FACTORS CONTRIBUTING TO ORAL CONTRACEPTIVE USER FAILURE AMONG CLIENTS ATTENDING ANTENATAL CLINICS IN ELDORDET MUNICIPALITY, UASIN GISHU COUNTY, KENYA.

TALLAM EDNA CHEMUTAI

REG NO: 157/CE/12180/04

A Thesis Submitted in Partial Fulfilment of the requirements for the Award of the Degree of Master in Public Health in the School of Public Health, Kenyatta University.
DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other University

Signature ........................................ Date .........................

Tallam Edna Chemutai
157/CE/12180/04
School of Public Health
Kenyatta University

SUPERVISORS

This thesis has been submitted for Examination with our approval as University Supervisors.

Signature........................................ Date .........................

Prof. Ephantus Kabiru
Dean - School of Public Health
Kenyatta University

Signature........................................ Date .........................

Dr. Margaret Keraka
Chairperson - Department of Environmental Health
School of Public Health
Kenyatta University
DEDICATION

This work is dedicated to my beloved husband Titus Kimaiyo and our daughter Tasha Jepkoech.
ACKNOWLEDGEMENTS

The process of synthesizing this thesis was undertaken with substantive input from many people of whom I would like to acknowledge: Special gratitude goes to my Supervisors Prof. Ephantus Kabiru and Dr. Margaret Keraka for their guidance, concrete input, encouragement and availability throughout the study period, appreciation to Kenyatta University, School of Public Health for providing the opportunity of learning. I would like to thank Prof. H.N. Mengich (Director MTRH), MOH of Uasin Gishu District, Nurse In-charge of Uasin Gishu District Hospital and Nurse In-charge of Huruma Sub-District Hospital for granting me permission to carry out the Study. I acknowledge all the stakeholders in Family Planning Programmes and the Respondents in Eldoret Municipality who made this study possible during the fieldwork, I thank them for their invaluable contributions.

Finally, I wish to thank my husband Titus Cheptoo and our daughter Jepkoech for their patient, encouragement and understanding during my course of study.
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<tr>
<td>ANC</td>
<td>Antenatal Clinic</td>
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<tr>
<td>COC</td>
<td>Combined Oral Contraceptive</td>
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<tr>
<td>CPR</td>
<td>Contraceptive Prevalence Rate</td>
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<tr>
<td>ECP</td>
<td>Emergency Contraceptive Pill</td>
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<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>IREC</td>
<td>Institution Research and Ethics Committee</td>
</tr>
<tr>
<td>KDHS</td>
<td>Kenya Demographic and Health Survey</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MTRH</td>
<td>Moi Teaching and Referral Hospital</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>OC</td>
<td>Oral Contraceptive</td>
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<tr>
<td>POP</td>
<td>Progestin Only Pill</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>STIs</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>UGDH</td>
<td>Uasin-Gishu District Hospital</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<td>WHO</td>
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ABSTRACT

Contraceptive is a regimen of one or more actions, devices, sexual practices, or medications followed in order to deliberately prevent or reduce the likelihood of pregnancy, or childbirth. Contraceptive is a key intervention for improving the health of women, men, and children. It is an important component of reproductive health. Quality contraceptives are recognised as a human right, having great importance in the field of preventive medicine; being essential to the health and welfare of the individual, families and whole communities. As society becomes more affluent, fertility decreases. This is in response to the use of contraceptives. Once neglected by the health profession, it can lead to contraceptive failure where a woman finds herself with an unwanted pregnancy which can be psychological and physical strain. The aim of the study was to determine the factors contributing to oral contraceptive use failure at Eldoret Municipality Ante-natal clinics. A descriptive Comparative study design was used. This was a twelve week study in Selected Ante-natal Clinic in Eldoret Municipality, Kenya. The study population included all clients who attended the ante-natal clinic during the study period and conceived while on a contraceptive method while the comparative group were clients who conceived deliberately after stopping contraceptive method to get pregnancy. Systematic random sampling was employed and interviewer administered questionnaire was used to collect data. Data on socio-demographic characteristics, pre-use counselling and clients’ views on contraceptive failure were obtained. Descriptive quantitative data were coded as per the study’s questionnaire and data entry template. The statistical package for social scientists (SPSS) was used for data analysis. Chi square tests and multivariate analysis were generated to check for relationships between parameters. A total of 192 subjects completed the questionnaires where 103 had contraceptive failure while 89 did not experience failure. Majority 132 (69%) were from peri-urban areas, while more than half 112(58.3%) were married. Three quarters 143 (75.5%) had undergone pre-contraceptive use counselling, slightly more than half 76 (52.1%) were counselled by a nurse, whereas 41% were not happy with the index pregnancy. Analysis of socio-demographic factors showed that marital status (single verses married) had an OR= 3, Income (KSh.1,000-5,000 versus KSh. >10,000) OR=4.67 and source of contraceptives (Clinic versus donor agency) OR=6.6 as having high risk of contraceptive failure. Others factors found to be associated with risk of contraceptive failure were occupation p=0.007, duration of method use p=0.044, education level p=0.005, age p=0.005, Compliance to the method p=0.001. Results also indicated that 93.2% of respondents who had failure in contraceptives were not willing to repeat the same method in future. The study findings indicate that better counselling on contraceptive options, suitability, and compliance of the methods and efficacy would reduce contraceptive failure. Importance of client compliance should also be emphasized. Counselling of clients on acceptance of the index pregnancy will minimize any chances of negative psychological sequel of the failure. The study recommends that at every contact with family planning clients, compliance must be re-emphasized in response to the socio-economic risks of contraceptive failure witnessed in the current study.
CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter discusses the background of the study as well as the statement of the problem and the justification of the study. The objectives, purpose and significant of the study were also discussed.

