period of study. I also wish to thank the entire September, 2004 class especially such friends as Veronica, Lydia, Susan, Rehab, Agnes, Florence, for their moral support and criticism while writing this thesis. A lot of thanks to all health workers who participated actively in providing required information and the women of reproductive age who volunteered the information I needed for the study. Above all, I thank the Almighty God, for giving me good health and seeing me through the entire process of the study.

## TABLE OF CONTENTS

Title.....	i
Declaration.....	ii
Dedication.....	iii
Acknowledgement.....	iv
Table of content.....	iv
List of Tables.....	x
List of Figures.....	xi
Acronyms/ Abbreviations.....	xii.
Abstract.....	xii
Operational Definition of Terms.....	xiv
CHAPTER 1: INTRODUCTION.....	1
1.1 Background.....	1.
1.2 Problem statement.....	2
1.3 Study Justification.....	4
1.4 Research Questions.....	4
1.5 Hypothesis.....	5
1.6 Study Objectives.....	5
1.6.1 Main Objective.....	5
1.6.2 Specific Objectives.....	5
1.7 Rationale of the Study.....	5
1.8 Delimitations and Limitations of the Study.....	6
1.9 Assumptions of the Study.....	7

1.10	Theoretical Framework.....	8
1.11	Conceptual Framework.....	9
<b>CHAPTER 2: LITERATURE REVIEW .....</b>		<b>10</b>
2.1	Introduction.....	10
2.2	Modern methods of Family Planning.....	11
2.2.1	Hormonal contraceptive .....	11
2.2.2	Voluntary surgical contraception .....	14
2.2.3	Barrier methods .....	15
2.2.4	Natural family planning method.....	15
2.2.5	Lactation amenorrhea method (lam) .....	17
2.2.6	Intrauterine contraceptive devices (IUCDs).....	17
2.3	Intrauterine Contraceptive Devices Situations.....	19
2.3.1	Global situation.....	19
2.3.2	Africa situation.....	19
2.3.3	Kenya situation.....	20
<b>CHAPTER 3: METHODOLOGY.....</b>		<b>23</b>
3.1	Study design.....	23
3.2	Variables: Dependent and Independent .....	22
3.3	Study area.....	22
3.4	Target Population.....	23
3.5	Study population.....	23
3.6	Sampling Technique and Sample Size.....	23
3.6.1	Sampling Technique.....	23

3.6.2 Sample Size Determination.....	24
3.6.3 Proportional probability .....	25
3.7 Research Instruments.....	25
3.8 Pilot Study.....	26
3.8.1 Validity.....	26
3.8.2 Reliability.....	26
3.9 Data Collection Technique.....	27
3.10 Inclusion and Exclusion Criteria.....	27
3.10.1 Inclusion Criteria.....	27
3.10.2 Exclusion Criteria.....	27
3.11 Ethical Consideration.....	27
3.12 Data Analysis.....	28
<b>CHAPTER 4: RESULTS .....</b>	<b>29</b>
4.1 Introduction.....	29
4.2. Demographic Characteristics of the Respondents.....	29
4.3 Relationships of independent variables and IUCDs use.....	31
4.3.1 Relationship of Age and use of IUCDs.....	31
4.3.2 Religion of the Respondents and IUCDs use.....	32
4.3.3. Level of Education and Respondents' IUCDs use.....	33
4.3.4 Relationship between Marital Status and IUCDs use.....	34
4.3.5 Relationship between Respondents' number of children and IUCDs .....	36
4.3.6 Respondents' Occupations and IUCDs use.....	37
4.3.7 Relationship between income and IUCDs use.....	38

4.4. Awareness, sensitization and counseling of respondents.....	39
4.4.1 Respondents' awareness of contraceptive methods.....	40
4.4.2 Respondent's sensitization on family planning methods.....	40
4.4.3 Description of IUCD by respondents.....	41
4.4.4 Demonstration of an IUCDs to the respondents by the provider.....	41
4.4.5 Respondents awareness of types of IUCDs.....	42
4.4.6 Respondents' views of IUCDs as a contraceptive method.....	43
4.4.7 Contraceptive method use by respondents at the facilities.....	44
4.4.8 IUCD utilization by respondents .....	45
4.4.9 Utilization of different types of IUCDs by current or previous users.....	46
4.4.10 Problems experienced by previous users of IUCDs.....	46
4.4.11 Handling respondent's IUCDs complications.....	47
4.4.12 Referral for further management.....	48
4.4.13 Method switched by previous IUCDs users.....	48
4.4.14 Longest time IUCDs current users have ever used in years.....	49
4.4.15 Respondents currently on IUCDs satisfactory status.....	49
4.5 Other Factors Deterring Respondents' usage of IUCDs.....	50
4.5.1 Reasons that prompted the IUCDs users to stop using the IUCDs.....	50
4.5.2 Future contraceptive plans for Non IUCD users.....	51
4.6 Service providers perspectives.....	52
4.6.1 Human Resource Management.....	52
4.6.2 Staff Training and Updates in Family Planning.....	53
4.6.3 Presence or absence of menses before IUCDs insertion and removal.....	53

4.6.4 IUCDs insertion kits.....	53
4.6.5 Hindrance to performance of service providers on provision of IUCDs.....	54
<b>4.7 Observations of institutional infrastructure.....</b>	<b>55</b>
4.7.1 Facilities infrastructure.....	55
4.7.2 Privacy.....	55
4.7.3 Infection Prevention Practices.....	55
4.7.4 Routine FP practice related to menses.....	56
4.7.5 Service Hours.....	56
4.7.6 First come first served observance.....	56
4.7.7 Services Equipment.....	56
4.7.8 Average number of IUCDs insertion in the facilities.....	57
4.7.9 Visual aids and other communication materials.....	57
4.7.10 Monitoring and Evaluation tools.....	58
<b>CHAPTER 5 DISCUSSION.....</b>	<b>59</b>
5.1 The demographic characteristics of FP respondents.....	60
5.2 Relationships between demographic characteristics and IUCD use.....	60
5.3 Clients' awareness, Attitudes and utilization of IUCDs.....	61
5.4 IUCDs use and non use among respondent's.....	64
5.5 IUCDs Utilization Health Risks.....	65
5.6 Service Providers and Service Provision.....	67
<b>CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATION..</b>	<b>68</b>
6.1 Summary of Findings.....	68
6.2 Summary of Implications.....	68

6.3 Study Conclusions.....	69
6.4 Study Recommendations.....	70
6.5 Further Research.....	70
<b>REFERENCES.....</b>	<b>71</b>
Appendix 1: Map of Study Area.....	76
Appendix 2: Questionnaire for Study respondents.....	77
Appendix 3: Questionnaire for service providers* .....	82
Appendix 4: Structured observational chart .....	84
Appendix 5: Copper T 380 IUCD .....	85
Ministry of Science Health and Technology Letter of Approval.....	86

## LIST OF TABLES

Table 4.1 Age of the respondents.....	27
Table 4.2 Religious denominations.....	28
Table 4.3 Marital Status of the Respondents.....	29
Table 4.4 Respondents' number of children.....	30
Table 4.5 Occupations of the Respondents.....	30
Table 4.6 Relationship of Age and Respondents' use of IUCDs.....	34
Table 4.7 Relationship between Marital Status and use of IUCDs .....	34
Table 4.8 Relationship between number of Children and IUCDs use.....	34
Table 4.9 Relationship between respondents' income and IUCDs use.....	36
Table 4.10 Demonstration of an IUCDs by the provider.....	38
Table 4.11 Attitude to IUCDs as a method of contraception.....	43
Table 4.12 Types of IUCDs and the duration used by current or previous users...	45
Table 4.13 Longest time clients used IUCDs.....	45
Table 4.14 Provider's ability to sort out IUCDs related problems.....	46
Table 4.15 Referred for further management.....	47
Table 4.16 Method switched to after removal of IUCDs.....	47
Table 4.17 Longest time IUCDs current users have ever used in years.....	47
Table 4.18 Respondents on IUCDs satisfactory status.....	48
Table 4.19 Respondents IUCDs use future consideration.....	49
Table 4.20 Non-user's reasons for not preferring using IUCD .....	50
Table 4.21 Hindrance to Performances of Service Providers on Provision of IUCDs.....	52

**LIST OF FIGURES**

Figure 1.1: Conceptual Framework.....	11
Figure 4.1 Level of Education Attained.....	29
Figure 4.2: Respondents' Income.....	31
Figure 4.3 Religion of the respondents and IUCDs Use .....	32
Figure 4.4 Education Levels and IUCDs Use.....	33
Figure 4.5 Respondents Occupation and IUCDs use.....	35
Figure 4.6: Knowledge of contraceptive use.....	37
Figure 4.7: Types of IUCDs cited by the respondents.....	39
Figure 4.8: Source of Primary Information on FP by the respondents.....	40
Figure 4.9: Influence on the Respondents' contraceptive method choice.....	41
Figure 4.10: Place where contraceptive method was obtained for the first time.....	42
Figure 4.11: Contraceptives method use by Respondents in facilities.....	43
Figure 4.12: Respondents' IUCDS method use.....	44
Figure 4.13: Problems experienced by the previous users of IUCDs.....	47
Figure 4.14: Problems that prompted the user to stop using IUCDs.....	50

**ABBREVIATIONS/ ACRONYMS**

AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti Retroviral Therapy
AVSC	Association for Voluntary and safe Contraceptives
BBT	Basal Body Temperature
CBS	Central Bureau of Statistics
CDC	Center for Disease Control
CHWs	Community Health Workers
COCs	Combined Oral Contraceptives
CPR	Contraceptive Prevalence Rate
FHI	Family Health International
FP	Family Planning
H/C	Health Center
HIV	Human Immunodeficiency Virus
IPPF	International Planned Parenthood Federation
IUCDs	Intra-utérine Contraceptive Devices
KDHS	Kenya Demographic Health Survey
KEMSA	Kenya Medical Supplies Agency
KNH	Kenyatta National Hospital
KSPA	Kenya service Provision Assessment
LAM	Lactation Amenorrhea
MOH	Ministry Of Health
NFP	Natural Family Planning
NRHS	National Reproductive Health Strategy
PMO	Provincial Medical Officer
POPs	Progesterone Only Pills
SDM	Standard Day Method
SP	Service Provider
SPSS	Statistical Package for Social Science software
STI	Sexually Transmitted Infections
TL	Tuba ligation
TB	Tuberculosis
USA	United States of America
USAID	United States Agency for International Development
UNFPA	United Nations Family Planning Agency
UNPF	United Nations Population Fund
UNDP	United Nations Development Program
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

## ABSTRACT

The study focused on determining the factors that influenced the use and decline of intrauterine contraceptive devices (IUCD) among family planning (FP) services seekers in Nairobi. Kenya implements six types of contraceptives namely: steroid hormones, barrier devices, chemical products, surgical methods, natural family planning, lactation amenorrhea, and intrauterine devices (IUCDs). The design was a descriptive, cross-sectional study with a sample size of 374 FP clients from six randomly selected health centers administered by the Nairobi Health Management Board. The health centers included were the following: Langata, Makadara, Mathare North, Riruta and Kariobangi. Multistage sampling was used to select the health centers and systematic sampling was used in selection of study respondents. Service providers were selected on randomly selected days. Data was collected using a structured interview guides for clients on exit, and in-depth interview schedules were used to collect data from service providers. A structured observational chart was used to obtain additional data on institutional infrastructure. Data was analyzed using computer Statistical Package for Social Sciences (SPSS) software. Data was presented through tables, percentages, frequencies, bar charts. Qualitative data was grouped into categories, themes developed and presented in text form. Information was collected on 374 women. The study demographic data showed that women age 36 to 40 years (34%) were the highest users of IUCDs while adolescents and youths (age 20 and below) 0.3% were the least users. There was a high significant relationship between education and IUCDs use.  $\chi^2 = 30429$   $p$  value = 0.00012 indicating higher education influenced use of IUCDs positively. The occupation, income and family size also had significant relationship with the use of IUCDs. Results indicated that respondents who knew about IUCD had inaccurate information about the method. About 80% of the respondents had never used IUCDs as contraceptives, 8% were currently using and only 2% doubled as current and previous users. Among the non-users, lacks of counseling and psychosocial issues were cited as reasons for not demanding IUCDs. Results also indicated that there were health risks associated with IUCDs. Regarding providers' perspective, the study established that trained providers in IUCD provision were very few and they lacked updates in knowledge, counseling and skills necessary for IUCD insertion procedure. Facilities were grossly underutilized and poorly managed. The institutional infrastructure was poor and enabling environment for IUCDs service provision in terms of equipments and supplies was grossly lacking in all the study facilities. In conclusion, the study showed a low use of IUCD among the respondents due to lack of comprehensive balanced counseling and psychosocial concerns related to this method. In addition service providers at the study sites had inadequate Knowledge and counseling skills necessary for IUCD service provision. Lack of resources, equipment and expandable was observed in the study sites to affect IUCDs provision. These factors underscore the need for the Government of Kenya to train health care providers on family planning especially IUCD counseling and insertion procedure.

## Operational Definition of Terms

- Acceptance.....Willingness to use a contraceptive by a client
- Barriers.....Refers to obstacle that prevent family planning clients from using a  
contraceptive
- Contraception .....Pregnancy prevention
- Effectiveness.....The average likelihood of pregnancy for all users taken together  
whether or not they use the method correctly and consistently.
- Family Planning .....Refers to a decision made by a couple regarding the number of  
desired children they desire to bring up.
- Health centers.....Refers to sites where clients are provided with health services  
according to specific individual needs.
- Insertion... ..The procedure of placing the IUCDS in the uterus of a woman
- Utilization ..... Use or non use of the method
- Service.....Service is a way of providing or doing a procedure to meet the  
client needs.
- Service providers.....Refers to personnel deployed in provision of family planning  
services in the health facilities.
- Unmet needs.....Refers to women who do not want to get pregnant but fail to  
use any family planning method

## CHAPTER 1: INTRODUCTION

### 1.1 Background

Enormous strides have been made over the past 30 years in promoting family planning methods. About 60% of the world's population one billion couples use some form of contraception. In developing countries the proportion of couples who use contraception has increased from 9% to 60% now (WHO, 2004). Such encouraging figures have led some to claim that research in family planning is no longer a global priority and that a sufficient choice of safe and effective methods is already available. This view ignores the reality that over 120 million couples do not use contraceptives despite the need to space or limit their childbearing, and a further 300 million who are dissatisfied with the methods' use. However, there are up to 27 million unintended pregnancies each year among people who use contraceptives. Most existing methods have some drawbacks that limit their acceptability. Therefore, it is unreasonable to expect FP products and methods to be equally acceptable in the wide variety of socio-cultural settings that exist around the world. In addition, many individuals and couples have different needs for contraception at different times of their lives (WHO, 2004).

Family planning services in Kenya have been available since 1957 through the facilities of Ministry of Health, by Family planning Association of Kenya operating within the Ministry of Health facilities (Magadi & Curtis, 2001; MOH, 2007). The practice of family planning in Kenya increased steadily since the early 1980s with CPR for all methods reaching 39% in 1998 (MOH, 2005). Kenya was one of the 179 countries which attended and endorsed the recommendations of the International Conference on Population and Development (ICPD) in Cairo in 1994. In response to that, the Government of Kenya through sessional paper NO. 10 of 1965 recognized the importance of population planning for sustainable social-economic

development. Consequently in 1967, the National Family planning programme was launched, thus making Kenya the first Sub-Saharan country to have such a programme (MOH, 2007).

Intrauterine devices steady decline in Kenya had been noted since the 1980s. The declining use of the devices has raised some concerns with the program policy makers, as over-reliance on relatively expensive methods is burdening the country's FP program. The FP contraceptive prevalence rate for married women in Nairobi is at 41%. The IUCDS prevalence rate is quite low at only 3% country wide (KDHS, 2003).

## **1.2 Problem Statement**

Globally, IUCDs are the most widely used form of contraceptive in China. The national family planning program in China also highly promoted the IUCDs and over 60 million women use the intrauterine devices as contraceptives. China has the largest number of IUCDS users in the world. In 1992, China contraceptive use prevalence rate reached a historic high of 83% among married women of reproductive age (Wang *et al.*, 2004). In Kenya, the MOH achievements have been erased recently by poor performance of family planning program. The poor performance of the FP program resulted in increased maternal morbidity and mortality and reduction in contraceptives prevalence (MOH-IBP, 2005). According to statistics, the IUCDS declined to 3% in 2003 from 9 % in 1998 and 31% in 1984 (KDHS, 2003, FHI, 2003). The steady decline threatens the disappearance of IUCDS among the method mix provided by the family planning program in Kenya despite being a free service in the primary health centres. New methods are not forthcoming and loss of one method is a public health concern. On the other hand, the decline of IUCDS use may force it out of

market and some women who are used to them will suffer because of limited choices in the method mix.

According to KDHS (2003), most clients relied on short term methods of contraception. Under the ministry of health's leadership, several interventions were launched in Kenya since 2000 to increase uptake of long-acting and permanent methods of FP. Three interventions were undertaken by AMKENI, ACQUIRE and AMUA network projects. The interventions resulted to moderate increase in use of long-acting and permanent methods. For instance, in 2005 the number of IUCDs inserted increased from 510 in 2001 to 1,169 in 2005 in the study facilities (FHI, 2008). The KSPA 2004 study indicated IUCDs use at 34% nationally. IUCDs are different from other contraceptives because their use depends on trained service providers to insert them in position and remove them when client desires. The method could be one of the best if inserted properly and the client follows instructions as counseled. In spite of the benefits the method offers, few women are relying on it. A study conducted in Western Kenya in 1995 by FHI focused on service providers as opposed to FP seekers themselves. Another study by Acquire in Kisii, modeling adoption of technical best practices with proven practices for fostering sustained change found that the IUCDs were primarily provided at hospital level and there were significant barriers from both the providers and the client perspectives (FHI, 2006).