1.2 Background

Contraception is the intentional prevention of conception through the use of various devices, sexual practices, or surgical procedures. This means that something (or some behavior) becomes a contraceptive if its purpose is to prevent a woman from becoming pregnant (Dawn, 2007). Contraception is practiced for many reasons, including medical contraindication to pregnancy, a personal desire to limit family size and the global problems of increasing population. Socio-economic and environmental consequences of unintended pregnancy are indirect concern to everyone (Cunningham, et al., 2003).

Contraceptive methods have been highly accepted in most countries though unintended pregnancy continues to be a major public health problem worldwide (Pernoel and Benson, 1994). Contraception has been widely promoted and accepted by the people leading to a marked reduction in population size and improvements in standard of living. Contraceptives are without risks chief among which is unwanted pregnancy, especially while using a contraceptive method and may have profound effects on the individual, the family and society. If we can avoid contraceptive failure, there will be a marked reduction in unintended pregnancies, abortions and unwanted pregnancy.
Unintended pregnancy due to contraceptive failure is not a legally valid indication for termination of pregnancy in Kenya. Illegally induced abortions contributes to maternal mortality and morbidity rate within the country, thus a decrease in contraceptive failure rates and full utilization of the family planning services can indirectly reduce the maternal mortality by reducing the number of unwanted pregnancies and abortion related deaths (Byant, 2007).

Use related behavior also plays a role in contraceptive failure. The presence or absence of a daily routine may affect contraceptive consistency, as women without an established routine are more than three times as likely to miss two or more pills per cycle. Birth control must be used consistently and according to instructions in order to attain maximum effectiveness. Inconsistent or incorrect use can lead to side effects, decreased method effectiveness, discontinuation and unintended pregnancy. User error varies depending on which method of contraception is used.

Several challenges remain to be addressed. Many factors contribute to the gap between access to, and use of services. This includes logistic, social and behavioural barriers to meeting the contraceptive needs and wishes of individuals and couples. There is still large unmet need for family planning services, estimated to be 25% in the 2003 Kenya Demographic Health Survey (KDHS, 2003). Nearly a half of Kenyan population (13 Million) is under 15 years of age and an estimated 100,000 young people turn 16 every year, a pattern that will continue for over a decade. This large cohort is likely to put a heavy demand on reproductive health services including family planning (MOH, 2005).
1.3 Statement of the Problem

Contraceptives are not without risks, chief of which is contraceptive failure which can lead to unwanted pregnancies and induced abortions. Unplanned pregnancy results in Social, financial, economic and psychological strain to families and community.

In Kenya, 53% of births are unplanned pregnancy, 19% of unplanned pregnancies are due to contraceptive failure (KDHS, 2008). Report from the Reproductive Health indicates that 40% of the women admitted in the Gynaecological units in MTRH are as a result of induced abortion related complications, 20% of unwanted pregnancy is due to oral contraceptive failure.

In Eldoret Municipality, women present with unplanned pregnancy due to contraceptive use failure and attempts to procure an abortion; risking death, injury and social or criminal consequences. The fact that these women risk for death, injury and social or criminal consequences to terminate a pregnancy demonstrates how depressing these women wish to delay or avoid having children. Women who have experience contraceptive failure represent important group with unmet family planning needs.

1.4 Purpose of the Study

The purpose of this study was to determine the factors contributing to oral contraceptive user failure among clients attending antenatal clinics in Eldoret Municipality, Kenya.
1.5 Research Question

What are the factors contributing to the oral contraceptive user failure among clients in Eldoret Municipality, Kenya?