### **1.3 Study Justification**

Family planning is an important aspect of public health worldwide in control of upsurge of population. The existing methods are few and not suitable for all clients. The discontinuation rate for other methods is high especially hormonal methods and therefore IUCDs offer an alternative choice. Therefore, losing IUCDs alternative technology in our method mix in Kenya would be a big drawback that would lead to limited choice for new and satisfied users who want to limit or space child bearing using such a unique method. The resultant effects of reduced FP choices lead to unwanted pregnancies hence high morbidity and mortality, poor health for women and families, and increased poverty. No study has been done to identify the current situation of IUCDs utilization in Nairobi where people of diverse socio-cultural backgrounds coexist. Such a study would hopefully help in providing information that can be useful to the Government and MOH to set up policies regarding IUCDs service provision to improve the welfare of women and their families to achieve some of the Millennium Development Goals. Results will be used to sensitize policy makers to address the uptake of IUCD which is a simple, convenient, cheap and effective method of family planning.

### **1.4 Research Questions**

- a) What is the influence of demographic factors on women seeking IUCDs services?
- b) What is the influence of awareness, sensitization and counseling of FP seekers on use and non-use of IUCDs?
- c) What is the influence of FP service providers on use IUCDs among FP seekers?
- d) What are the effects of the clinic infrastructure, management functions, supervisory activities, and logistics management issues on IUCDs service delivery?

## **1.5 The Hypothesis**

a) The respondents' demographic characteristics, FP awareness, sensitization and counseling have no influence on the decline of use of IUCDs by FP seekers in the Health facilities in Nairobi.

## **1.6 Study Objectives**

### **1.6.1 Main objective**

To investigate the factors that contributes to the use and decline in use of intrauterine devices (IUCDs) among FP seekers in Nairobi

### **1.6.2 Specific Objectives**

- a) To determine the influence of demographic characteristics of FP seekers on use or non use of IUCDs.
- b) To establish the influence of awareness, sensitization and counseling on IUCDs use
- c) To determine influence of service providers on use of IUCDs among FP seekers.
- d) To establish the effect of facilities infrastructural, management functions, external supervisory activities, clinic and logistic issues on IUCDs use.

## **1.7 Rationale of the study**

Reproductive health is a very important area in health service provision in Kenya and globally. Women need to space or limit births today more than ever before especially in the developing countries where every pregnancy faces risk of maternal, fetal or perinatal death or morbidity. The methods available for contraception use are few and they all have some

drawbacks that limit their acceptability. In addition, it is perhaps unreasonable to expect family planning products and methods to be equally acceptable in the wide variety of socio-cultural settings that exist among different people from varied communities residing around estates and slums in Nairobi. Due to the underutilization of IUCDs, the current study was aimed at establishing the cause of the decline. The study's insight into women's views on reasons for not preferring IUCDs will enlighten the Ministry of Health planners to consider some aspects they may have not given much thought therefore put concerted effort in promoting the IUCDs and seek support from other interested stakeholders to make new policies, and set standards regarding IUCDs service provision.

### **1.8 Delimitation and Limitation of the Study**

The IUCDS use by FP seekers was established by direct participation of clients which was indeed the most reliable way. Exit interviews on clients who could have stayed long periods with the IUCDs were conducted when they came to enquire about tubal ligation or when they presented for the procedure or when they came for removal on expiry of the IUCDS devices. Most clients came from diverse socio-economic statuses and so the sample gave an insight of a large and important segment of Nairobi population.

But the study had some limitations. The cross-sectional design did not allow the researcher to evaluate the causality of reported associations, a longitudinal design would have been more appropriate. The recall bias of respondents may have affected the reported knowledge of IUCDS as contraception. Underreporting by the respondent of the methods of contraception known may also have occurred. The study was done in only a few randomly selected health centers in Nairobi and so the findings may not be representative of all the users in Nairobi and the country as a whole. Due to resources and time limits, secondary data regarding

IUCDS use could not be established in those facilities due to poor management of records. Another limitation was that due to the fact that knowledge generated is based on the interviews of women who attended health facilities. It does not reflect that of women who were at home and did not participate in the survey although they may have been using IUCDs. Furthermore, the device could be used for a very long period of about 5-12 years without satisfied users seeking FP services. Finally, the researcher acknowledges that there were logistical (financial and time) constraints in accomplishing the study.

### **1.9 Assumptions of the study**

The assumption of the study was that women of reproductive age were aware of the contraceptive and non-contraceptive benefits of IUCDs and so were likely to use them more than the other methods. The other assumption was that the service providers were familiar with the new frontiers in all FP methods including the new IUCDs type in the health market and were requesting to be trained and retrained in insertions of the new brands as well as requesting for the supplies.

### **1.10 Theoretical framework**

To understand the use or the lack of use of the IUCDs, this study will rely on two public health related theories: (1) Health Behavioral Theory and (2) Social Learning Theory.

#### **1.10.1 Health Behavioral Theory**

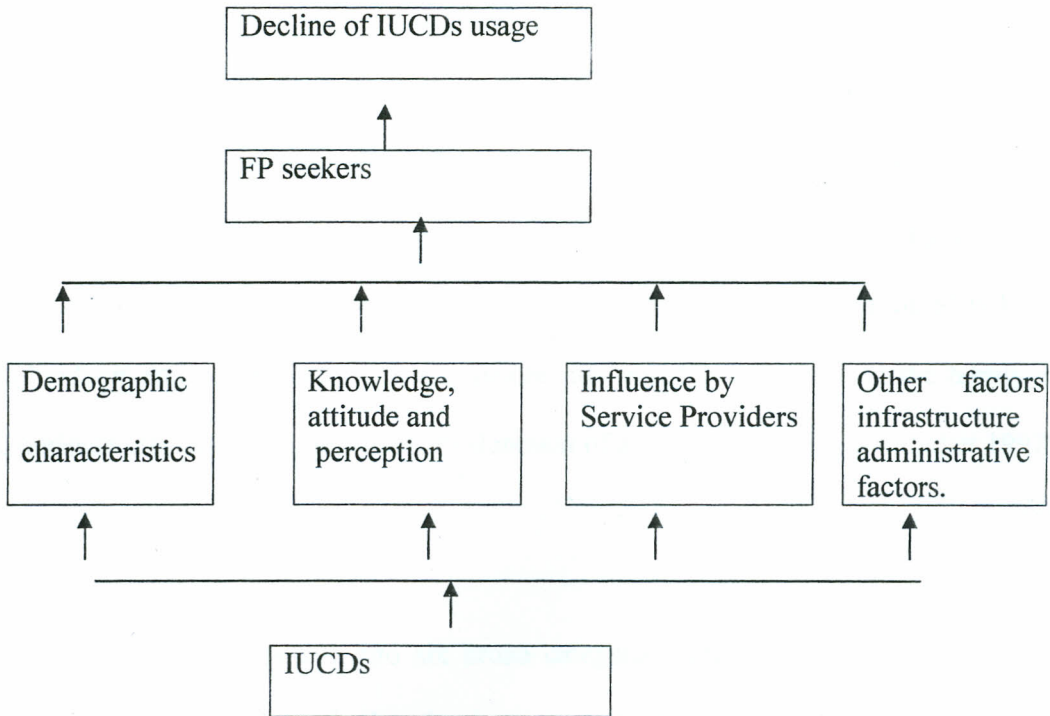
The theory was developed by Rosenstock and is based on the following constructs: perceived susceptibility (an individual's assessment of their risk of getting the condition), perceived

severity (an individual's assessment of the seriousness of the condition, and its potential consequences), perceived barriers (an individual's assessment of the influences that facilitate or discouraged adoption of the promoted behavior), perceived benefits (an individual's assessment of the positive consequences of adopting the behavior), perceived efficacy (an individual's self-assessment of ability to successfully adopt the desired behavior), and cues to action (external influences promoting the desired behavior) (Rosenstock, 1988). Therefore, knowledge, information, and attitudes and perception can influence the use or non-use of IUCDs among FP seekers.

### **1.10.2 Social Learning Theory**

Social learning theory was formulated by Bandura. The theory talks about the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. There is the influence of environment and peers, and also utilization of observational learning (Bandura, 1997). Therefore, we can assume that FP seekers can either use or not use IUCDs because of the influence of other FP seekers (peers) or FP providers.

### 1.11 Conceptual Framework



**Figure 1.1: Conceptual Framework**

#### Explanation of the Conceptual Framework

IUCDs utilization is linked to demographic characteristics, knowledge, attitudes and perceptions of FP seekers. Besides these, the service providers and other administrative and infrastructural factors also have an influence on the utilization of IUCDs.

## CHAPTER 2: LITERATURE REVIEW

### 2.1 Introduction

Family planning methods are used worldwide as key interventions for controlling fertility among individuals and couples as well as controlling global population upsurge. Reducing unwanted pregnancy improves the health of the women and family and makes them active to undertake more duties, thus reducing poverty and increasing the country's development. According to WHO, FP is a body of information and practice that is adopted voluntarily by individuals and couples in order to promote the health and welfare of the family and thus contribute effectively to the social development of a country (Lyions and Hudart,1997).

Contraceptive methods fall into six broad categories: the steroidal hormones, intrauterine devices, the surgical methods, the barrier methods, natural family planning, and the traditional methods. These methods are widely used globally and have had significant impact on the ability of couples to plan their families. The choice of methods is relatively limited and each method has specific drawbacks, whether in terms of convenience of use, reliability, or side effects. Nearly all users of reversible methods discontinue its use within a year for a variety of reasons. The availability of new or improved methods could therefore have significant impact on public health by meeting the needs of millions of men and women whom the current range of options are inadequate (WHO, 2004).

Kenyan experts in reproductive health drew up the National Reproductive Health Strategy (NRHS) in 1996 to be implemented from 1997-2010. The NRHS identified the goal of safe motherhood and child survival as the component that required most urgent attention. Before

the Cairo conference, delegates to the Nairobi Conference in 1987 recommended the introduction of a safe motherhood initiative to be implemented by all countries as a result of observations of lack of government's commitment to women's health. Family planning was identified as one of the pillars towards delivery of safe motherhood services (MOH, 2006).

## **2.2 Modern methods of Family Planning**

### **2.2.1 Hormonal Contraceptives**

These are methods containing synthetic hormones (estrogen, progestin, or a combination of both hormones) which primarily work through prevention of ovulation by making the cervical mucus too thick for sperms penetration, thinning the endometrium making it difficult for implantation and also they cervical mucus produced is too thick making it difficulty for sperms to swim through . The hormonal contraceptives methods are very effective but vary in terms of side effects associated with their use (MOH, 2005).

#### **a) The Oral Contraceptive Pills**

i) The combined oral contraceptives (COCs) are pills containing synthetic estrogen and progestin similar to the natural hormones in a woman's body. The COCs primarily prevent pregnancy by suppressing ovulation, Thickening the cervical mucus and changing the endometrial lining, making implantation less likely to occur. These pills are taken daily for as per instructions (MOH, 2005). They may cause side effects like myocardial infarction, stroke and venous thrombosis. They protect the woman against certain cancers, anemia and can be used for emergency contraception (Hatcher *et al.*, 2003; CDC, 1999).

ii) The Progestin Only Pill (POPs) does not contain estrogen. Therefore they do not cause many of the side effects associated with COCs. They do not suppress breast milk production and this makes them ideal for breastfeeding women. The POPs are taken at the same time

daily without break. Both progesterone only and combined oral contraceptives are very effective with failure rates of about 3 % (Arkutu, 1995; MOH, 2005).

### **b) Injectables**

Some Injectables are made of progesterone hormone while others are combination of progesterone and estrogen. The ones with progestin's do not suppress breast milk production; therefore can be used by breastfeeding mothers after six weeks postpartum. Progestin-only injectables prevent pregnancy by suppressing ovulation, thickening cervical mucus to prevent sperms passing through it, and thinning the endometrium. The most widely available injectable contraceptives are the 3 monthly Depo-Provera and two-monthly Noristerat in Kenya (MOH, 2005). Both contain progestin only and have no oestrogen associated side effect. These injections can be used by breastfeeding women safely for they do not suppress production of breast milk. Other types of injectable include the monthly Cyclofen, cycloprovera, mesigyna that have both progestin and eostrogen. Injectables are highly effective; with a failure rate of as low as 0.3 % (MOH, 2005; WHO, 2004). A study in Nigeria on injectable contraceptives to determine factors that were significantly associated with utilization of injectable contraceptives found that availability of family planning services, parity, knowledge of contraception and child spacing, religion, literacy level, attitudes of family planning providers and distance to family planning services were found not to be significant (Orji, 2002).

### **c) Contraceptive Implants**

Implants consist of a set of thin plastic tubes or rods containing different progesterone hormonal. They are inserted under the skin of a woman's upper arm from where they start releasing the hormone slowly over a long period to prevent pregnancy. They prevent pregnancy the same way as injectable hormones and POCs. Implants remain effective for five years with failure rate of 0.09 % (MOH, 2005; Arkutu, 1995). A study on evaluation of

the method's acceptability concluded that, efficacy and safety of these contraceptive implants has resulted in their wide acceptance, and the need to continue research on similar implants with newer progesterone with less androgenic progesterone, and single-rod implants (Walling, 2000). A study of women's experiences of Norplant in Dakar, Senegal found that a woman's desire to limit future childbearing and her husband's support for method use increased her acceptance of side effects and use of the method (Tolley *et al.*, 2001).

#### **d) Emergency Hormonal Contraception**

Emergency contraception prevents pregnancy following unprotected intercourse. The emergency contraceptive pills must be taken within 120 hours of intercourse. The sooner they are taken the more effective they are. They have no effect on pregnancy if taken when woman is already pregnant. Emergency contraceptives do not cause abortion and should not be used on regular basis because they are less effective than other methods of contraceptives. The Emergency contraceptives pills prevent an average of 85% of pregnancies that would otherwise have occurred. Pregnancy resulting from unprotected intercourse in the second or third week of the menstrual cycles estimated as 8%: after emergency oral contraception, it is 1-2%. Emergency contraceptives prevent pregnancy by preventing or delaying the release of the ovum from ovaries (ovulation), inhibiting transportation of egg/or sperms in the fallopian tubes of a woman (MOH, 2005). Pills mainly used as emergency contraceptives pills include products with progestin levonorgestrel, others have estrogen and levonorgestrel, others with levonorgestrel or norgestrel, combined oral contraceptives with estrogen and a progestin-levonorgestrel, norgestrel or norethindrone are also used. Other types of FP products can be used e.g Copper T380A that can be inserted 5 days after unprotected sex or when the time of ovulation can be estimated. The IUCD can be inserted 5 days after ovulation or 5days after unprotected sex as emergency contraceptive. IUCD can also be inserted on the same day that the woman took emergency contraceptive pills (WHO, 2007).

### **2.2.2 Voluntary surgical Contraception's**

Voluntary surgical contraception includes male and female sterilization procedures that are intended to provide permanent contraception and client makes a voluntary informed choice of the method after counseling. These include:

#### **a) Vasectomy**

This is a permanent contraceptive method and is an effective and safe form of long-term contraception available for males (Jensen, 2002). Vasectomy has a failure rate of 0.15 percent (Arkutu, 1995). A study conducted in Mumbai, India has brought out views that men as well as women generally assume that fertility and family planning is a woman's domain since women bear children. The fear of becoming physically weak and impotent emerged as an important constraint to the acceptance of male sterilization. In addition, there was fear among males of losing virility after the operation, with the apprehension that their wives might indulge in extra-marital sex, as a consequence (Rao, 2001; Sharma, 2003).

#### **b) Tubal Ligation**

Tubal ligation is a permanent contraception that involves the tying and cutting of the fallopian tubes to prevent released egg from being fertilized. Female sterilization failure rate is 0.4 percent (MOH, 2005). A study done in Egypt concluded that TL is an ideal solution for high-risk pregnancy women. It would also reduce the maternal mortality rate by half. Therefore the authors recommended construction of high quality team work for tubal-sterilisation orientation of the personnel, counseling of clients and performance of the procedure in every obstetric and family planning center in the community (El-Shafei *et al.*, 1999).

### 2.2.3 Barrier Methods.

Barrier methods create a barrier that prevents the sperm from gaining access to the upper reproductive tract thus preventing sperm from fertilizing the egg. They include male and female condoms made from latex rubber, diaphragms and cervical caps. Condom, diaphragms and cervical cap are mechanical barriers. Spermicides create a chemical barrier that interferes with movement of sperms and its ability to fertilize the egg. The effectiveness of barrier methods is largely dependent on the way they are used. Condoms when used consistently and correctly have a 3% pregnancy rate. (AVSC, 1995; MOH, 2005; Hatcher *et al.*, 2003). Spermicides are chemical preparations that prevent pregnancy by destroying sperms. They are available in various forms; jellies, creams, foaming tablets, aerosol and suppositories. Spermicides by themselves have a failure rate of 21% (Arkutu, 1995). Barrier method can be used as birth control method as well as in preventing some STIs including HIV. Another advantage of barrier methods is that with exception of male condoms, all others are women controlled methods that almost all women can use.

### 2.2.4 Natural Family Planning Methods.

Natural family planning is concerned with fertility awareness. The fertile period is recognized through various ways such as checking physiological cervical mucus changes (Billings or cervical mucus method), and (basal body temperature method) or a combination of these two (symptom-thermal method). A 20 % pregnancy rate occurs in the first year for typical users of NFP methods occur (MOH, 2005). Effectiveness studies of NFP in USA have confirmed that when used correctly they are effective in helping motivated couples to space pregnancies. Effectiveness rate in USA vary from 97% to 99% when used correctly (Hatcher *et al.*, 2003). Since the early 20<sup>th</sup> century, it has been known that women's body temperature

rises after ovulation. That knowledge of the natural marker of fertility has been used since the 1930s as a NFP method alone or in combination with calendar formula.

There are four general methods of NFP: (i) Calendar rhythm and basal body temperature (BBT) methods considered the oldest, (ii) The Ovulation or (cervical mucus only), (iii) The symptom-thermal methods (STM), and (iv) The Standard Days Method (SDM). The 21<sup>st</sup> century has brought new technology in NFP. Women in Europe have a personal hand-held fertility device to track the fertile and infertile phase of the menstrual cycle by monitoring the urinary metabolites of oestrogen and leutinizing hormones. A similar hand-held device, The Clear Plan Easy Fertility Monitor, is available in USA to measure the same metabolites, but the device is more used to achieve pregnancy in USA (Fehring, 2004). The Standard Days Method (SDM) is an effective new simple NFP method developed through scientific analysis of the fertile time in the woman's menstrual cycle. It is simple, cost effective and attractive for couple's not previously using contraception and more programs are including it among the options offer. This SDM is based on the fact that there is a "fertile window" during a woman's cycle. It considers that there are several days before ovulation and a few hours after when a woman can get pregnant. An efficiency trial found that the SDM was more than 95% effective with correct use and more than 88% with typical use among women who reported regular recent cycles of 26-32 days. Colour coded string of beads is used representing the days of the cycle and help woman to track her cycle days, know the day she is fertile and monitor her cycle length (MOH, 2005).

### **2.2.5 Lactation Amenorrhea Method (LAM)**

Lactation Amenorrhea Method is a temporally method of FP based on the lack of ovulation resulting from exclusive breastfeeding. It is used during the first six months postpartum only when fertility is low and the infant is feed solely on breast milk. LAM is an effective method the pregnancy rate is about 2% for typical use in the first 6months. When used correctly the pregnancy rare is 0.5% (MOH, 2005).LAM is defined by three criteria: The woman's menstrual periods have not resumed, the baby is exclusively breastfed and the baby is less than 6 months old. If any of the 3 criteria is not met; another FP method must be introduced to avoid pregnancy (MOH, 2005)

### **2.2.6 Intrauterine Contraceptive Devices (IUCDs)**

#### **2.2.6.1 The types of intrauterine devices**

The IUCDS is a small flexible device inserted into the uterine cavity to prevent pregnancy. The most widely used are the copper bearing IUCDS which are made of plastic with copper sleeves on the arms and copper wire wound around the stem. IUCDS do not suppress breast milk production, cause abortion or cause pelvic inflammatory disease. The IUCDs are used by over 150 million women worldwide and are the most cost effective temporary contraceptive method for long-term use (IPPF, 2003). Since the 1960s, the devices have undergone many improvements: first by inclusion of copper and subsequently a progesterone-releasing system (IPPF, 2003). The most widely used are the copper bearing IUCDs, which are made of plastic with copper sleeves on the arms and copper wire around the stem. There are many brands of copper bearing IUCDs e.g. TCU -380A which is widely available in Kenya's health facilities. Its duration of effectiveness is 10- 12 years (WHO, 2004)). Others include Multiload-MLCu-375® (with effectiveness of 5 years), Multiload-MLCu-250® (effective for 3years), Gynefix®, effective for 8 years. Hormone releasing IUCDs such as

levonorgestrel. (LNG-20) and progesterone are effective for 5 years. Once correctly inserted, an IUCD can remain effective for several years. IUCDs have a low failure rate: from 0.1% to 2% depending on type used (MOH, 2005; Hatcher, *et al.*, 2003).

The intrauterine contraceptive devices have been in the health market since early 1960s. The devices advantages are numerous and include their safety, being highly effective with less than 1 % of users becoming pregnant after one year typical use after insertion. The devices are appropriate choice for all women including those HIV-positive clients. They are reliable and cheap for the user and the Government because they require minimal revisits, and can be used as short or long-term methods to space or limit births. But the method has some short falls like all other FP methods. These include heavy bleeding in the three months following insertion, backache, occasional pregnancy and expulsion in case of severe bleeding

#### **2.2.6.2. Intra-utérine Contraceptive Devices Mechanism of Action**

Reproductive health researchers have formulated many theories related to IUCDs mode of action as contraceptive devices. One of the theories postulates that IUCDs act by preventing the sperms and the ovum (egg) from meeting, perhaps the IUCDs makes it harder for sperms to move through the woman's reproductive tract and reduces the speed and ability of the sperms to fertilize the ovum and possibly also prevents fertilized ovum from implanting in the walls of the uterus (Hatcher *et al.*, 2003). The copper IUCDs prevent pregnancy by preventing sperm from fertilizing the egg. By changing the environment of the uterine cavity, the IUCDs make it difficult for the egg and sperm to meet (MOH. 2005).

### 2.2.6.3 Intra-utérine Contraceptive Devices Situation

#### a) Global situation

The IUCDS is used by more than 150 million women currently making it the second most popular contraceptive method in the world after sterilization (WHO, 2004). In China, 45% of married couples rely on it (WHO, 2002). It is the leading choice in Egypt where 30% of couples rely on it. IUCDS prevalence in other countries includes 23% of women in Jordan, 17% in Tunisia, Libya (11%), Syria (16%) and Turkey (19%). Nearly 40% of couples use it nationwide in Vietnam. In Taiwan 22% rely on IUCDS and 11% in South Korea. In a 1987 Cuban survey, 33% of couples used IUCDS while 15% used the method in Mexico (1995). The IUCDS is also very prominent in Central Asia Republics as reflected by 38% prevalence in Kyrgyzstan, Kazakhstan (40%) and 46% in Uzbekistan (Ross, *et al.*, 1999). Research continues in development and design of IUCDs to improve its stability to prevent pregnancy and to deal effectively with the occasional problems of expulsion and bleeding (WHO, 2004). Prospective studies indicate that the overall incidence rate of pelvic inflammatory disease (PID) among IUCDS users is in the order of 0.1 per 100 women and does not increase with prolonged use. A recent study in Mexico showed that tubal obstruction in nullipara was related to Chlamydia infections and not associated with past IUCDS use (WHO, 2004). Pregnancies with an IUCDS in situ are at increased risk of abortion (IPPF, 2003). Clinical trials in Thailand have provided valuable information on safety and efficiency of copper coated IUCDS especially TCu -380A and Multiload MLCu-375® (WHO, 2004).

#### b) Africa situation

The popularity of IUCDS in Sub-Saharan Africa varies widely throughout the continent, for example, it is the most popular method in Egypt where 16% of married women of reproductive age currently using contraceptive method have an IUCDS. It is one of the principal methods in Botswana and Kenya (CDC, 1999). Experience of clients using IUCDS

at the University of Ilorin Teaching Hospital Family Planning Clinic in Nigeria concluded that IUCDS is a safe and effective contraceptive with high acceptability (Olatinwo *et al.*, 2001).

### **c) Kenya situation**

Kenya was the first country in Sub-Saharan Africa to adopt a national population policy in 1967. The services were spearheaded by Family planning association of Kenya, a local NGO (MOH, 2007) The practice of family planning in Kenya increased steadily since the early 1980s with CPR for all methods reaching 39% in 1998 (MOH, 2005). According to MOH (2005), there is emerging evidence that the previously increasing contraceptive prevalence in Kenya is beginning to plateau. The KDHS (2003) shows that contraceptive prevalence rate for all methods have stagnated at 39% between 1994 and 1998 with a slight increase 41% in 2003. The survey also shows a decline in the utilization of the long-term methods like IUCDS where only 3% of women of reproductive age are using IUCDs.

The intrauterine contraceptive devices have been in the health market since early 1960s. The devices advantages are numerous and include their safety, being highly effective with less than 1 % of users becoming pregnant after one year typical use after insertion. The devices are appropriate choice for all women including those HIV-positive clients. They are reliable and cheap for the user and the Government because they require minimal revisits, and can be used as short or long-term methods to space or limit births. But the method has some short falls like all other FP methods. These include heavy bleeding in the three months following insertion, backache, occasional pregnancy and expulsion in case of severe bleeding. The

IUCDS method has been steadily disappearing from the national mix of modern family planning methods in Kenya over the in the last two decades despite its proven safety, effectiveness, reversibility and low cost (FHI, 2003). According to KDHS, (2003), the period between 1978 and 1998, Kenya witnessed a historic fertility declined from 8.1 births to 4.7 births per woman. Despite sharp increases in contraceptive use in Kenya in the 1980s, the number of IUCDS users has declined steadily. IUCDS prevalence has progressively dropped from 31% in 1984 to 15% (1993), 9 % in 1998 to a low 3% in 2003 (FHI, 2003). To assess the factors causing this decline in use, researchers conducted a study using simulated clients in western Kenya in 1995. The Kenya study concluded that several interrelated factors account for the stagnant level of IUCDS use. The study cited poor quality of care, poor product image, provider bias or preference, and shifting client preferences (Stanback *et al.*, 1995). Another study on the effect of a provider-based educational outreach (“detailing”) to stimulate IUCDS use in Kenya resulted in a small increase in the numbers of IUCDs provided when both clinic based providers and CBD agents were targeted, but no significant change in facilities where only one group received the detailing intervention ([http:// ww.fhi.org](http://ww.fhi.org). 2005). The unmet need for family planning services was estimated to be 25% in 2003 (MOH, 2003). Based on the information from the UNPF, an organization that provides IUCDs for public sector purchase, the prices for various contraceptive methods are: IUCDs,(TCu 380A) cost Ksh 25 to 50, injectable Ksh 44 to 78, pill per packet Ksh 14 to 36 and implants at Ksh 1800 suggesting that IUCDs are valuable components of a sustainable method mix for the program and society (MOH, 2005).

## CHAPTER 3: METHODOLOGY

### 3.1 Study Design

This was a descriptive, cross-sectional study to examine the factors associated with the use or the decline in use of IUCDs. The study was conducted among FP seekers within the month of August 2006 in Nairobi.

### 3.2 Variables: Dependent and Independent

The dependent variable in this study was IUCDS utilization among FP seekers while the independent variables included demographic characteristics such as age, religion marital status, number of children, occupation, income earnings and the level of education.

### 3.3 Study Area

The study was conducted in Nairobi, the capital city of Kenya. (See Appendix 1). The Nairobi Health management Board had at the time of the study divided Nairobi into 8 administrative Districts which corresponded to provincial administrative divisions namely: Makadara, Langata, Pumwani, Central, Embakasi, Dagoretti, Westland's and Kasarani. Each of the districts was headed by a District Medical Officer of Health (DMOH). Nairobi is dotted with as many as 500 health facilities falling under Government of Kenya (GOK) and City Council of Nairobi (CCN), NGOs, mission and private clinics. The study was carried out in facilities managed jointly by the City Council of Nairobi and Nairobi Health Management Board. The area was purposively selected because it is a cosmopolitan city with representation of people with diverse socio-cultural and economic status. Other studies on

IUCD has been conducted in other regions like Nyanza, western and rift valley in the recent past

### **3.4 Target Population**

The study targeted all women of reproductive health age (15 to 49 years) who lived in Nairobi at and the health care providers in the facilities during time of the study.

### **3.5 Study Population**

The study focused on all women seeking FP services and the randomly selected service providers in the study facilities in the period of data collection.

### **3.6 Sampling Techniques and Sample Size**

#### **3.6.1 Sampling Techniques**

Multistage sampling was used to select the study facilities. The researcher found that Nairobi was both a city and a district administratively. The city was divided into eight administrative divisions according to provincial administration. However, the City Council of Nairobi and Provincial Medical office in Nairobi equated each administrative division to a district for health administrative purposes. Each district was headed by a Medical doctor of Health who headed the District Health Management Team. The eight districts included Dagoretti, Kibera, Westlands, Kasarani, Central, Makadara, Pumwani and Embakasi. Four out of eight districts were randomly selected. The selected districts included Makadara, Langata, Kasarani and Dagoretti. Within the randomly selected districts, all the health facilities were identified and those that were expected to offer IUCDS services were 18 .These facilities were expected to

have trained IUCD service providers and special equipments for IUCD method insertion. Random selection was done among the 18 and 6 health centers were picked as representatives of all health centers in the districts. The six randomly picked health centers included Karen H/C, Langata H/C, Riruta H/C, Makadara H/C, Mathare North H/C, and Kariobagi North H/C. The health centers were used because they were primary level health facilities serving referral cases from the dispensaries that lacked facilities for IUCD services. According to MOH standards, the facilities were equipped and staffed to offer some specialized methods like IUCDs.

### 3.6.2 Sample Size Determination

The sample size was calculated using the formula recommended by Andrew A and Fisher J et al., (1991) for family planning operational research designs.

$$n = \frac{z^2 pq}{d^2}$$

Where: n was the desired sample size

z = standard normal deviate (1.96) which corresponds to the 95% confidence level

p = proportion of target population estimated to have a particular characteristic.

d = the level of statistical significance set

q = 1 - p = degree of accuracy desired usually set at 0.05

$$\text{Therefore } n = \frac{z^2 pq}{d^2} = \frac{1.96^2 \times (0.41 \times 0.59)}{0.05 \times 0.05} = \text{minimum 371 clients}$$

### **3.6.3 Proportional probability**

Proportion of FP seekers per selected facility was calculated by dividing three-month workload (January-March 2006) by the total clientele from the 6 Health Centers and multiplied with the sample size (371). This enabled this study to interview 65 clients at Langata Health Centre, 69 clients at Kariobagi Health Centre, 72 clients at Karen Health Centre, 34 clients at Makadara Health Centre, 73 clients at Riruta Health Centre, 69 clients at Mathare North Health Centre. Clients were interviewed randomly on certain selected days for each health centre. Every 3rd client was interviewed on the selected day after informed consent. Preliminary findings indicated that the study facilities had 2 to 3 trained service providers who were not always deployed in FP rooms. 12 Service providers who were found serving FP seekers on randomly selected days were interviewed.

### **3.7 Research Instruments**

Structured interview guides (close ended) were used to collect data from clients on exit. Data from service providers was collected through use of an in-depth interview guide. A structured observation chart for additional information on facility infrastructure was used. The tools were improved after the piloting until the researcher was satisfied (Appendix 5.1, 5.2 and 5.3). The tools were written in English and were used by assistants who could interpret them in Kiswahili without change of meaning.

### **3.8 Pilot Study**

After correcting the interview guides and in-depth interview guides, the tools were piloted using a group of subjects from three different facilities to ensure validity and reliability. A total of 50 clients were interviewed. Subjects were interviewed from the following pilot health centres: Westland's-15, Ngara-12 and LungaLunga-23.

#### **3.8.1 Validity**

To ensure that the results of the study were valid pre-testing was done in three different health centers. Appropriate collective measures in regard to research questions, broad objective, and specific objectives were addressed. Open-ended questions were closed. Irrelevant questions and choices were dropped from the list and reframing was done to capture relevant information. Scrutiny of the pre-tested information and adjustment of the study instruments was done. Second opinion and peer scuritization of the information on research instruments ensured accuracy, relevance, completeness, consistency and uniformity of the data.

#### **3.8.2 Reliability**

To ensure that the study results were accurate and consistent, research assistants were trained for three consecutive days. They were also engaged in the pre-testing exercise to familiarize themselves with the study tools, the clients and health facilities. The generated data was analyzed using a statistical package to ensure study questions were answered. Double checking was done to ensure all responses were entered correctly.

### **3.9 Data Collection Technique**

Data was collected through structured interview guides that were administered to family planning clients seeking services on exit during the period of data collection only. The structured in-depth interview guides were administered to the health providers to obtain information on their perceptions regarding IUCDs and the process of their use. A structured observational chart was also used to collect additional information about clients and facilities infrastructure. All the tools were prepared in English. The collection of data followed the recruitment and training of research assistants, piloting and review of the questionnaire.

### **3.10 Inclusion and exclusion criteria**

#### **3.10.1 Inclusion Criteria**

The study included all FP seekers who sought family planning services at the selected health centers managed by Nairobi Health Management Board.

#### **3.10.2 Exclusion Criteria**

All FP seekers not randomly selected for interview on the selected days. FP clients who refused to be interviewed and women seeking services not related to family planning services were also excluded

### **3.11 Ethical Consideration**

Permission was sought and approved by Kenyatta University, Ministry of Education, and Ministry of internal security and provincial administration, Ministry of Health, Nairobi

Provincial Medical Office, Nairobi Health Management Board, District Medical Officers of Health and facility managers. Informed consent was also sought from FP clients and participating FP service providers.

### **3.12 Data Analysis**

Data was analyzed using SPSS software. Descriptive statistics such as mean percentages, frequencies were used. Chi-square test was used to determine the relationships between IUCDs use and independent variables such as age, religion, marital status, level of education, occupation and income levels. The data on 374 respondents was analyzed. Tables arising from analysis of the data were used as the basis for this report. Statistical significance between variables was indicated in italics below corresponding table or figure. A significance value (typically below 0.05) indicates that there was a relationship between the two variables.

## CHAPTER 4: RESULTS

### 4.1 Introduction

This chapter focuses on the analyses and study findings. The data was analyzed using the SPSS and the findings are reported in frequency distribution tables, percentages, bar graphs and pie charts according to the study objectives

### 4.2 Demographic Characteristics of the Respondents

Respondents' demographics and data were assessed to describe their characteristics. The ages of participants ranged from 17 to 48 years. The mean age of the respondent was 28.25. the Standard Deviation was 6.6. Majority of the respondents were 21 to 30 years old (61.5%) years. The majority of the respondents were Christians among which 65.5% were Protestants and 34.2% were Catholics. Only 0.3% reported to be Muslims (Table 4.1).

Education level of women interviewed is showed in Figure 4.1. It can be seen that majority 29.9% completed primary school. 23% of the respondents had attempted secondary education but dropped out for various reasons. Those who completed secondary school were only 20.3% and above secondary were only 11.8%. A small number of respondents 2.5% had never seen the inside of a classroom.

The findings also indicated that majority of the respondents seeking FP services in the study facilities were married women (91.7%). Majority of them were unemployed (52.7%) and others had small business (25.1%) while yet others were seasonal workers (15.2%). A few of

them had formal career jobs 6.9%. The respondent's earnings were meager with majority surviving with less than 1000 Kenya shillings translating to earn below three dollars a day associated with abject urban poverty. Only 7.8% earned more than 10,000 Kenya shillings a month which was very low (Figure 4.1). The study results also indicated that the highest number of respondents had 2 children (61.4% followed by those with 3-5 children 32.4%. However, 3 respondents (0.8%) were reported to have more than 7 children in their families (Table 4.1).