1.6 Objectives

1.6.1 Broad Objectives

To determine the factors contributing to oral contraceptive user failure among clients attending Ante Natal Care (ANC) clinics in Eldoret Municipality, Eldoret, Kenya.

1.6.2 Specific Objectives

i) To determine socio-demographic characteristics of clients contributing to oral Contraceptive failure.

ii) To determine the effects of pre-use contraceptive counselling of clients on oral contraceptive failure.

iii) To establish clients attitudes on oral contraceptive.

1.7 Null Hypothesis

Effects of pre-use contraceptive counselling, socio-demographic factors and clients attitudes has no association with oral contraceptive user failure.

1.8 Justification

Extensive work has been done on the benefits of contraceptives, their acceptability and use in our society, while various campaign programmes have been undertaken by the Kenya Government and Non-Governmental Organizations (NGOs) to promote the use of family planning methods.
Most studies done on contraceptive failure in relation to pregnancy have focused on contraceptive failure among women with induced abortion, thereby neglecting those women who despite failure accept the pregnancy and intend to carry the foetus to term (WHO, 2004).

No studies has been done and documented in Eldoret Municipality to elucidate the socio demographic factors, attitudes and counselling levels due to oral contraceptive user failures especially in our rural set up where over two thirds of our population reside. It is important to undertake this study in order to identify areas that need intervention so as to decrease direct health care effects of Contraceptive failure and improve the quality of life. Identification of factors that increase the risk of contraceptive failure beyond the standard method-failure rates could assist programs to reduce user-enhanced contraceptive failures.

1.9 Significance of the Study

The findings of this study will provide insight on the factors contributing to oral contraceptive failure. This information will be beneficial to the Ministry of Public Health and sanitation, Family planning Providers, NGO’s interested in reproductive health issues, couples and community at large in coming up with intervention measures to reduce failures on contraceptive use.

Policy makers will use the information for improvement and reactivating contraceptives services to meet client expectation and satisfaction in an attempt to reduce oral contraceptive failure. The information generated will also contribute to the field of knowledge and act as a resource material for future research.
1.10 Limitation of Study

The study was limited to Ante natal clients who were using Oral contraceptive method attending selected ANC clinics in Eldoret Municipality. Since the study was a cross-sectional survey, no causal inference can be made from the associations, as the temporal order could not be established.

1.11 Conceptual Framework

The conceptual framework used in this study is a modification of the Family Health International Conceptual Framework for understanding possible Factors influencing Contraceptive use failure, the inter-relationships between the study variables are as tabulated in figure 1.1.

Source: Adapted from Family Health International (FHI), 2004.

Figure 1.1: Factors influencing contraceptive user failure
Figure 1.1 shows the conceptual framework used to analyze the relationship between the contraceptive user failure and the various factors. Socio-demographic variables includes age, place of residence, educational level, religion and occupation. Pre-use contraceptives counselling entails, adequacy of counselling, method risk explanation, compliance and counselling satisfaction. Clients' views have a direct impact on the utilization of oral Contraceptives while Socio-demographic factors and intervening variables influence contraceptive use as well as contraceptive user failure. The pre-use contraceptive counselling is a key determinant in effective contraceptive use, however, it is influenced by Clients attitudes which can lead to inconsistent use and behaviours that contribute to contraceptive failure and end result being unintended pregnancy (FHI, 2004).
1.12 Operational Definition of Terms

**Contraception:** A technique used to prevent pregnancy, by prevention of conception using birth control devices.

**Contraceptive Failure:** Profound inability of contraceptive to carry out its desired effects, leading to conception.

**Contraceptive User Failure:** Inability of the contraceptive to carry out its desired effect due to the client failure to use the contraceptives correctly and consistently. It was measured in terms of whether the user conceived or not.

**Contraceptive Risk Failure:** The probability of the contraceptive method failing to carry its desired effect.

**Case:** A person in the population or study group identified as having a particular disease, health disorder or condition under investigation.

**Control:** A person in a comparison group that differs, respectively, in allocation to a regimen from the subjects of the study.

**Fertility:** It’s the actual production of live offspring’s.

**Index Pregnancy:** The current pregnancy in which the client is expecting a baby.

**Population:** The whole collection of units from which a sample may be drawn in the health care institutions.

**Socio-Demographic States:** Descriptive term of a person’s position in the society, according to which may be expressed in an ordinal scale: age, marital status, occupation, educational, religion, sex.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses literature related to the subject of the study. The literature was reviewed under various major headings: Contraception, Global use of Contraceptives, Contraceptives use in Kenya, Contraceptives methods, Contraceptive failure, Abortion in relation to contraceptive failure, Drugs interactions with Oral Contraceptives, Socio-demographic factors affecting Oral Contraceptive Failure, Decision Making on Contraceptive use.

2.2 Contraception

Contraceptive is a regimen of one or more actions, devices, sexual practices, or medications followed in order to deliberately prevent or reduce the likelihood of pregnancy, or childbirth. There are three main routes to preventing or ending pregnancy: the prevention of fertilization of the ovum by sperm cells ("contraception"), the prevention of implantation of the blastocyst ("contragestion"), and the chemical or surgical induction of abortion of the developing embryo or, later, foetus (American College of Obstetrics and Gynecologists, 2003). Contraception is the intentional prevention of conception through the use of contraceptives. This means that something (or some behavior) becomes a contraceptive if its purpose is to prevent a woman from becoming pregnant. There are several types of contraceptives that have been officially labeled as such because they have shown reliability in preventing conception from occurring. These include hormonal methods: The pill, Implants and Injectables, Non-hormonal methods include: Intra Barrier Methods (Condom,
Diaphragm, Cervical Cap, Spermicides and Sponge), Voluntary Surgical Contraception and Natural methods (Dawn, 2007)

In order to understand how the contraceptive works, the female reproductive cycle should be understood. From the time of the first menstrual period the woman body goes through the following process: The female ovaries usually release one egg every month, when the egg is released (ovulation) it makes its way to the uterus through one of the fallopian tubes. Meanwhile sperm traverse cervix and uterus into the fallopian tube where it may or may not fertilize the egg. If fertilized, the cells begin to divide and make their way to the uterus. Once in the uterus, if things go well, implantation occurs. If implantation occurs, then pregnancy proceeds. If not, then uterus sheds its lining. This means that the lining sheds in the event of either non-fertilization or non-implantation it results to a menstrual period. Contraceptive failure is a result of a conception that occurred during a month in which a woman (or her partner) was using a contraceptive method (Beischer et al, 1997).

2.2.1. Reasons for Adoption of Contraception

a) Health Rationale

Health rationale is concerned with promotion of health of women and children based on appreciation of the negative effects of pregnancy in certain situations such as, closely spaced births, teenage pregnancy, high parity and medical contraindication to pregnancy. Each year thousands and thousands of children die due to poor family planning services. They are too young or too old to allow an infant to survive. Couples may use family planning for one reason or another namely; Age is a factor to consider using contraceptive to delay their first pregnancy to avoid teenage
pregnancy, couples space the interval between pregnancies or spacers, Put an end to reproductive career – limiters and Medical, obstetric or surgical reasons e.g. Diabetes, hypertensive, repaired ruptured uterus. Family history of complications during pregnancy or a high risk of having a child with birth defects may choose to use contraceptive to prevent pregnancy. In addition, contraceptive are used to prevent infections especially condoms if there is a risk of a sexually transmitted infection such as syphilis or HIV (Cunningham, et al., 2003).

b) Socio-Economical/Demographic Rationale

Socio-Economical/Demographic rationale is concerned with negative effect on a large family and the community. Socioeconomic and environmental consequences of population density are of direct and indirect concern to everyone. Each year at least 500,000 women die as a result of pregnancy and child birth (WHO 1986). Mortality occurs either due to complications of pregnancy (haemorrhage, ruptured uterus, pre-eclampsia, eclampsia, sepsis); aggravation of pre-existing undercurrent illness or abortions (illegal or Legal). Finances constraints may be a factor to consider using contraceptive due to considerable financial costs to care for a baby (Cunningham, et al., 2003).

c) Human Right Rationale

Human right rationale is based on the acceptance that couples have the right to choose when to have children and to determine when to stop. Decision of when or even whether to have children is a human right that all people must enjoy, with this right can come benefits or risks through family planning individuals, their families and society are more likely to enjoy the benefits that result from procreation.(American
College of Obstetrics and Gynaecologists, 2003). The following Mnemonic shows how family planning promotes family Health.

FAMILY HEALTH

F - Food and other resources are more available  
A - Anaemia especially iron deficiency anaemia less common  
M - Maternal mortality risks decreases  
I - Infertility caused by pelvic inflammatory disease (PID) decreases  
L - Low birth weight less likely  
Y - Young children and infants are less likely to die  
H – Happier sexual relationships can continue  
E – Educational opportunities increase for all the family  
A – Accurate and early pregnancy testing is available  
L – Lactation contributes to the optimal health of child  
T – Teenage pregnancy rates decrease.  
H – Health screening tests are performed.