Table 4.1

<b>Respondents Age</b>	<b>Frequency</b>	<b>Percentage</b>
≤20	39	10.4%
21-30	230	61.5%
31-40	82	21.9%
41 and above	23	6.2%
<b>N=Total</b>	<b>374</b>	<b>100%</b>
<b>Religion of respondents</b>	<b>Frequency</b>	<b>Percentage</b>
Protestants	245	65.5%
Catholics	128	34.2%
Muslims	1	0.3%
<b>N=Total</b>	<b>374</b>	<b>100%</b>
<b>Respondents level of education</b>	<b>Frequency</b>	<b>Percentage</b>
No-formal education	8	2.5%
Primary incomplete	48	12.8%
Primary complete	112	29.9%
Secondary incomplete	86	23.0%
Secondary complete	76	20.3%
Above secondary	44	11.8%
<b>N= Total</b>	<b>374</b>	<b>100%</b>
<b>Marital status of the respondents</b>	<b>Frequency</b>	<b>Percentage</b>
Single	27	7.2%
Married	343	91.7%
Separated	3	0.8%
Divorced	1	0.3%

<b>N= Total</b>	<b>374</b>	<b>100%</b>
<b>Respondents occupation</b>	<b>Frequency</b>	<b>Percentage</b>
Un-employed	197	57.7%
Business women	94	25.1%
Seasonal jobs	57	15.2%
Nurses	17	4.5%
Teachers	9	2.4%
<b>N= Total</b>	<b>374</b>	<b>100%</b>
<b>Respondents Income</b>	<b>Frequency</b>	<b>Percentage</b>
≤1000	214	57.2
1001-3000	58	15.5
3001-5000	33	8.8%
5001-7000	19	5.1%
7001-10.000	21	5.6%
>10.000	29	7.8%
<b>N=Total</b>	<b>374</b>	<b>100%</b>
<b>Respondents number of children</b>	<b>Frequency</b>	<b>Percentage</b>
1-2	230	61.4%
3-4	121	32.4%
5-7	20	20%
7 and above	3	0.8%
<b>N=total</b>	<b>374</b>	<b>100%</b>

### 4.3 Relationships of independent Variables and IUCDs use

#### 4.3.1 Relationship of Age and Respondents' use of IUCDs

The relationship between age and use of IUCDs was obtained by applying Chi-square test.

The study findings indicated that IUCDs users were 20.6% compared to 79.4% non users

.Women of 20years and below were the least users of IUCDs. This may be associated with

parity and high sexual risk in this category. Many of the women have no established

relationships and IUCDs are thought not be ideal for nulliparous whose uterine cavity is teal

not adequate and chances of expulsion are high. From the results, a significant relationship existed between age and IUCDs use as Chi square was  $\chi^2 = 87.747$ ,  $p = 0.000$ ,  $df = 2$ ; (2Tailed). Table 4.2 illustrates the relationship between age and IUCDS use.

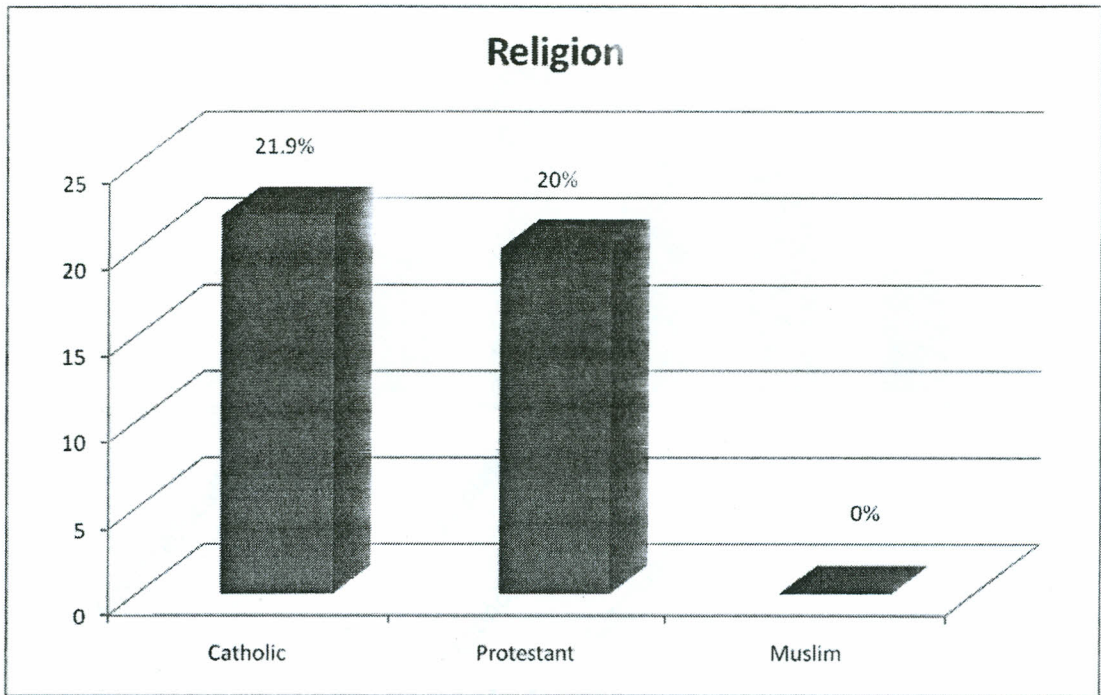
**Table 4.2: Relationship of Age and Respondents use of IUCDS**

Age Group	Ever used an IUCDS		Total
	Yes	No	
≤20	0.3%	10.2%	10.4%
21-25	2.7%	24.9%	27.5%
26-30	4.5%	29.4%	34.0%
31-35	4.0%	10.4%	14.4%
36-40	4.8%	2.7%	7.5%
41-45	3.5%	1.3%	4.8%
45+	8%	5 %	1.3%
Total	27.8%	83.9%	100.0%

$\chi^2 = 87.747$  and  $p = 0.000$   $df = 2$  (2Tailed)

#### 4.3.2 Religion of the Respondents and IUCDs Use

The study findings indicated that Catholics (21.9%) were the highest users of IUCDs as compared with Protestants (20%) or Muslims 0%). Among the study respondents the Muslim faithful seeking FP services were very few. The study findings indicated that religion had no significant influence on use of IUCDs as Chi-square was  $\chi^2 = 0.441$ ,  $p = 0.802$ ,  $df = 2$ ; (2Tailed) (Figure 4.1). The difference of Catholics and the protestants who used the device was very little.

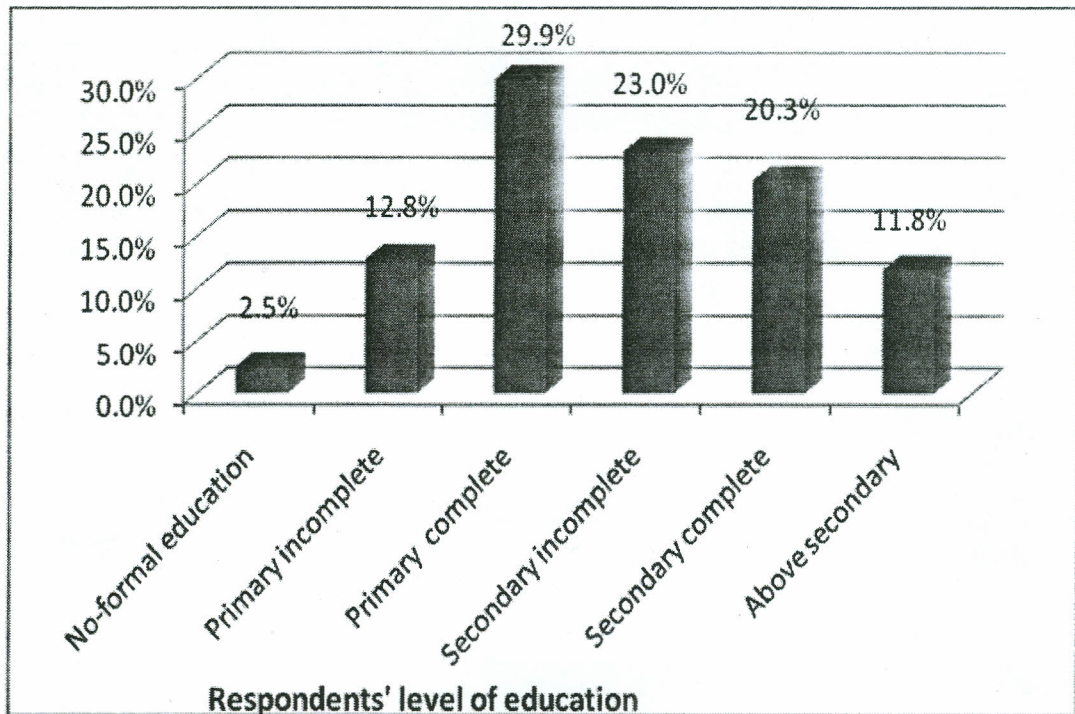


$\chi^2 = 0.441, p = 0.802, df = 2; (2Tailed)$

**Figure 4.1: Religion of the Respondents and IUCDs Use**

#### 4.3.3 Education Level of the Respondents and IUCDs Use

The respondents' level of education was determined by assessing the highest levels of education achieved. The levels were put into three categories as, no-formal education, primary incomplete, complete primary, incomplete secondary, and secondary complete and above. The study found that majority of the respondents who used IUCDs were in the categories of those who completed primary education level of education (29.9 %) primary complete 29.9%, secondary incomplete 23.0%, and above secondary 11.8% compared with the lowest category of no formal education (2.5%). The results indicated a high significant relationship between level of education obtained and use of IUCDs as indicated by the statistical inference  $\chi^2 = 30.429; p \text{ value} = 0.000012$  (Figure 4.2).



$\chi^2=30.429$ ; p value=0.000012; df=6

**Figure 4.2: Education Levels of the Respondents and IUCDs Use**

#### 4.3.4 Relationship between Marital Status of the Respondent and Use of IUCDs

Respondents' marital status were established and categorized into 5 groups as single, married, and separated, divorced and widowed. The study found that majority of the respondents were married (91.7%) compared with (7.2%) single women. The results indicated that single women were less likely to have used the IUCDs (7.0%) compared with married women (71.1%). Most women lived a married life and were likely to have higher fertility late compared with single, separated and divorced women (Table 4.3) The results indicated a significant relationship of marriage and IUCD use. As chi-square was  $\chi^2=6.13$   $p=0.047$   $df=2$  indicating a married woman was likely to use IUCDs more than a single, divorced or separated woman. (Table 4.3 next page)

Marital status	Ever used IUDs		Total
	Yes	No	
Married	20.3%	71.1%	91.7%
Single	0.3%	7.0%	7.2%
Separated	0	0.3%	0.8%
Divorced	0	0.3%	0.3%
widowed	0	0	0
Total	20.6%	78.7%	100%

$\chi^2=6.13$   $p=0.047$   $df=2$

**Table 4.3 Relationship between marital status and IUCD use**

### 4.3.5 Relationship between Respondents' Number of Children and IUCDs Use

To establish number of children the woman had, women were requested to tell the number of children they had. The number of children was classified into three groups of 1-2, 3-4, and above 5. The mean number of children per woman was 2.36. The results indicated that the highest number of respondents who ever used IUCDs were in the category of 3-4 children (33.1%). Majority (95.2%) of the respondents who never used IUCDs were in the categories of 1-2 children. Relationship results was  $\chi^2=50.77221$  and  $p=0.000$ ,  $df=2$ ; (2Tailed) indicating there was a high significant relationship between number of children and IUCDs use among the study respondents. The more the number of children a woman had, the more the likelihood to use an IUCD (Table 4.4).

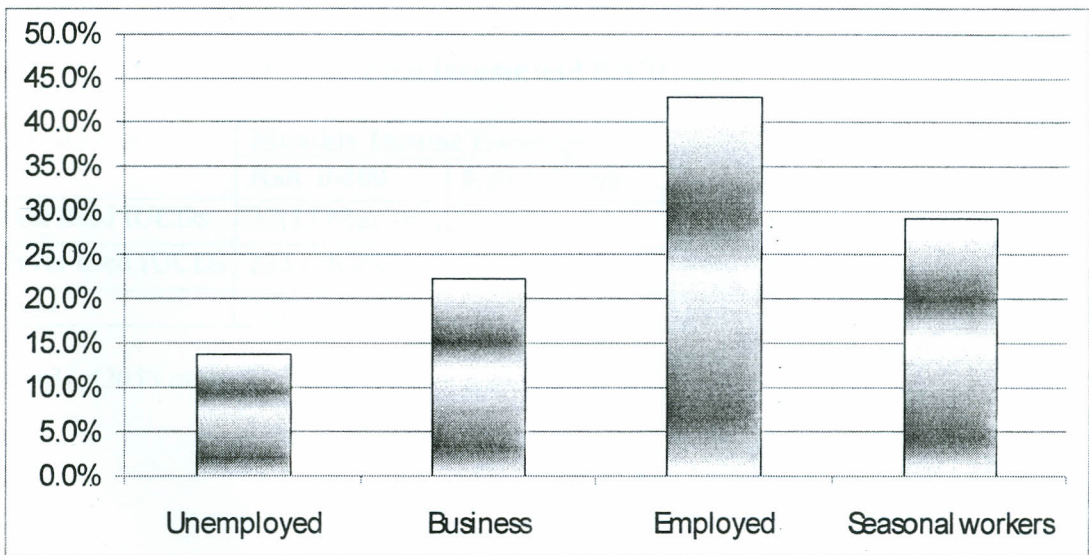
**Table 4.4: Relationship between Respondents' Number of Children and IUCDS Use**

IUCDS use	Respondents number of Children			
	1-2	3-4	5+	Total
Ever used IUCDs	11(4.8%)	40(33.1%)	5(22.7%)	56(15.0%)
Never Used IUCDs	219(95.2%)	81(66.9%)	17(77.3%)	317(85.0%)
Total	230 (100%)	121 (100%)	22 (100%)	373(100%)

$\chi^2=50.77221$ ,  $p=0.000$ ,  $df=2$ (2Tailed)

#### 4.3.6 Respondents' Occupation and use of IUCDs

Respondents were classified into four categories as housewives, business women, employees and seasonal workers. The results indicated that the majority of IUCDs users were employed women (42.9%) compared with housewives (13.7%). The unemployed women were the highest non users of IUCDs (86.3%) compared with employees (57.1%). Statistical relationship results was  $\chi^2=16.95656$ ;  $p=0.0007$ ,  $df=3$ ; indicating a significant relationship between respondents occupation and use of IUCDs among study respondents (Figure 4.3). So the women with formal job were more likely to use IUCDs than the women who had no formal jobs.



$\chi^2=16.95656$ ;  $p\text{-value}=0.0007$

Figure 4.3 Respondents Occupation and IUCDs USE

### 4.3.7 Relationships between Income and IUCDs use

To establish relationship of women's monthly earnings and IUCDs use, results indicated that the highest number (40.5%) of respondents who used IUCDs earned Ksh.5000 and above per month compared with (13.6%) who earned below three thousands. The highest (86.4%) who never used IUCDs were those earning below Kshs. 3000, a low income bracket. The study findings indicated a highly significance relationship between respondents income and use of IUCDs as shown by Chi-square of  $\chi^2 = 31.42055$ ;  $p = 0.000$ ,  $df = 2$ ; (2Tailed) (Table 4.5). The women who earned a modest monthly salary were more likely to use IUCDs than the other women who had no earnings.

**Table 4.5: Relationships between Income and IUCDs use**

IUCDS Use	Monthly Income Earnings			Total
	Ksh 0-300	Ksh 300-500	Ksh 5001 plus	
Ever used IUCDs	37(13.6%)	9(27.3%)	30(43.5%)	76
Never used IUCDs	235 (86.4%)	24(72.7%)	39(56.5%)	298
Total	272 (100%)	33 (100%)	69 (100%)	374

$\chi^2 = 31.42055$  and  $p = 0.000$   $df 2$ ; (2Tailed)

#### 4.4 Awareness, sensitization and counseling of respondent's on Contraceptives

##### 4.4.1 Respondents Awareness of Contraceptive Methods

The findings of the study showed that virtually all respondents knew about pills (98.7%) and injectables (99.2%). Three quarters of the respondents cited to know IUCD method as a device inserted inside the uterus of the woman and condoms at 76.7% and 81% respectively (Figure 4.4).

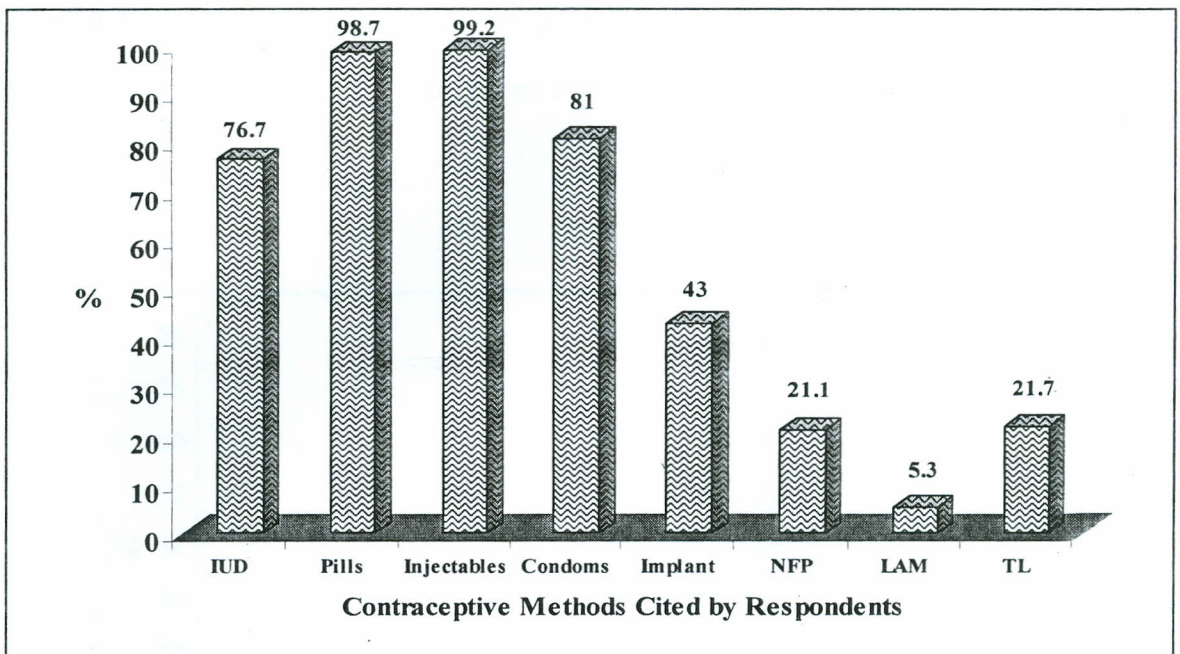
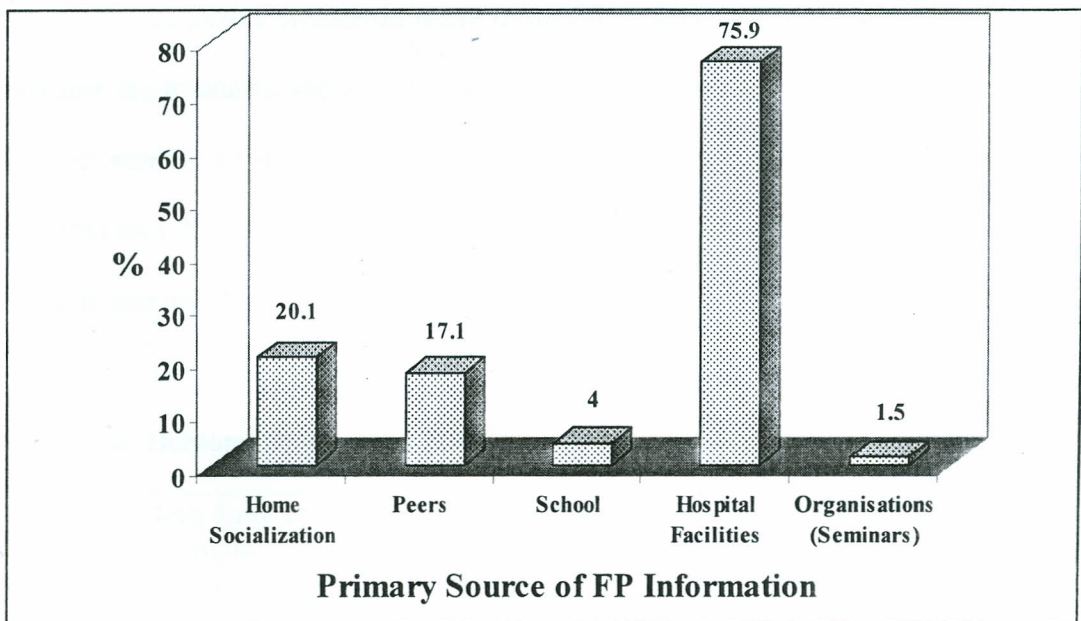


Figure 4.4: Awareness of Contraceptive Methods

#### 4.4.2 Respondents Sensitization on Family Planning Methods

The researcher solicited information from the respondents regarding first contact of information of FP methods. The findings of the study showed that majority (75.9%) of the respondents sought for the methods within health facilities and the least learnt about the contraceptives in school (4%) In the health facility most women seeking FP services are the married ones. The women who were under twenty could have been trapped into marriages because of teenage pregnancy. In schools only (4%) said they were sensitized on FP in school. Schools should be proactive in sensitizing girls a bout family life and family planning. Organizations (1.5%) are not also proactive in FP issues affecting women and those that deal with women target women groups which comprises of mature and mostly married women.(Figure 4.5).



**Figure 4.5: Respondents Sensitization on Family Planning Methods**

#### 4.4.3 Description of IUCDs by Respondents

Respondents were asked to state what an intrauterine device was with a view to assess their level of knowledge on the device. Majority of respondents (63.1%) were able to state that it is a contraceptive method that is usually placed in the uterine cavity. Though some knew it was inserted in uterus, they had never seen it. Of concern was that of about 36.9 % respondents that did not know anything about the device. Relationship between the use of an IUCD and the respondents' awareness about it depicts a highly significant value of Chi-square  $\chi^2 = 0.293$  and  $p$  of 0.01,  $df$  2 (2Tailed).

#### 4.4.4 Demonstration of an IUCDS to Respondents during Counseling

Demonstration of all the contraceptives and their use is of paramount importance during counseling to enable women to make informed choices. When the respondents were asked whether the providers had ever demonstrated to them how the intrauterine device works, the highest number of women (48.7%) said that no demonstration had ever been done while (40.1%) said that demonstration was done. The results about the demonstration on IUCD by the provider are shown in Table 4.6.

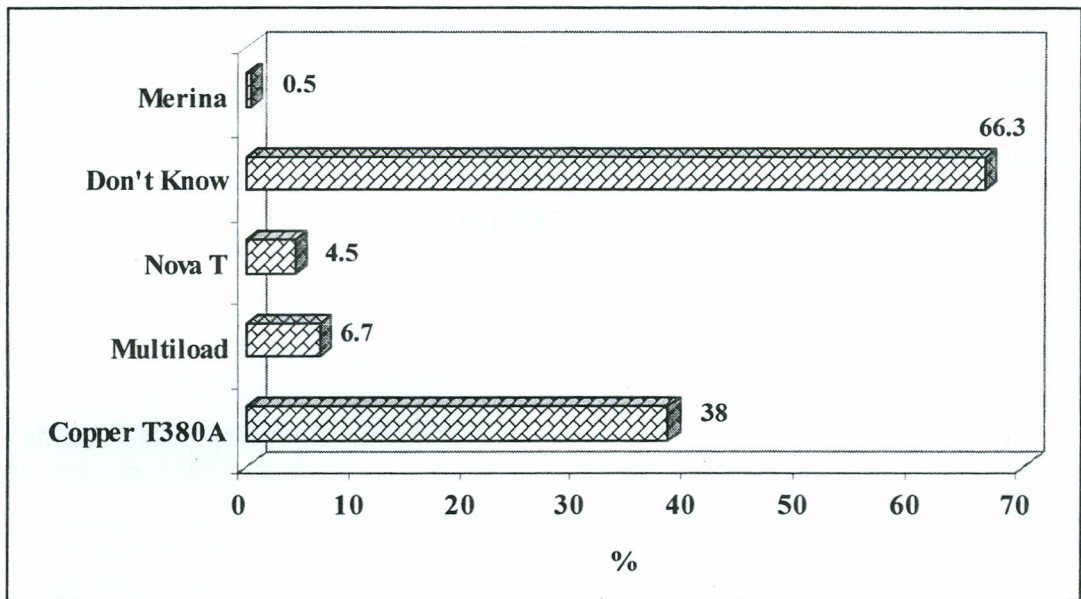
**Table 4.6: Demonstration of an IUCDS by the Provider during counseling**

<b>Demonstration done by use of</b>	<b>Frequency</b>	<b>Percentage</b>
Real IUCDs sample	157	40.1%
No demonstration	182	48.7%
Diagram	50	13.4%
Video	4	1.1%
Total	374	100

**(NB: Multiple Entry Allowed)**

#### 4.4.5 Respondents' awareness of types of IUCDs available

To find out if the respondents knew different types of IUCDs a question was posed to respondents to verify the types of IUCDs they knew. The highest number (66.3%) said they do not know any type while the lowest (0.5%) said they know Mirena. However, majority of women (38%) knew the Copper T 380A but not other types (Figure 4.6).



(NB: Multiple Entry Allowed)

Figure 4.6: Awareness of Types of IUCDs as Cited by the Respondents

#### 4.4.6 Respondents views of IUCD as a Method of Contraception

Women's position regarding use of IUCDs was determined by assessing responses from three designed categories namely agree, disagree and don't know. The study findings indicated that majority of the respondents (72.9%) were not aware of IUCD being part of FP method with no hormones. A number of IUCD previous users disagreed that fertility returned immediately from their experience (5.6%) and majority did not know about the fertility return issue. Some respondents (36.4%) agreed that IUCD was a good method for only partners who are faithful to each other (Table 4.7). The return to fertility after removal is immediately but this may be affected by the age of the woman. If the woman is in the forties her fertility rate is known to have reduced a bit in some cases and that was the reason why probably some women took long or never conceived after removal of IUCD,

**Table 4.7: Respondents Views of IUCD as a Contraception method**

Attitude to IUCDs Method	Agree	Disagree	Don't Know
IUCDs is only a good method for faithful partners	136 (36.4%)	5 (1.3%)	233 (62.3%)
Using IUCDs does not interfere with a woman's c	109 (29.1%)	11 (2.9%)	254 (67.9%)
IUCDs do not interfere with sex	105 (28.1%)	25 (6.7%)	244 (65.2%)
IUCDs are good for all women and especially sensitive to hormonal methods	96 (25.7%)	6 (1.6%)	272 (72.7%)
IUCDs are safe for spacing and limiting birth	85 (22.7%)	96 (25.7%)	193 (51.6%)
IUCDs offer Immediate return to pregnancy upon removal	63 (16.8%)	21 (5.6%)	290 (77.5%)

#### 4.4.7 Contraceptive Methods Use by Respondents in the Facilities

When the respondents were assessed on the methods they were currently using, the highest number of the clients said they were on injectable hormones (59.6%). Respondents who confirmed they were currently using IUCDs were (10.4%) (Figure 4.7).

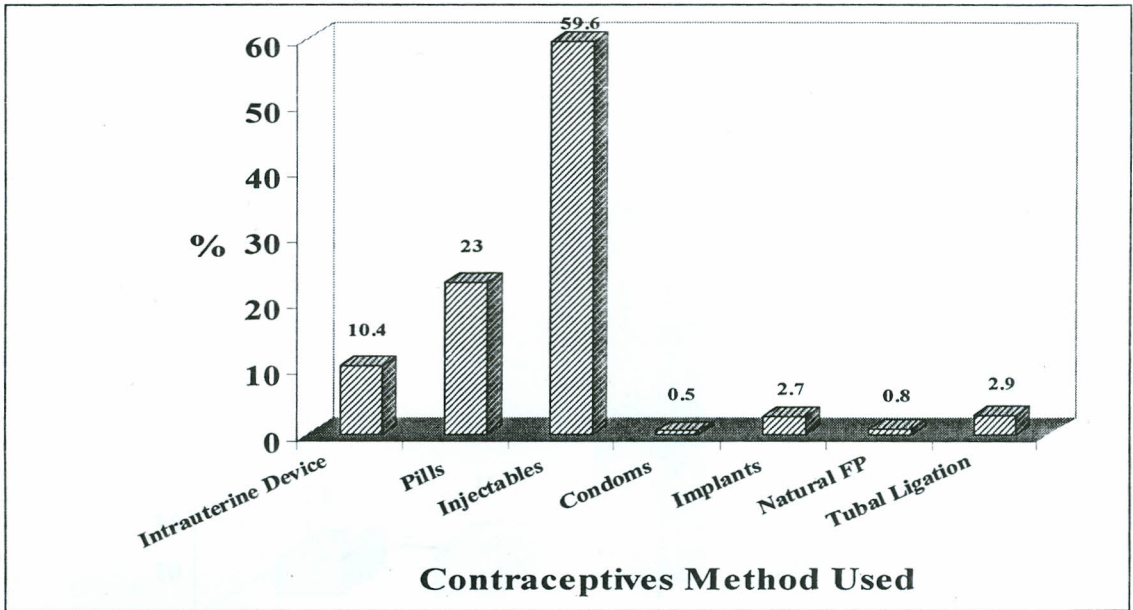


Figure 4.7: Contraceptive Methods Use by Respondents in the Facilities

#### 4.4.8 IUCDs Method Utilization by Respondents

The respondents were asked to state whether they ever had used an IUCD as a contraceptive. The findings showed that the highest number of respondents (80%) have never used IUCD as a contraceptive method. The current users were (8%), previous users were (10%) and that only (2%) doubled as previous and current IUCDs users (Figure 4.8).

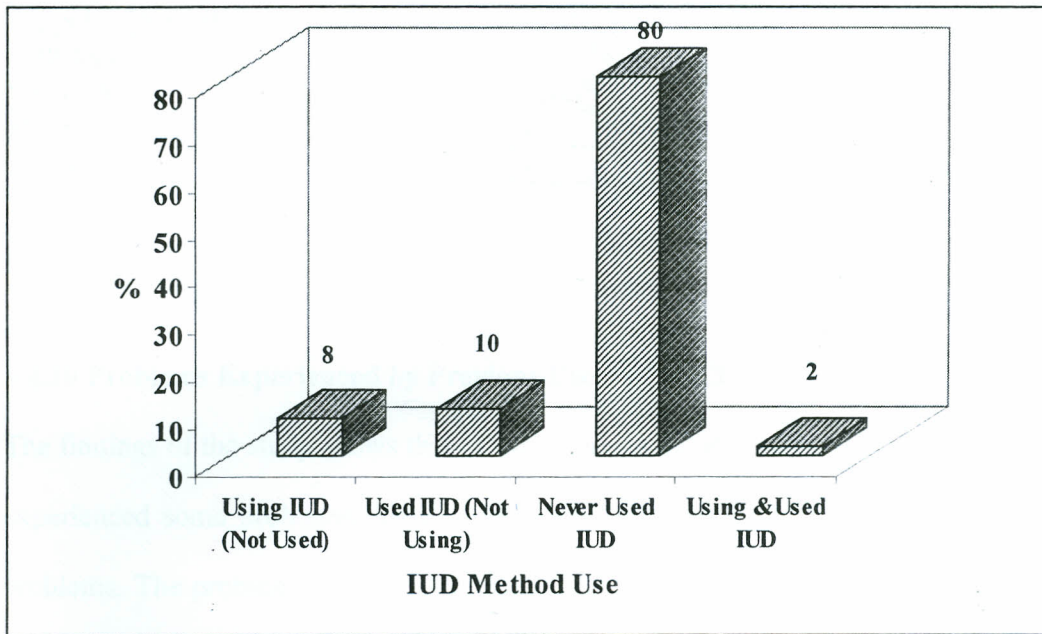


Figure 4.8: Respondents IUCD Method Use

#### 4.4.9 Utilization of different Types of IUCDs by Current /Previously Users

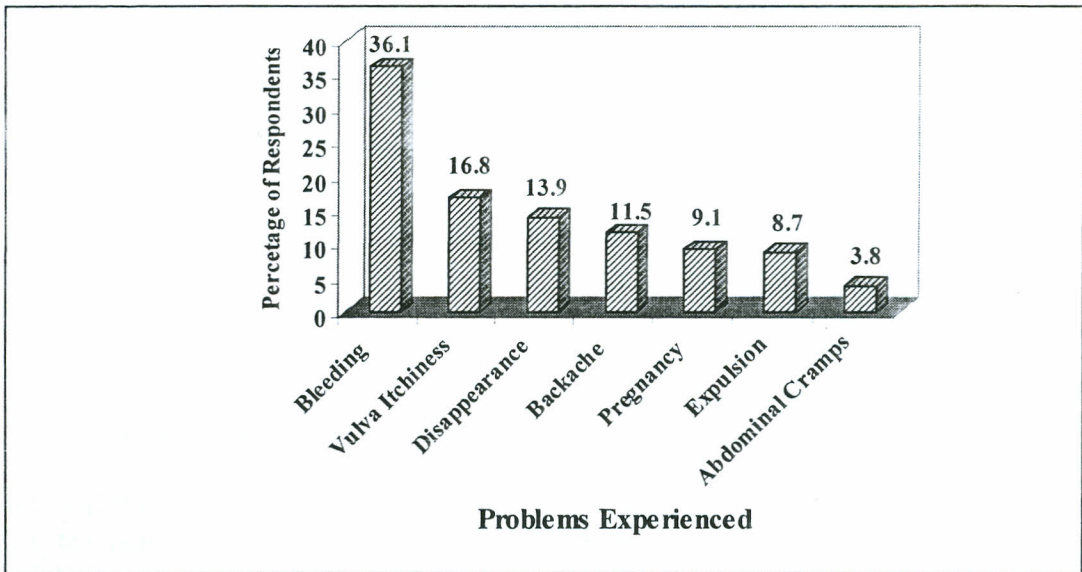
Regarding type of IUCDs client used, majority 40 (11.1%) affirmed having used copper T 380A. Another (1.9%) used multi-load and (0.7%) had used Nova T (Table 4.8).

**Table 4.8: Types of IUCDs and Duration Used by Current /Previous Users**

IUCDS Types	Duration effectiveness	Previous IUCD users	Previous/current users
		Frequency/percentage	Frequency/percentage
Copper T Cu-380 A®	12 years	40(11.1%)	35(9.4%)
Mult-load-MLCu 375®	5 years	5(1.9%)	3(0.1%)
Nova T®	5 years	2(0.7%)	1(0.3%)
Mirena LNG-IUCD®	5 years	0	0
Gynefix®	8 years	0	0

#### 4.4.10 Problems Experienced by Previous Users of IUCDs

The findings of the study shows that of the respondents who had previously used IUCDs had experienced some problems. This implies that the use of IUCDs is definitely not without problems. The problems experienced by those that have previously used IUCDs imply that they may not wish to go for IUCDs later. Additionally, they may discourage other women from using IUCDs and this could explain why IUCDs use has gone down. Among others, the respondents experienced heavy bleeding (36.1%), vulva itchinness (16.8%), translocation (13.9%) and backache (11.5%) (Figure 4.9).



**Figure 4.9: Problems Experienced by Previous Users of IUCDs**

#### 4 4.11. Handling respondents IUCD complications

Majority of the respondents that experienced problems while on IUCD had their problems sorted out by providers (68.8%). The study finding showed that providers are not always able to sort out clients' problems (Table 4.9).

**Table 4.9: Sorting out IUCDs related problem sat the facilities**

Sorting out respondents problems	Frequency	Percentage
Yes	22	68.8 %
No	10	31.3 %
Total	32	100

#### 4.4.12 Referral for Further Management

Out of the number of the respondents whose problems could not be sorted out by the providers, half of them were referred to private doctor's clinics which are not within reach of majority of the clients (Table 4.10).

**Table 4.10: Referred for Further Management**

Referral Places	Frequency	Percentage
Private Doctors Clinic	5	50.0 %
At KNH	2	20.0 %
District Hospital	2	20.0 %
Family care clinic	1	10.0 %
Total	10	100

#### 4.4.13 Method switched to by previous IUCDs users

The study found that most of the respondents who stopped using IUCDs switched to Tubaligation (2.9%). Others still switched to IUCDs (2.4%) and others to injectable-Depo-Provera (2.4%). Only (0.5%) switched to use of pills (Table 4.11).