2.3 Global Use of Contraceptives

The universal access to reproductive health is still far from being attained, in terms of unmet need for family planning; at least in 43 countries, over 20 per cent of women of reproductive age have not met their need for contraception. Nevertheless, contraceptive use continues to increase. At the world level, 63 per cent (716 million) of women of reproductive age who are married or in union are currently using a contraceptive method (Best, 2005).
Contraceptive prevalence among women of reproductive age is high in the developing countries. However the level of contraceptive use is slightly higher in the more developed regions (67 per cent) than in the less developed regions (62 per cent) whereas in the majority of the less developed regions, contraceptive prevalence has reached levels of at least 60 per cent. The major exceptions are Sub-Saharan Africa, Melanesia, Micronesia and Polynesia where the levels of contraceptive prevalence are still below 30 per cent. As a region, sub-Saharan Africa has the lowest level of contraceptive prevalence, with only 22 per cent of women of reproductive age using contraception. About half of the 47 countries with data in sub-Saharan Africa had a contraceptive prevalence level lower than 20 per cent and they are located mainly in Western Africa and in the Horn of Africa (Dawn, 2007).

In all other regions of the developing world, contraceptive prevalence is high; 60 per cent in Northern Africa (excluding Sudan), 68 per cent on average in Asia, and 71 per cent on average in Latin America and the Caribbean. Asia as whole had a level of contraceptive prevalence comparable to that of Europe. Only six out of the 47 countries of Asia had levels of contraceptive prevalence below 30 per cent: Afghanistan, Pakistan, Oman, Timor-Leste, the United Arab Emirates and Yemen. As already noted, China, the most populous country of the world, had the highest level of contraceptive prevalence not only in Asia but in the world, at 90 per cent (Best, 2005).

In Latin America and the Caribbean, the level of contraceptive prevalence was comparable to that in Northern America. No country in that major area had a level of contraceptive prevalence lower than 30 per cent, while only seven of the 32 countries in that major area had contraceptive prevalence levels ranging between 30 per cent and 50 per cent. The countries located in the Caribbean are Dominican Republic,
Haiti, Guatemala, Guyana, Saint Lucia, Suriname and Trinidad and Tobago (WHO, 2005)

Trends in contraceptive prevalence exhibit contrasts among development groups and regions. In developed countries, contraceptive prevalence has been high for many decades and its level has changed little since 1997. In the less developed regions, contraceptive prevalence increased substantially in the past decade. Among the developing countries 44 per cent has an increase in contraceptive prevalence by more than one percentage point per year since 1997 and in 8 per cent of the developed countries, the increase has averaged at least two percentage points per year. However, 32% of the developing countries had an increase in contraceptive prevalence which was below half a percentage point per year. This last group includes several of the countries with contraceptive prevalence levels below 20 per cent, such as Benin, Burkina Faso, Chad, Eritrea, Guinea, Mali, Niger, Nigeria, Rwanda, Senegal, Sierra Leone and Sudan (WHO, 2000).

2.4 Contraceptive Use in Kenya

Kenya was the first country in sub-Saharan Africa to adopt a national population policy in 1967 as a result of the government’s recognition of the detrimental effects of high population growth on the country’s development process (MOH, 2005). A national family planning program is structured within the Ministry of Health, under the Division of Primary Health Care. In the private sector, the Family Planning Association of Kenya (FPAK), a non-governmental organization that was registered in 1962, is the lead family planning service provider. Other major NGOs include
Family Planning Private Sector (FPPS), Christian Health Association of Kenya (CHAK), and Maendeleo ya Wanawake Organization (MYWO) (MOH, 2005).

The Kenya Demographic and Health Survey 2008 report indicates that the Total Fertility Rate (TFR) declined from 8.1 births per woman during 1977-8 to 4.7 in 1998, to 4.9 in 2003 and 4.6 in 2008. This could be attributed to an increase in contraceptive use (Contraceptive Prevalence Rate) among currently married women using any method which rose from 7 percent in 1978 to 39 in 1998, stabilized at the same level in 2003 and rose to 46 percent in 2008-9 (KDHS, 2008).

The main contraceptive methods confine to use include the pill, injectables, Intra-Uterine Device (IUD), Hormonal Implants, Barrier Methods (Condom, Diaphragm, Cervical Cap, Spermicides and Sponge), Voluntary Surgical Contraception (VSC) or Sterilization, and Natural Family Planning (MOH, 2005).

The contraceptive pill is one of the oldest family planning methods and has existed in the Family Planning Programme in Kenya since 1962. Two types of pills are offered: the Combined Oral Contraceptive pill (COC) commonly referred to as the combined pill and the Progestin-Only Pill (POP) or the mini-pill. The Combined Pill was initially recommended for women under 40, with established menses, a history of ectopic pregnancy, severe menstrual pains and breastfeeding mothers more than 6 months postpartum and anaemic women. The use of COCs was also recommended for post-abortion clients. However, the revised policy guidelines and standards of 1997 removed the restriction and allowed women of reproductive age to use pills, but with a caution for specific clients, such as women aged over 40. The revised guidelines recommended that pills may be provided by physicians, nurses/midwives, clinical
officers, trained Community Health Workers (CHWs), Community-Based Distributors (CBDs) and pharmacists/ pharmaceutical technologists. The recommended outlets for pills include hospitals, health centers, dispensaries, outreach/mobile services, pharmacies and private (KDHS, 2003).

In Kenya, about one-third, one-half, and two-thirds of women who initiate use of contraception discontinue within 12, 24, and 36 months of initiation, respectively. Analysis of method-specific discontinuation rates shows that condom users have the shortest durations of continuous use while Norplant and IUD users exhibit the longest durations of continuous use. In comparison to injectables and IUD users, pill users have much higher discontinuation rates (KDHS, 2003).

Contraceptive discontinuation rates are higher among women who use contraception for spacing purposes and discontinuation rates decline with both increasing age and parity of women. Although women with no formal education are less likely to adopt use, they are more likely to use for longer durations (WHO, 2005).

Examination of the reasons for discontinuation reveal that about 30 percent of all discontinuations are due to desire to have another child or reduced exposure to sex or the risk of conception, 47 per cent due to side effects/health concerns and other method-related reasons, 18 percent due to method failure, while 5 percent are due to unspecified reasons. Thus, abandonment of contraceptive use while still in need of contraception and contraceptive failure account for about 65 per cent of all discontinuations, and about 60 per cent of discontinuations occur during the first 36 months of use. The group of women who discontinue for these involuntary factors represents the potential impact that family planning programs could have on
contraceptive prevalence rate by maintaining a pool of satisfied clients and ensuring women attain their reproductive goals (KDHS, 2003).

2.4.1. Knowledge of Contraceptive Practice in Kenya

The Kenya Demographic and Health survey (2003) indicate that the knowledge of family planning methods is nearly universal in Kenya with 86% of women of reproductive age knows at least one modern method of family planning. Contraceptive awareness in Kenya has grown steadily, as reflected in a fall in the total fertility rate from nearly 8 children in 1979 to 5.4 children in 1989. Levels of contraceptive use have nearly doubled, from 17% of women married in 1984 to 33% in 1993 and 39% in 1998. This remained at the same level in 2003 and rose to 46 percent in 2008-9 (KDHS, 2009).

The combined family planning program efforts in Kenya have produced significant achievements in contraceptive knowledge and practice in the country. General awareness of family planning is almost universal, at 97-98 percent of men and women of reproductive age (NCPD, CBS and MI 1999). Kenya’s Contraceptive Prevalence Rate (CPR) increased from 27 percent in 1989 to 33 percent in 1993 and 39 percent in 1998/2003, 46% in 2008/2009 (KDHS, 2009).

2.5 Contraceptive Methods

2.5.1. Hormonal Contraceptive Methods

Hormonal methods contains synthetic hormones (Oestrogen, progestin or combination of both) which works through prevention of pregnancy by suppressing ovulation, thickening the cervical mucus, thereby preventing penetration of the sperm, and
changing the endometrial lining. Hormonal methods include; Combined Oral Contraceptive (COC) pill, Progestin-only Contraceptive pill, Progestin only Injectable, (Depo-provera) Progestin only Contraceptive Implants (Implanon and Jadelle). The Hormonal Contraceptives which are less commonly available in Kenya are: Combined Injectable Contraceptive (Cyclofen/Cycloprovera®, Mesigyna/Norigynon®), combined Vaginal Contraceptive Ring and Combined Contraceptive Skin Patch (MOH, 2005).

(i) Combined Oral Contraceptives (COCs)

Combined Oral Contraceptives (COCs) are pills containing synthetic Oestrogen and Progestins similar to the natural hormones in a woman’s body. These contraceptives are commonly referred as “The Pill”. The Pill has to be taken daily to prevent pregnancy. COCs are highly effective, they primarily prevent pregnancy by: Suppressing ovulation, thickening the cervical mucus, thereby preventing penetration of the sperm, it changes the endometrial lining making implantation less likely. (Cunningham et al., 2003).