**Table 4.11: Method switched to after removal of IUCDs**

Method used later	Frequency	Percentage
TL	11	24.4%
IUCDs	9	20%
Injectables	9	20%
Condoms	7	15.6%
Natural FP	4	8.8%
Implants	3	6.7%
Pills	2	4.4%
Total	45	100

#### 4.4.14 longest time IUCD Current users have ever used in years

The study found that majority were between 1-5 years (46.1%) of using the IUCDs and one was in the eleventh year of using the IUCDs (Table 4.12).

**Table 4.12: Longest time IUCD Current users have ever used in years**

Length of time in years (N=39)	Frequency	Percentage
Less 1	11	28.2%
1-5	18	46.1%
6-10	9	23.0%
11+	1	2.7%
Total	39	100

#### 4.4.15 Respondents currently on IUCDs satisfaction

To determine the experiences of the current users, respondents were categorized in two columns as satisfied and not satisfied. The study findings pointed out that majority (89.7%) of IUCD users were satisfied using IUCDs as a contraceptive method (Table 4.13).

**Table 4.13: Respondents IUCDs satisfaction**

Status	Frequency	Percentage
NO satisfied	35	89.7%
NO. Not satisfied	4	10.2%
Total	39	100

## 4.5 Other Factors Deterring Respondents usage of Intrauterine Devices

### 4.5.1 Reasons that prompted the IUCDs users to stop using the IUCDs

Majority of the respondents stopped using an IUCD because husbands disapproved (41%). The others asserted that they feared method failure leading to unplanned for pregnancy 17%. Others removed because they reacted to the TCU 380A (11%) while others wanted another child (11%) (Figure 4.10).

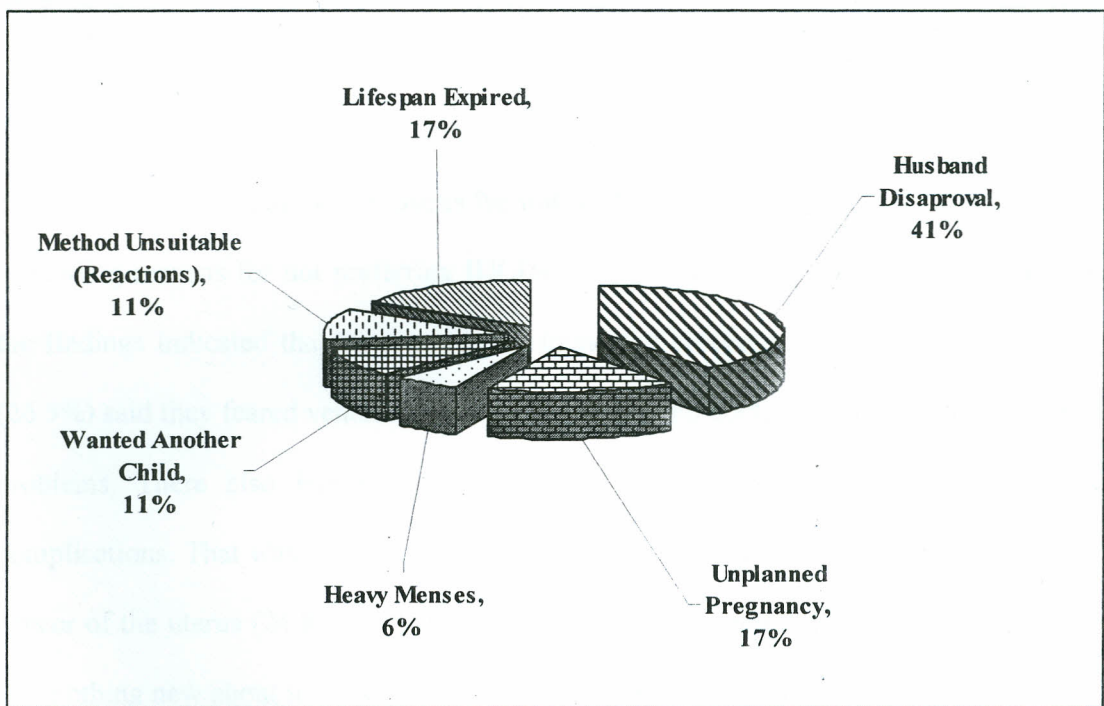


Figure 4.10: Reasons that Prompted the Respondents to Stop Using the IUCDS

#### 4.5.2 Future IUCDs Contraceptive plans by Non IUCDs-users'

The study found that majority, (73.8%) of respondents were not ready to use IUCDs in the future as contraception. Only (26.2%) said they would consider using IUCDs if well informed about it (Table 4.14).

**Table 4.14: Respondents' IUCD use future consideration**

<b>Future consideration</b>	<b>Frequency</b>	<b>Percentage</b>
No	254	73.8%
Yes	90	26.2%
Total	344	100

#### 4.5.3 Non-user respondents' reasons for not preferring IUCDs

Regarding reasons for not preferring IUCDs as a contraceptive method by the respondents, the findings indicated that most non users found the procedure unfriendly (26.5%). Others (26.5%) said they feared venturing because there were no doctors at the site to deal with their problems. There also lacked a referral centre within the districts to cater for undue complications. That was followed by respondents' belief that the method spoiled and caused cancer of the uterus (24.8%). Others (13.4%) said there were other better methods and there was nothing new about it. Other reasons are clearly indicated (Table 4.15).

**Table 4.15: Non-users' reasons for not preferring using IUCDs**

<b>Near using IUCDs because of following (Never used only) n</b>	<b>Frequency</b>	<b>Percentage</b>
Lack of referral centers within the district to deal with IUCD complications	79	26.5%
The procedure usually cumbersome and unfriendly to users	79	26.5%
IUCD may spoil the womb causing cancer of the uterus	74	24.8%
Conceiving with IUCD still inside	68	22.8%
Uncertainties and complications related to IUCDs	62	20.8%
Client who chose to use IUCDs served last	58	19.5%
Religious cautioning	58	15.3%
Fear of Translocation of IUCD	56	18.8%
There are other better methods	40	13.4%
Method suitable for very clean women	22	7.4%

**(NB: Multiple Entry Allowed)**

#### **4.6 FP Service Providers Perspectives on IUCD Method Provision**

##### **4.6.1 Human Resource management**

Among the service providers interviewed, (100%) said they work on rotation basis. This made the trained service providers be deployed in any other area. The few staff in a facility must be distributed to shifts to cover the facility for 24 hours ever day in the calendar year especially where the facility offered maternity services. The facilities were divided into departments to meet needs of different health care seekers on daily basis. The SPs' in most times in a shift were allocated to cover two departments, e.g. like maternity and FP room where a facility offered maternity services. There was gross lack of commitment among providers. In one study facility health care seekers were chased a way by arrogant SP once the benches got full in the morning saying that was enough for the day. The managers were not fully involved in managerial functions. They were busy substituting the areas with shortage within the facility they administered. The workers gave preference to solving their social problems with minimal excuses.

#### **4.6.2 Staff training and updates in family planning**

Service providers who were found providing services were interviewed on different days. The study results indicated that (75%) of the SP in the facilities had not undergone the family planning training course where they ought to have learnt IUCDs insertion procedure. All the SP (100%) interviewed said they had never attended an update in FP course. During updates, information on policies guidelines and standards Protocols, policies, guidelines and standards is passed. The facilities lacked family planning job guides. Those who have seen one said they have not been updated on how to use the new job guide.

#### **4.6.3 Presence or absence of menses before IUCDs insertion and removal**

Regarding presence of menses during insertion and removal procedures, the study found that virtually all respondents (100%) said the clients must proof they are not pregnant by presence of menses.

#### **4.6.4 IUCDs insertion kits**

When service providers would prefer to use disposable rather than reusable IUCDs insertion tools kits (100%) according to study findings. The preference was due to what providers viewed as association with less involvement and standards in quality assurance. The results indicated that 60% of the providers were not sure that the Infection prevention standards were adhered to especially because equipment like the autoclaves were never serviced.

#### 4.6.5 Hindrance to performance of service providers on provision of IUCDs

Majority of the service providers (30.8 %) responded that lack of a centre equipped with a support system to validate the actual position of IUCDs periodically affected their performance in IUCDs service provision. Lack of community linkage 30.8%, varieties of IUCDs 28.7%, lack of training and updates 25.6%, equipment and supplies 25.6% among others were cited by study subjects (Table 4.16).

**Table 4.16: Current hindrance to performance of service providers on provision of IUCDs**

Hindrance to performance of SP on provision of IUCDs (N=12)	Frequency	Percentage
Lack of referral center equipped with a support systems e.g. Ultra sound	12	30.8 %
Lack of community participation& involvement	12	30.8%
Lack of IUCDs varieties	11	28.7 %
Lack of supportive supervision	11	28.7%
Lack of trainings and updates	10	25.6%
Lack of equipments & supplies	10	25.6%
Motivation problems	3	7.7%
Change of preferences among users	3	7.70%

## **4.7 OBSERVATIONS ON INSTITUTIONAL INFRASTRUCTURES**

### **4.7.1 Facilities Infrastructure**

The researcher observed that the facilities were not well kept and the environment was not friendly to users. The rooms had not seen a coat of painting for a very long time. Almost all the health facilities lacked flowing tap water in the FP service room and the staff had to improvise using a five litre jerrican. The facilities had very poor security given that they had very weak fencing and some had no gates at all. The researcher found out that one of the facilities lacked adequate waiting bay for clients and the same facility did not provide privacy for the clients. There was backflow of clients in all the facilities.

### **4.7.2 Privacy**

Privacy was observed in most of the facilities visited. However, one H/C seriously abused the need for privacy in FP service provision. A bench was put inside the room and at least 5- 6 women sat on the bench awaiting the attention of the FP provider. For effective counseling to take place privacy is important.

### **4.7.3 Infection Prevention Practices**

Infection prevention was practiced but was far from ideal. The facilities lacked hand washing and drying facilities and improvised this by using a 5litres container where a syringe is used to supplement a tap . The recommended hand washing detergents were out of stock in all the study facilities. The IUCDs insertion kits were 1, 2 or 3 in most facilities and the date when the kits were lastly sterilized was missing. The IUCDs insertion kits were lousy, incomplete and not user friendly. Supplies necessary for insertion procedure were grossly missing and

any client who chose to use an IUCDs had to go buy cotton wool, soap and sodium hypochlorite before the insertion procedure. This led to missed opportunities since the client may not come back same day especially if menses phase out.

#### **4.7.4 Routine FP Practice related to Menses.**

The researcher observed that routinely every new client had to be on monthly period to prove she was not pregnant. There was no other proof and clients who presented without this evidence had to go without method. According to new practice in medical eligibility criteria a SP can use checklist to confirm if client is pregnant depending on the history of the client.

#### **4.7.5 Service Hours**

The clinics started serving clients from 9am to 12noon. It was observed that in most facilities clients were only seen in the morning hours between 9am to 1pm.

#### **4.7.6 First come first served observance**

This simple rule does not apply for IUCDs client in the study facilities. In case a client preferred an IUCDs she had to wait for all the other clients to be served. In one of the facilities the IUCDs clients had to wait for the nursing manager of the facility to come and insert the device because none of the other staff was competently trained to insert the device.

#### **4.7.7 Services Equipment**

In most facilities clients' blood pressure and weight are not checked because the devices were out of order. These are baseline data, a must for every client. These equipments were found to be missing in all study areas. The quality of care was grossly compromised in these facilities. All the facilities did not have the proper couch for IUCDs insertion procedure for the comfort of the client and provider, they lacked stirrup for legs positioning. The facilities also lacked the necessary angle poised lamps for proper viewing of the cervix during the insertion procedure. The researcher also found that majority of the facilities had only 2 or 3 IUCDs insertion kits.

#### **4.7.8 Average Number of IUCDs Insertions in the Facilities**

In some of the facilities only between 5 and 8 IUCDs are inserted on monthly basis while others only reported IUCDs removals only. The providers found it expensive to insert an IUCDs only to be removed after two days or the next month. Cost consideration in terms of labor and time also influenced the service providers in all the health centers.

#### **4.7.9 Visuals Aids and Other Communication Materials**

All the facilities lacked visuals aids and other information related to family planning information, educational and communication materials e.g. newsletters pamphlets, fliers. brochures for clients to read or carry home for spouses. There were pictorial hangings on the walls for clients to familiarize and realize they were in a family planning room. There was no informative information in terms of services provided; numbers served on monthly and

cumulative FP services hanged on the wall.. However, some facilities had a model uterus for demonstrating IUCDs insertion which was rarely used.

#### **4.7.10 Monitoring and Evaluation Tools**

A summary for RH monthly or quarterly tool was not available in the study facilities. No records of Meetings related to RH services and specifically on FP were available in all the facilities involved in the study. No feedback on whether facilities were doing better or reaching the targets both at district and facility levels. There was no monthly data collection tool and monthly method consumption either reporting tool. The district consumption family planning data was prepared on quarterly basis and taken straight to KEMSA by the deport manager's. At the district level the data was not analyzed and they had no control on what was to be delivered by KEMSA. The delivery of FP methods was done by push method rather than pool method.

All the study facilities had Family planning registers (MOH 512) and order books. In most facilities (4) the FP registers were balanced on monthly basis about the clients served on a particular method but a few (2) had FP registers that were not up to date. Facility monthly workload reports from the health facilities were brought to the District public health nurse in an improvised register (black quire book) and the facilities workload were not sent beyond city hall health office. The provincial team had no monthly data collection tool and nobody requested for family planning data in the national office. In the present time management of data is very important. All district headquarters were found to have a computer for data management but staff needs training in order to manage data properly.

## CHAPTER 5: DISCUSSION

### 5.1 The Demographic Characteristics of FP Respondents:

Respondents' demographics were assessed to describe their characteristics. The ages of participants ranged from 17 to 48 years. The mean age of the respondent was 28.25. Majority of the respondents were 21 to 30 years old (61.5%) years. The majority of the respondents were Christians among which 65.5% were Protestants and 34.2% were Catholics. Only 0.3% reported to be Muslims. Education level of women interviewed is showed in Figure 4.1. It can be seen that majority 29.9% completed primary school. 23% of the respondents had attempted secondary education but dropped out for various reasons. Those who completed secondary school were only 20.3% and above secondary were only 11.8%. A small number of respondents 2.5% had never seen the inside of a classroom.

The findings also indicated that majority of the respondents seeking FP services in the study facilities were married women (91.7%) who were also unemployed (52.7%). Others had small business (25.1%) and some did seasonal jobs (15.2%). A few women had formal career jobs 6.9%. The respondent's earnings were meager with majority surviving with less than 1000 Kenya shillings translating to earnings below three dollars a day. Only 7.8% earned more than 10,000 Kenya shillings a month which was very low for a career employee).The study results also indicated that the highest number of respondents had 2 children (61.4% followed by those with 3-5 children 32.4%. However, 3 respondents (0.8%0) were reported to have more than 7 children in their families. These figures indicate that women are still behind in social status compared with men and more advocacy and on women education should continue men given this study was done in Nairobi city and not a rural set up.

## 5.2 Relationships between demographic characteristics and IUCDs Use

There was a significant relationship between age and IUCDs use  $p= 0.000$ . The study concurs with findings of KDHS, (2003) survey results which reported that use of contraceptives increase with age. The study findings indicated that religion had no significant influence on use of IUCDs  $p= 0.802$ . The results indicated a significant relationship of marriage and IUCD use. As chi-square was  $\chi^2 6.13$   $p=0.47$   $df=2$ , a married woman was likely to use IUCDs than a single, divorced or separated woman. Results also showed that the risk of not using IUCDs method will decrease by increasing the women's education level. There was significant relationship between education attainment and IUCDs use  $p= 0.000012$ . Education had a significant impact on use of IUCDs and influenced use of IUCDs positively. Educated women were more likely to use the IUCDs than those with low or no education according to the findings of the study. The study done by Kurtz, *et al.*, (2002) found that low literacy level, poor knowledge of FP methods and widespread misconceptions on FP resulted to poor demand for services despite high unmet needs. The study findings also concur with study by (Saint, 2006) where education was found to be tightly linked to social and economic development of a person. These results also concur well with the KDHS, 2003 survey that reported that majority of women between age 15-49 had not gone beyond primary level of education and that use of contraceptive methods increase with education attainment. The study findings indicated that occupation influenced use of IUCDs positively. The chi-square statistical relationship results was *demonstrated a*  $p=0.0007$  indicating a significant relationship between respondents occupation and use of IUCDs among study respondents. The findings implied that the higher the income the more the likelihood of a woman to use an IUCDS. The study findings also indicate that majority of the respondents are in the low income bracket. The study findings indicated a highly significant relationship between respondents' income and use of IUCDs as shown by Chi-square  $p=0.000$ . The findings agree

with the second report on poverty where it was reported that 63.0% of females in urban areas live below poverty line (Republic of Kenya, 2000). Earnings of below Ksh 2.648 for an urban adult is said to be the minimum amount of money necessary for an adult to afford their basic food and non food requirements ( Republic of Kenya, 2006). There was a significant relationship between number of children and IUCDs use among the study respondents *as indicated by Chi-square  $p=0.000$* . The findings were similar to those of (Wang *et al.*, 2004) where family size was a strong influence to IUCDs use and failure. Majority (95.2%) of the respondents who never used IUCDs were categorized in the group of those with 1-2 children. The study found that majority of the study respondents had 2 children. The Fertility of women in urban areas is 3.3 children on average compared with 5.4 children in rural areas. The findings of the study concur with KDHS, 2003 survey findings that indicated that households in urban areas are small compared with rural households where majority have about 6 children.