(a) Advantages of COCs

COCs are highly effective, easy to use, it can be provided by a trained non-clinical service provider. It reduces menstrual flow, decrease painful periods, improve and prevent anemia, protect against ovarian and endometrial cancer and ectopic pregnancy. (Cunningham et al, 2003).
(b) Disadvantages of COCs

The use of COCs may be associated with minor and major side effects, which include: nausea which is common in the first 3 months, spotting or bleeding in between menstrual periods, breast tenderness, slight weight gain. Their effectiveness may be lowered when certain drugs are taken concurrently for example certain anti-tuberculosis, anti-epileptic and anti-retroviral. COCs do not offer protection against sexually transmitted infections, it also suppress milk production (MOH, 2005).

(ii) Progestin Only Pill (POPs)

Progestin Only Pill (POPs) also called Minipill, contain only progestin hormone, they do not contain estrogen thus have less side effects associated with COCs. Progestin do not suppress the production of breast milk, which makes it an ideal method for breastfeeding women They are effective, result in immediate return of menses, decrease breast tenderness, do not increase blood clotting and protect against endometrial cancer. Emergency Combined Contraceptive provides emergency protection in about 85% of those at risk. It is only effective only within 120 hours of unprotected intercourse, is not a regular method to be used and do not prevent STIs (MOH, 2005).

Most pills are based on a 21-day cycle. Pills are taken every day preferably at the same time for 21 days, then stop for 7 days at which time one has withdrawal bleeding. The pill is also available in a 28-day pack which contains 21 pills with hormones and 7 pills without hormones, or placebos. The last 7 pills help to serve as a reminder of when one should start taking a new strip of pills again (Beischer et al., 1997).
(a) Advantages of Progestin Only Pills (POPs)

Advantages include: more regular cycles, less pain and reduced menstrual blood flow, improvement in acne, lower risk of certain cancers including cancer of the ovaries and endometrium (the lining of the uterus). There is less benign breast disease. Although likely the same as for higher dose (sub50 pills), the latter two benefits remain to be confirmed for lower dosed pills "Custom tailoring" the time of your period (Beischer et al., 1997).

(b) Disadvantages of Progestin Only Pills (POPs)

Their limitation is that they requires strict daily pill taking, with side effects of spotting or bleeding in between menstrual periods and mild headache. POPs are restricted only to e women who are breastfeeding, who are hypertensive, or who are at risk for developing blood clots, they are slightly less effective than regular pills and often cause irregular menstrual patterns (Beischer et al., 1997).

(iii) Injectable Contraceptives

The most widely available contraceptives are the three-monthly Depo provera and the two-monthly Noristerat. Both contain only progestin and therefore do not have estrogen-associated side effects. The injectable hormone progestogen is a reversible and effective method of contraception. Either your doctor or a nurse will administer the injection in the muscle of your upper arm, buttocks or thigh. The injection lasts for 10 to 13 weeks (approximately 3 months) after which time you must have another injection to maintain the contraceptive benefits (Struart et al., 2000).
(a) Advantages of Injectable Contraceptives

Progestogen interferes with the natural cycle, but unlike oral contraceptives cannot profoundly suppress it. It stops ovulation and acts on the lining of the uterus walls - and on the jelly like mucus at the entrance of the cervix, to make it difficult for sperm to get through. Injection contraception can be quite effective. It is the second most effective reversible form of contraception. The method is fully effective 24 hours after injection. The failure rate for women who use this form of birth control is about 3 pregnancies in 1000 women who use this form of contraception for one year. Injectables Progestogen can be used by women who cannot take estrogen, no need to remember to take pill every day, provides contraception for up to 3 months and it is highly effective at preventing pregnancy (MOH, 2005).

(b) Disadvantages of Injectable Contraceptives

Common side effects include menstrual changes such as light spotting/bleeding, heavy bleeding and eventually amenorrhea, possible weight gain and irregular bleeding. Regularly scheduled appointments for renewed injections, if one is planning to become pregnant, the return of fertility may be delayed for about four months or more after discontinuation. It will take several months before you start to ovulate and resume normal menstrual cycles. It does not protect against STIs including Hepatitis B and HIV (Cunningham et al, 2003).

(iv) Contraceptive Implants

The implant is a prescription birth control method that offers prolonged protection against pregnancy. The implant contains a single hormone - a progestogen - which stops ovulation and/or changes the cervical mucus thereby preventing pregnancy. The implant consists of one to six match-sized plastic rods which a trained Clinician inserts under the skin of upper arm, using a local anaesthetic. The rods release a
constant dose of a hormone, progestogen, thereby protecting against pregnancy. A modern alternative consists of only one rod and is inserted by means of a specially designed disposable applicator.

The implant is considered to be one of the most effective methods. Others include the, IUD, injection or sterilization. Once in place it lasts for a period of three to five years. During that time it provides 99.8% or even more protection against unintended pregnancy (MOH, 2005).