### **5.3 Clients' Awareness, Sensitization and Counseling on IUCDs**

The findings of the study showed that virtually all respondents knew injectable Depo-Provera (99.2%) and pills (98.7%) respectively). More than three quarters of the respondents cited awareness of IUCDs 76.7% method and condoms 81% r. Majority of the clients used Depo-Provera injection. The method was popular among the service seekers because of some perceived benefits. These benefits include minimal or lack of menses. Lack of menses was a form of saving for the poor women. The providers were using this benefit to encourage clients to use depo-provera as contraception. In addition, most women were occasionally encouraged to switch to the injectables when the pills go out of stock which is very common in the public facilities. The findings did not concur with those of KDHS, 2003 where it was

reported that among all women age 15-49 years, the most widely known method was male condom 91% followed by pills at 90% and injectables (Depo- Provera) at 89%. This study concurs with the KDSH, 2003 results that had reported that the level of knowledge of some methods like female sterilization, IUCDs had declined slightly since 1998. demographic health survey. Clients only remembered IUCD and tuba ligations after probing. These findings also tally with those of (Stanback *et al.*, 1995) where SP in FP rooms were found to lack adequate counseling skills, and therefore clients did not chose methods on informed choice basis.

The study findings also indicated that there was little sensitization on FP outside the health facilities. Majority of respondents got information on family planning at the health facilities and also got the method there the first time they used contraception's. Sensitization should be done earlier so that girls can avoid teenage pregnancy that lead to unwanted pregnancy and trappings to early marriages. It is also clear that the service providers play a big role in women's family planning life and if they could use good counseling skills and avoid selective counseling and encourage clients to make informed decisions, clients could also choose IUCDs because of its advantages' over hormonal methods. Proper counseling is very key in method selection by clients. It was also clear that there was very little sensitization of FP outside health facilities. Schools and other agents that champion women's issues play a low profile when it comes to family planning. The organizations that deal with women should support FP if they are interested in the welfare of women's health. Many women fear contraception's duel to the distorted information they get from their counterparts and the agents through the group leaders have a chance to sensitize the women during their meetings because the women believe them.

The study results showed that majority of respondents (63.1%) were able to state that an IUCDs was a contraceptive method that is usually fixed at the uterine cavity. The data indicates that a reasonably high proportion of women do not know what an IUCDs was. Of concern was that group of (36.9 %) of respondents that did not know anything about the IUCDs devices. That meant that 36.9% of the subjects had never been counseled in the facility about the method, through the mass media or even peer socializations and can not conceptualize how it looks like. Consequently, this could prevent women from using a method that they do not know even if it was good and safer for them to use. Demonstration of all the contraceptives and their use ought to be of paramount importance during counseling to enable women to make informed choices. During this study, it was found that the highest number (48.7%) said that no demonstration of the IUCDs method was done and (40.1%) said that demonstration was done where a real sample of IUCDs was used. It was important for providers to display all their trade tools for clients to familiarize, see the size of the device, learn the material used to manufacture the devices, technologies involved in insertion procedure, learn mode of action, learn non contraceptive benefits, advantage and disadvantages and demystify any issues associated with the devices.

The study also found that the highest number (66.3%) said they do not know any type while the lowest (8.5%) said they know Mirena. Varieties of IUCDs for women are necessary since different women have different body composition and needs. However, majority of women know the Copper T 380A and this reflected that women wishing to use an IUCDs may therefore go for it and in case it fails to suit them, they opt to change the method to another method probably due to lack of knowledge about the other types of IUCDs methods. The study found that the facilities are supplied with only one type of IUCDs while there are many types in the health market. There are new markets for better products as time goes by and so is with the IUCDs. However, new products could be more expensive and may not be

available to women due to the prohibitive costs. Mirena for instance was a new product in the devices technology and though recommended for women with bleeding problems is quite expensive for this kind of clientele to afford. The study findings are similar with those of Wang *et al.*, 2004 where he found variety was an issue in China FP program. IUCDs (TCu 380 A) were available perhaps because it was the cheapest of all the IUCD devices and could be used longer than all the other types of reversible methods. This type has the highest level of copper and women have different copper tolerance rate as the findings indicated. Some women will accommodate using it for only one year and after this they develop vulva itchiness that can only end when the method was removed. The supply of one type of product because it was cheap implied that women may continue using old products that may not be quite safe and as effective as the new products owing to the cost implications. Trend of use of IUCDs was going down when previous user and current user numbers were compared.

#### **5.4 IUCD Use or Non Use among Respondents**

Out of 374 study respondents only 20% had ever had an experience with IUCD as a contraception. Only 8 % used an IUCD as new clients and 10% had used the method earlier and switched to other methods. The facilities were not having the necessary tools and supplies were out of stock in almost all the study facilities. Some of the clients who were eligible had missed opportune due to lack of these expendables and providers were not very keen on giving this method. And so were loosing skills steadily. On one occasion a client an old use wanted the method inserted but was told the provider could not get her uterine measurements on uterine sounding. The client went home wondering what could have been wrong with her uterus and was very worried. The low use could be attributed to lack of

counseling skills and lack of motivation of service providers due to none contusive work conditions.

### **5.5 IUCDs Utilization Health Risks**

The study results tally with the study done by (Kurtz, *et al.*, 2002) that demonstrate that women and men are frequently un-informed and misinformed about FP choices. Poor knowledge of FP, low literacy and widespread misconceptions about FP methods may result in poor demand for services despite high unmet needs. The low number of IUCDs current users (8%) resulted from the experiences of users who may have experienced problems, some requiring going for expensive investigations and theatre for removal of displaced and lost devices. The results showed that the highest number of respondents (80%) have never used IUCDs as a contraceptive method. The current users were (8%), previous users were (10%) and that only (2%) doubled as previous and current IUCDs users. The findings are pointing to same direction with the (KDHS, 2003) where the study found IUCDs prevalence at 3% nationally. Regarding type of IUCDs client used, majority (10.7%) affirmed having used copper T 380A. (1.3%) used multiload, (0.5%) had used Nova T. There are new markets for better products as time goes by and so is with the IUCDs. However, new products could be more expensive and may not be available to women due to the prohibitive costs. Merina for instance though quite recommended for women with heavy bleeding is quite expensive for many women to afford. A study done using progesterone releasing hormone amongst women with idiopathic menorrhagia with a control group using mefenamic acid concluded that progesterone releasing IUCDs are valuable in control of idiopathic menorrhagia and were better than mefenamic acid (Bergqvist and Rybo, 1983). The study found that among the users the highest number said they were inserted IUCDs once. However, there was a small group of

satisfied users who used IUCDs subsequently. The more the number of times a woman has been inserted an IUCDs the more she may gain the experience regarding it. Additionally it may indicate that she did not experience serious problems while previously using it. The women however sometimes lack another choice due to health conditions and spousal concerns and some are not ready for surgical sterilization.

The findings of the study also depicts that (86.5%) of the respondents who had previously used IUCDs had experienced some problems. The problems experienced by those that have previously used IUCDs imply that they may not wish to go for IUCDs later. Additionally, they may discourage other women from using IUCDs and this could explain why IUCDs use has gone down. Among others, the respondents experienced heavy bleeding (7.5%), vulva itchiness (3.5%), IUCDs displacement (2.9%) and backache (2.4%). Women who stayed with an IUCDs for few months may have experienced problems that may have prompted them to remove it sooner or were discourage by peers as opposed to those that could have stayed with it for a longer time. The facilities lacked minor theatres and medical officers who could deal with such cases. Only minimal women's problems that may arise as a result of IUCDs usage were sorted at the primary health facilities. Failure to sort out all the clients' problems was an impediment to the use of an IUCDs as women's use of the services was greatly influenced by their expectations of those services, and whether those expectations were met. They could fear incurring costs when referred for further management. These results concurred with those of (FHI, 2005) where health infrastructure was associated with decline in use of IUCDs. Women, who said they conceived, carried the unplanned pregnancy to term unconditionally because there was no other option. The findings of this study did not tally with that of Jurkovic, (2002) where three dimension Ultrasonic technologies are used to detect any problem arising from use of IUCDs and also with those of (Wang *et al.*, 2004) where in

China abortion was legalized in case of method failure. Though no research has been done amongst such women, the goings could have been difficult especially for the limiters.

### **5.6 Service Providers and Service Provision**

The study results among service providers indicated that providers lacked knowledge, skills and experience in IUCDs technologies. They lacked training and updates on IUCDs service provision. Staff were poorly managed and deployed to substitute other professions on non-nursing duties; they lacked the equipment and supplies, lacked supervision, and enabling environment to service provision. The facilities were managed poorly and staff skills and potentials were not exploited leading to demoralization. There findings also indicated that there was high staff turnover in those facilities due to frequent rotations to cover shortages. There was no program coordination from the top and feedbacks were not available. The SP lacked knowledge on what was new in the market in regard to IUCDs and technology involved. The study findings were in some issues similar to that done in USA among Obstetric and Gynaecological practitioners interviewed in regard to IUCDs copper T 380A where substantial barriers were identified. The biggest concerns in the San-Diego study was fear of medical liabilities, lack of knowledge of the new devices, lack of insertion skills and medical practice settings (<http://findarticales/midec>, 1998). The study agrees with that of (Stanback *et al.*, 1995), where the study cited poor quality of care, poor product image, provider bias and shifting clients' preferences as the causes of IUCDs use decline.

## **CHAPTER 6: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Summary of Findings**

The study found that among the demographic characteristics age, education levels, occupation, earnings and family size had significant relationship with use of IUCDs. Low education levels and lack of knowledge of respondents on IUCDs deterred respondents from using the method. Adolescents and youths not married were not seeking FP services in the study facilities according to results. The perceived risks by study respondents and the experience from the previous users also contributed to lowering the IUCDs demand. The human resource management was also found to be weak and needed to be strengthened. In addition, the program lacked supplies and equipments that are important in service provision especially in observance of infection prevention standards. Linkages with communities, promotion of method use and lack of referral centre was found to be lacking.

### **6.2 Summary of Implications**

Lack of proper education affected the occupation and economic status of the respondents. This then influences their IUCDs utilization. The respondents who sought services in the study facilities were mainly poor and thus could not take risks in using IUCDs which were perceived to have higher risks compared to other methods. The failure of the employer to support employees to seek further trainings and updates had a negative effect on the services provided to the clients. Lack of monitoring and supervision led to poor motivation of staff and poor productivity. The Program policy to provide only one type of IUCDs had a negative impact on demand and lack of a referral site for Nairobi subjects made the FP seekers and providers helpless and churn using the method. Women who are knowledgeable on the benefits of IUCDs and different types who also have the resources seek services in private

hospitals and clinics while the low economic status women discontinue the TCU 380A in case of minor problem. The poor women continue to get more children while the rich ones get richer because they seek professional assistance when necessary. The lack of program to provide the necessary supplies and equipment plus improving the environment will not help improve demand of IUCDs among FP seekers.

### **6.3 Study Conclusions**

- 6.3.1 Most of the demographic factors except religion had significant influence on IUCD use. The more educated a woman was the more she could understand FP methods during sensitization and counseling enabling them to make an informed decision.
- 6.3.2 The service provider had an accepted role in creating awareness, sensitization and counseling of clients on FP methods in the facilities but lacked counseling skills to offer effective and balanced counseling to the service seekers.
- 6.3.3 The Service providers lacked Family Planning policies, guidelines and standards that were important in giving guidance and direction in IUCDs service delivery.
- 6.3.4 The facilities infrastructure, Human resources management, external supervisory was lacking thus leading to low motivation of service providers in FP service provision.

## **6.4 Study Recommendations**

- 6.4.1 Parents to be encouraged to take their daughters to school and encourage them to go beyond secondary school to give them a competitive edge with the male children when it comes to job offers, income, and family planning decision making
- 6.4.2 More service providers to be trained and updated on FP so that they can build the knowledge of clients through balanced counseling to increase their understanding of family planning methods.
- 6.4.3 Service providers to be provided with FP policies, guidelines, standards, protocols and Job aids that are relevant in guiding and directing them in FP service delivery
- 6.4.4 Nairobi Health Management Board to improve facility infrastructure, improve logistic management and supply equipment for IUCD service provision and factor external supervision as a matter of importance.

## **6.5 Recommendation for Further Research**

1. A study on the socio-cultural issues influencing use of IUCDs among Nairobi residents.
2. A study on the involvement and perception of males towards IUCDs use.

## REFERENCES

- Andrew A. Fisher J. Laing J. Stoeckel J. Townsend W.(1991).** Hand Book for Family Planning Operational Research Designs 2<sup>nd</sup> edition. USA <[www.populationcouncil.org](http://www.populationcouncil.org)
- Arkutu, A. (1995).** Health women health mothers. An information guide. Second edition, page 149-169. New York, NY 10012, USA: Family Care International.Inc.
- Association for Voluntary and Safe Contraceptive (AVSC) International, (1995).** Talking with clients about family planning. New York, USA: Guide for health workers.
- Bandura, A (1997).**Social learning Theory. New York: Prentice Hall.<[www.tip.psychology.org](http://www.tip.psychology.org)
- Bergvist, A. and Rybo, G. (1983).** “Use of levonogestrel system in control of idiopathic menorhagia”. British journal of obstretic and gynaecology: An internal journal of obstretic and gynaecology. Volme 90 Page 255issue 3
- Central Bureau of statistics (CBS), Ministry of Health (MOH) and ORC Macro, (2004).** Kenya demographic and health survey 2003. Focusing on Fertility and Family Planning in Kenya , Nairobi: Government Press
- Centre for Disease Control, (1983).** Family Planning Methods and Practices Africa, Atlanta Georgia, USA
- Centre for Disease Control, (1999).** Family Planning Methods and Practices in Africa, Atlanta Georgia, USA
- El-Shafei, M. M. Mashalli, A. F. and Shalan, H. (1999).** “Tubal sterilisation for high risk women in Mansoura University Hospital: A strategy for reduction of material morbidity and mortality”. Egyptian Society of Obstetrics and Gynaecology. Vol 25 (10-12):691-9.
- Fehring, J.R. (2004).** “The future of professional education in Natural Family Planning”. Journal of obstetric, Gynecologic and neonatal nursing volume33,issue1 page 34-43, (<http://www.blackwell-synergy.com/doi/pdf/10.1177/08821>).
- Family Health International (2008).** Family Health Research. A forum for putting knowledge into practice. Vol.2 Issue 1, <http://www.fhi.org>

**Family Health International (2005).** Translating research into practice: Reintroducing the IUCDS in Kenya <http://www.fhi.org>

**Family Health International (2003).** Network, Research to Practice. <<http://www.fhi.org>>

**Hatcher, R.A. Rinehart, W. Blackburn, R. Geller, S.J. and Shelton, D.J. (2003).** The Essentials of contraceptive Technology; A hand book for clinic staff. Baltimore USA: Johns Hopkins population information program. Forth Edition. Chapter 2, page12 . (<http://www.fhi.org> , 2005). <http://findarticales/midec.1998>

**International Planned Parenthood Federation, (2003).** International Medical Advisory panel. Medical Bulletin <[http:// www.ippf.org](http://www.ippf.org)>

**Jensen, J.T, (2002).** “Male contraceptives” Current women Health Report;2:338-345. weblink:<http://www.biomedcentral.com/content/pdf/cr-2512.pdf><http://www.biomedcentral.com/content/pdf/cr-wr2512.pdf>

**Jurkovic, D. (2002).** “Three Dimensional Ultrasound in Gynecology: A critical Evaluation.” Ultrasound in obstetric and gynecology, vol, 19 page 107 issue 2

**Kurtz, R. Johnson, M. Janowtz, B. and Carranza, J.M. (2002).** Reasons for low level use of IUCDs in El-Salvador.

**Lyons, J.V. and Huddart, J. A. (1997).** Integrating Reproductive Health into NGO Programs Vol. 1: Family Planning Service Expansion and Technical support. Second edition page 6-35

**Magadi, M .A. and Curtis, S. (2001).** Contraceptives use Dynamics in Kenya; Further Analysis of Demographic and Health Survey (data). Nairobi, Kenya: Africa Population and Health Research centre and Measure Evaluation Project

**Ministry of Health (MOH) Kenya (2007).** National Contraceptive Commodities Security Strategy 2007-2012 page 1

**Ministry of Health (MOH Kenya (2006).** Essential obstetric Care Manual: For Health service Providers in Kenya. Third edition, page 2-7

**Ministry of Health (MOH Kenya (2005).** Implementing Best Practices in Family Planning. Update Manual For Service Providers

**Ministry of Health (MOH Kenya (2005).** Family Planning Policy Guidelines and Standards For Service Providers, Regal press (k) LTD. Nairobi, Kenya.

**Ministry of Health (MOH Kenya (2004).** Service Provision Assessment Survey. Family planning services pg 99-107

**Ministry of Health (MOH Kenya (2003).** A New look at IUCDs; Expanding Women's Choices through a Balanced and sustainable Contraceptive Method Mix.

**Ministry of Health (MOH Kenya (1997).** Reproductive Health/Family Planning Policy Guidelines and Standards for Service Providers. Nairobi, Kenya.

**Orji,E.O. & Onwudiegwu, U. (2002).** "Prevalence and determinants and contraceptive practice in a defined Nigerian population". *Nigerian Journal of Obstetrics and Gynaecology*. Vol (5):540 543.

**Olatinwo, A.W. Anate, M. Balogun, O.R. and Alao, M.O. (2001).** "Intrauterine contraceptive device IUCD): Socio-demographic characteristics of acceptors, acceptability and effectiveness in a teaching Hospital in Nigeria". *Nigerian Journal of Medicine*. vol 10 (1):14-17.

**Rao, G. R. & Sinha, R. K. (2001).** Male participation in family planning. An evaluation study of no scalpel Vasectomy project, Madhya Pradesh, Mumbai, India: International Institute for Population Sciences [6], 47, [9]

**Republic of Kenya (2006).** Economic Survey. Ministry of Planning and National Development. Page 37-38. Nairobi, Kenya: Central Bureau of statistics,

**Republic of Kenya (2000).** Ministry of Finance and planning. Second report on poverty in Kenya. Nairobi, Kenya: Central Bureau of statistics

**Republic of Kenya (2001).** Ministry of Finance and Planning. Medium Term Expenditure Frame Work, Poverty Reduction Strategy paper. Page 57-60. Combined report of the Thematic Group.

**Rosenstock, I M. (1988)** Social Learning Theory and the Health Belief Model California State University Long Beach Centre for Health and Behavior Studies). Accessed February 8 2008 [www.en.wikipedia.org/wiki/Health\\_Belief\\_Model](http://www.en.wikipedia.org/wiki/Health_Belief_Model)

**Ross, J. Stoves, J. and Willard, A. (1999).** Profiles for Family Planning and Reproductive Health programmes in 16 countries. Chap 2 page 6.

- \* **Saint, W. (2006).** “Higher education and development”. *ADEA Newsletter*. Volume 17 NO 3/4. Association for Development of education in Africa. Page.3.
- Salhan, S. and Tripathi, V. (2004).** “Factors influencing discontinuous use of intrauterine Contraceptive devices: an assessment in the Indian context”. *European Journal of Contraception and Reproductive Health Care*. Vol. 9:245-259.
- Sharma, A. (2003).** “Male involvement in reproductive health: women’s perspective”. *Journal of Family Welfare*. Vol 49: 1-9.
- Stanback, J, Omondi, O. and Omuondo, D. (1995).** Why has IUCDS Use Slowed in Kenya? Qualitative Assessment of IUCDS service Delivery in Kenya. <http://www.fhi.org>
- Tolley, E. Nare, C. (2001).** Access to Norplant removal: an issue of informed choice. *African Journal of Family Planning*. Jan; 26 Vol (1): 90-9.
- United Nations Development Program (UNDP)/ United Nations Family Agency (UNFPA)/World Health Organization (WHO) and World Bank, (2002).** Special Programme of Research, Development and Training in Human Reproductive. Progress in Health Research. <http://www.who.int/reproductive-health/hrp/progress/60/news60.html>
- United States Agency for International Development (2006)** Acquiring knowledge: Applying lessons learnt to strengthen FP/RH services; Revitalizing IUCDS in Kenya; issue no 2- info [@acquireproject.org](mailto:@acquireproject.org)
- United States Agency for International Development (USAD) /Ministry of Health (MOH) /Family Health International (FHI). (2005).** Translating research into practice: Reintroducing IUCDs in Kenya
- Walling, M. (2000).** “Development of contraceptive implants”. *British Journal of Family Planning*. Jan: 26 Vol (1): 12-3
- Wang, Duolao & Altmann, Dan R. (2004)** “Socio-demographic Determinants of Intrauterine Device Use and Failure in China”. *European Society of Human Reproduction and Embryology*. Vol. 17, No. 5, 1226-1232, May 2002
- World Health Organization (2004)** “Progress in Reproductive Health Research”. *Bienal Report* NO 66. 2002-2003. Geneva, Switzerland.

**World Health Organization (2004).** Selected Practice: Recommendations for Contraceptive Use. Second Edition, Page 2-5 Geneva, Switzerland:

**World Health Organization. (2002).** Reproductive Health Report. Geneva: WHO

**World Health Organization. (2004).** "Research on family planning at WHO: What's new?" *Progress in Reproductive Health Research* No.66

**World Health Organization. (1997).** Intrauterine Devices; Technical and managerial guidelines for service providers. Geneva, Switzerland:

**World Health Organization. (1990).** "Research in human development". *Biennial Report, 1998-1989.* Geneva, Switzerland: WHO

**APPENDIX 1 MAP OF NAIROBI; IN SET, MAP OF KENYA SHOWING POSITON OF NAIROBI**



**APPEDIX 2: CLIENT EXIT INTERVIEW GUIDE FOR COLLECTION INFORMATION ON INTRAUTERINE DEVICES AS A CONTRACEPTIVE METHOD IN NAIROBI HEALTH CENTERS**

I am a postgraduate student at Kenyatta University. I am interested in collecting information from you on intrauterine devices as a method of family planning. The information you give is valuable and will be treated as confidential. Granting the interviewer a few of your valued minutes will be greatly appreciated. Thank you

Yours sincerely

Mwangi Jennifer

This part is to be filled by respondent  
I consent to be interviewed

Signature.....

**INSTRUCTION TO INTERVIEWERS**

Introduce your self to each respondent; explain what kind of information you need ask for informed consent

Please collect all information required as from the respondent and enter the responses in the box provided as 1 2 3 4 5 or what is appropriate and explain where necessary.

Number your interview guides cumulatively from beginning to end of study

**Section A: Demographic information of the client**

1. How old are you?.....years.
2. What is your Religion?  
1) None    2) Catholic    3) Protestant    4) Islam    5) Others
3. What is the highest level of education attained?  
1) No formal education  
2) Primary complete                      3) Primary incomplete  
4) Secondary complete                    5) Secondary incomplete  
6) College / University
4. What is your marital status?  
1) Single    2) Married    3) Separated    4) Divorced
5. How many children do you have?  
None 1    2    3    4 5    6 7    Others
6. What is your occupation?  
1) Unemployed                                      2) Business woman  
3) formal Employment                            5) Casual
7. How much do you earn per month?  
1) No salary  
2) Amount earned in Kshs.....

**Section B: Information on clients' knowledge (all clients)**

8. What contraceptive methods do you know? (**Indicate all mentioned**)  
1) Intrauterine device    2) Pills                      3) Injectable                      4) Condoms  
5) Implant                      6) Natural FP                      7) LAM                      8) Tubal ligation
9. Where did you learn about the contraceptive methods that you indicate to know?  
1) Socialization process                      2) Peers                      3) School  
4) Media                      5) Hospital facility                      6) Organizations  
7) Seminar
10. What is an IUCDS (coil)?  
1) It is a device inserted in the uterine cavity of a woman to prevent pregnancy  
2) I do not know  
3) Others
11. What was used to demonstrate an IUCDS by the provider?  
1) Real IUCDs sample    2) Diagram    3) Video    4) No demonstration
12. Which types of IUCDS do you know?  
1) Copper T 380A    2) Multiload    3) Mirena    4) Nova T    5) Don't know

**Section C: Information on clients' family planning practices**

13. Which contraceptive method are you using currently?  
 1) Intrauterine device      2) Pills      3) Injectable  
 4) Condoms      5) Implant      6) Natural FP  
 7) Lactation Amenorrhea      8) Tubal ligation
14. Who influenced you to choose your current method?  
 1) A friend      2) A neighbor      3) A relative  
 4) The health provider      5) Spouse      6) Self
15. Where did you obtain a contraceptive method the very first time?  
 1) Bought from a chemist      2) From a private clinic      3) In a nursing Home  
 4) A council clinic      5) A government health centre  
 6) A private hospital /nursing home
16. Have you ever used an IUCDS?  
 1) Currently using (go to C2)      2) Previously used (go to C1)      3) Never used (go to C3)

**C1; Question (18 – 24) for clients who used IUCDs before**

17. Which type of IUCDS did you use?  
 1) Copper T 380A      2) Multiload      3) Merina      4) Nova T
18. How many times have you been inserted an IUCDS before?.....
19. What was the longest time that you used an IUCDS?  
 1) .....days      2).....months      3).....years
- 20a. Did you experience any problem while using the IUCDS as a method of contraception?  
 1) Yes      0) No
- 20b. If yes, which problem did you experience?  
 1) Excess bleeding      2) infections eg vulva itchness      3) Abdominal pains/  
 cramps  
 4) Ectopic pregnancy      5) Translocation      6) un planned Pregnancy  
 7) Backache      8) Expulsion      9) Others (Specify).....
21. Were the providers able to sort your problem out at the facility?  
 1) Yes (go to question 23)      0) No
- 22a. If No where were you referred for further management?  
 1) At KNH      2) District hospital      3) women's only hospital  
 4) Marie stopes      5) Private Doctor's clinic      6) FAK
- 22b. How much did you pay for the services offered at referral centre?  
 Kshs.....
- 22c. What was your biggest worry when you were trying to sort out the problem?  
 1) How to break the news to my husband

- 2) How to raise the money for the investigations and removal
- 3) How to cope with the unplanned pregnancy
- 4) The outcome of the pregnancy
- 5) That the IUCDS will come out during the menses
- 6) Strained relations with my husband

3. Why did you stop using the IUCDS as method?

- |                                   |  |
|-----------------------------------|--|
| 1) Husband disapproved the method | 2) Heavy menses                        |
| 3) Peer disapproval               | 4) Method incompatibility              |
| 5) No other variety of IUCD       | 5) Pregnancy                           |
| 6) Wanted another child           | 6) Availability of other better method |

24. What method/s did you switch to/ used later?

- |               |                  |            |            |
|---------------|------------------|------------|------------|
| 1) Pills      | 2) Injectable    | 3) Condoms | 4) Implant |
| 5) Natural FP | 6) Another IUCDS | 7) TL      |            |

### C2; Question 26- 30 for clients currently using IUCDS

25. Which IUCDS are you using currently?

- |               |             |          |        |                |
|---------------|-------------|----------|--------|----------------|
| 1)CopperT380A | 2)Multiload | 3)Mirena | 4)Nova | 4)Lippes-loopl |
|---------------|-------------|----------|--------|----------------|

26. How many times have you been inserted an IUCDS before (.....)

27. What is the longest time that you have used an IUCDS?

- |              |               |              |
|--------------|---------------|--------------|
| 1) .....days | 2).....months | 3).....years |
|--------------|---------------|--------------|

28. What is your experience with IUCDS?

- |              |                  |
|--------------|------------------|
| 1) Satisfied | 2) Not satisfied |
|--------------|------------------|

29. If not satisfied, explain?

- |                      |                    |                            |
|----------------------|--------------------|----------------------------|
| 1) Excess bleeding   | 2) vulva Itchiness | 3) Abdominal pains/ cramps |
| 4) Ectopic pregnancy | 5) Translocation   | 6) Pregnancy               |
| 7) Backache          | 8) Expulsion       | 9) Others (Specify).....   |

### C3; Question 30 -31 for clients who have never used an IUCDs

30. Would you consider using an IUCDS at a later time?

- |        |       |
|--------|-------|
| 1) Yes | 0) No |
|--------|-------|

31. If No, what are your reasons for not using/preferring the IUCD?

- 1) Method was not introduced to me
- 2) Method complications are big issues to handle than from other methods
- 3) There are other better methods
- 4) Fears of conceiving with IUCD still in my uterus
- 5) I fear the insertion procedure which I perceive to be painful

- 6) Doubt the efficacy and safety.
- 7) Lack of referral centre specific for solving family planning method problems.
- 8) Fears that it can move to other parts of the body
- 9) Copper can rust thus spoiling the uterus leading to cancer of uterus.

#### Section D: (All clients) Information on client's attitudes

##### 32. Clients perception of IUCDs

	Agree	Disagree	I do not know
IUCDs can be used safely for spacing and limiting births			
IUCDS do not interfere with intercourse thus increase family bonding			
IUCDs method offers immediate return to fertility upon removal			
IUCDS is not a good method for women who doubt their husbands faithfulness			
IUCDs is a good method for all women and especially those sensitive to hormone			
Using IUCDS does not interfere with a woman's cycle			

#### Section E: Information on barriers (All clients)

##### 33. What have you heard other people say about IUCDS?

- 1) It can travel to other parts of the body
- 2) Chances of getting pregnancy are high while using it
- 3) It is a method that can kill the user
- 4) It can prick the spouse manhood
- 5) It can be displaced to other parts of the body
- 6) Insertion procedure painful
- 7) Copper can get rusty and spoil the uterus
- 8) The methods suits only women who are very clean

##### 34. Describe how satisfied you are with the services you got in this facility?

- 1) Highly satisfied
- 2) Moderately satisfied
- 3) Not satisfied

##### 35. Would you consider IUCDS in the future?

- 1). Yes
- 2). No

### APPENDIX 3

#### Discussion guide for in-depth interview for health service providers

I am a postgraduate student at Kenyatta University. I am interested in collecting information from you on intrauterine devices as a method of family planning. The information you give is valuable and will be treated as confidential. Granting the interviewer a few of your valued minutes will be greatly appreciated. Thank you

Yours sincerely

Mwangi Jennifer

1. What is your professional training background?
2. Have you attended family planning course? Who sponsored your training?
3. When did you lastly attend Update training on FP?
4. Do you always work in this room? How long have you worked in this room?
5. Does this facility have the current family planning policy and practical guidelines and standard manuals? Have been updated on how to use the job guides?
6. Name the types of IUCDs that you know? Name the IUCDs that are stocked in this facility?
7. Have you been trained on contraceptive management? Do you keep daily and monthly consumption records? Are the stock/commodities/ supplies arranged according to first in first out?
8. How often do you place an order for your supplies? Do you always get what placed an order for?
9. Do you keep records of the dates the Provincial or District supervisory teams visited your facility? Do you know what you are supposed to be supervised on? Do you have a copy of the supervisory tool?
10. How often do you submit your data to the District supervisory team? Do you have copy of monthly reporting tool? Do you have a file for the records? Do you receive any feedback from the District supervisory team? Do you plan with your data?

11. How many IUCDs have been inserted to women requesting in this facility this year?
12. How many have you personally inserted this year?
13. Regarding IUCDS insertion, what do you tell women who request for the method regarding menses and IUCDS insertion?
14. Where do you refer clients who report side effects like lost IUCDs for further management? Do they give you feedback of their experience in the referral centre?
15. What kind of insertion kit would you prefer the program to supply to enable the service providers to give quality services to FP clients?
16. Do you have any concern about equipments maintenance in the facility especially insertion kit?
17. When inserting the IUCDS do you worry about client contracting STIs or HIV/AIDs infection?
18. Regarding clients check ups from your field experience do you think checking the threads on monthly basis is practicable among your kind of client and what do you suggest the program should do to ensure that IUCDs are in position?
19. What do you think is the cause of low demand for IUCDs in this facility?
23. Are infection prevention standards always observed in this facility? Does the facility have all that goes with required standards?
24. When did you lastly receive guidelines or policies on family planning?
25. Have your facility ever been involved in data quality management?

**APPENDIX 4 OBSERVATION CHECKLIST**

Name of observer.....

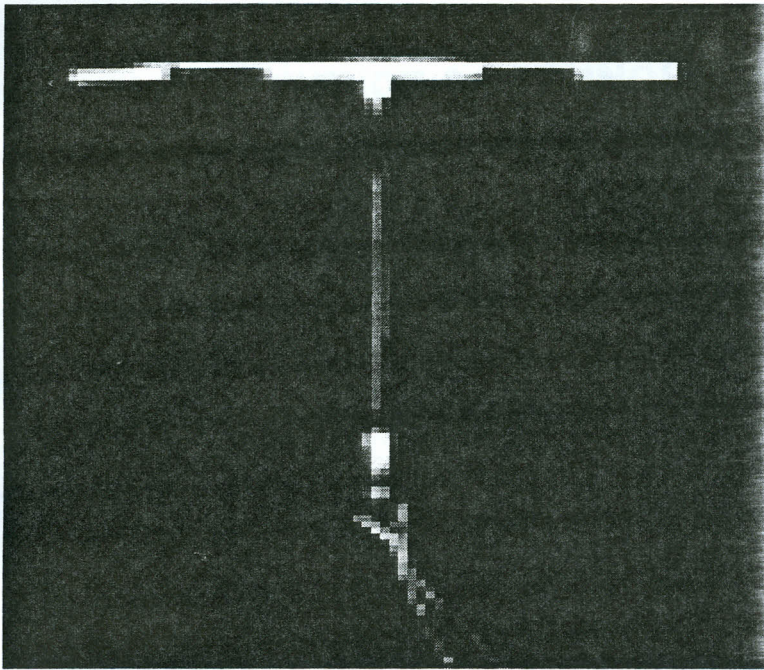
Name of health facility.....

Date.....

**General observation of the Health Centre**

1. A sign board with name of facility and services provided	Yes	No
2. Adequate waiting bay for clients	Ye	No
3. A clean and conducive environment for clients seeking FP services	Yes	No
4. Tap water available	Yes	No
5. Paper towels available	Yes	No
6. A couch draped with clean linen	Yes	No
7. An examination Angle lamp available	Yes	No
8. Three buckets for decontamination before sterilization	Yes	No
9. Working autoclave present	Yes	No
10. Sets of IUCDS insertion and removal kits	Yes	No
11. Packets of gloves available	Yes	No
12. Cotton swabs available	Yes	No
13. Clean pads available	yes	No
14. Hibitane solution or soap available	Yes	No
15. Different types of IUCDs available	Yes	No
16. Sedatives Available	Yes	No
17. Records books available	Yes	No
18. Monthly summary sheets for reporting available	Yes	No
19. Privacy observed	Yes	No
20. Client served on first come first served	Yes	No
21. Clinic serves clients from 8am to 5pm	Yes	No
22. A store with orderly arranged methods and supplies	Yes	No
23. Equipments for data management	Yes	No

***APPENDIX 5: A PICTORIAL DIAGRAM OF A COPPER T 380A IUCD***



**APPENDIX 6 MINISTRY OF SCIENCE AND TECHNOLOGY RESEARCH APPROVAL****MINISTRY OF SCIENCE & TECHNOLOGY**

Telegrams: "SCIENCE TEC", Nairobi

Fax No.

Telephone No: 318581

When replying please quote

**MOS&T 13/001/36C 454/2**



REPUBLIC OF KENYA

**JOGOO HOUSE "B"  
HARAMBEE AVENUE  
P.O. Box 60209-00200  
NAIROBI  
KENYA**

*12<sup>th</sup> June 2006*

Jennifer Wanjiru Mwangi  
Kenyatta University  
P.O. Box 438444  
**NAIROBI**

Dear Madam

**RE: RESEARCH AUTHORIZATION**

Following your application for authority to carry out research on *'Determinants of Decline in use of Intrauterine Contraceptive Devices among Women Seeking Family Planning Services in Nairobi Health Centres, Kenya'*

I am pleased to inform you that you have been authorized to carry out research in Health Centres in Nairobi for a period ending 31<sup>st</sup> December 2006.

You are advised to report to the Provincial Commissioner, Provincial Director of Education, the Provincial Medical Officer of Health and the Medical Officers in charge of the Health Centres you will visit before commencing on your research project.

On completion of your research, you are expected to submit two copies of your research report to this office.

  
**B. O. ADEWA**

**FOR: PERMANENT SECRETARY**

**Copy to:**

The Provincial Commissioner – Nairobi

Provincial Director of Education - Nairobi

The Provincial Medical Officer of Health – Nairobi