(a) Advantages of Implants

The progestogen-only implant is considered to be the most effective reversible method of contraception available. Choosing the implant means: you do not have to remember to take a daily pill, you do not have to plan when to have sex, you are protected against pregnancy for 3-5 years, you choose a safe and reliable contraceptive option. It does not require pelvic exam, it lacks oestrogen thus do not have the cardiac and blood clotting effects. They are long lasting methods which reduce menstrual flow, decrease sickle cell crises (Dawn, S. 2007).

(b) Disadvantages of Implants

The implant can be associated with some unwanted effects but these usually end within three months of use. These may include: Headaches may occur but this side effect is rare. If headaches are severe or persistent, contact your doctor. Menstrual Bleeding Irregularities Unscheduled bleeding is a characteristic of progestogen - only contraception like the implant. In most women, bleeding will lessen or even disappear. Weight change varies among individuals. Some women may gain weight while others may lose weight. It may lead to delay of the return of menstrual periods (MOH, 2005).
2.5.2. Non-Hormonal Contraceptive Methods

Non Hormonal Methods comprise the Barrier Methods such as Female and Male condom, Diaphragm or Cervical Cap and Spermicidal, Intrauterine Contraceptive Devices (IUCD), Natural Family planning (Fertility awareness, Periodic abstinence), Withdrawal, Lactation Amenorrhea Method (LAM) and Voluntary Surgical Contraception such as Female Sterilization and Vasectomy (MOH, 2005).

(i) Intrauterine Contraceptive Devices (IUCD)

The IUCD is a small flexible device inserted into the uterine cavity by a trained service provider. 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. IUCD does not suppress milk production in breastfeeding women and do not cause Pelvic Inflammatory disease (PID). The copper IUCD prevents pregnancy primarily by preventing sperm from fertilising the egg, by changing the environment in the uterine cavity the IUCD makes it difficult for the egg and sperm to meet. (Pernoel et al, 1994).

IUCD provide effective long-term protection, can be used by breastfeeding mothers and prevent ectopic pregnancy. Its limitations are that they require appropriate infection prevention practices to be administered during insertion and removal, do not protect against STIs and may be expelled or translocated from the uterus (Cunningham et al, 2003).

(a) Advantages of IUCD

IUCD is highly effective. Long term protection and offers immediate return of fertility upon removal. The method can be used by the women who are breastfeeding and prevent ectopic pregnancy, (Cunningham et al, 2003).
(b) Limitations of IUCD

Require appropriate infection prevention practices during insertion and removal. It may increase menstrual bleeding and cause cramping during the first few months of use. Its however does not prevent against all ectopic pregnancies and STIs, HIV/AIDS. IUCD may be expelled or translocated and perforation of the uterus may occur if provider is unskilled. (MOH, 2005)

(ii) Voluntary Surgical Contraception

Voluntary surgical contraception include; female sterilization and male vasectomy procedures that are intended to provide permanent contraception. Female voluntary surgical contraception also referred as female sterilization or tubal ligation (TL), is a minor surgical operation which involves the tying and cutting of fallopian tubes in order to prevent the egg released by the ovary from being fertilized by the sperm, and reaching the uterine cavity. It is generally a safe procedure, and when performed by trained provider, few women experience side effects or complications. Overall rates of complications are in the range of 0.4-2.0% (Cunningham et al., 2003).

Male vasectomy is the surgical process of cutting the vas deferens in order to stop the sperm from mixing with the semen, so that the semen is ejaculated without the sperm. The operation is performed under the local anesthetic. Vasectomy is not synonymous with castration and does not affect sexual ability. It is one of the most effective methods of contraception an; it has a failure rate of less than 1% in most studies. Surgical contraception is a permanent method; hence, thorough, careful counseling is needed before decision making. A consent form must be signed by the client in all cases before the procedure is undertaken (Hatcher et al., 1990).
(a) Advantages of Surgical Contraceptive

Surgical Contraception’s are permanent methods are highly effective with few known side effects and a good choice for client if pregnancy causes a serious health risk. There is no change in sexual function, does not interfere with intercourse. It does not affect breastfeeding and decreases the risk of ovarian cancer (Cunningham et al, 2003).

(b) Limitations of Surgical Contraceptives

The surgical contraceptives limitations include its irreversibility, the success of reversal procedure cannot be guaranteed, complications of surgical procedure and do not protect against STIs and can only be provided by a trained medical personnel. The surgical procedure is painful for a few days, with minimal risks and side effects of local anesthesia. There is delayed effectiveness once the procedure has been performed in male surgical contraceptive (Cunningham et al, 2003).

(iii) Barrier Methods of Contraception

The male condom is a sheath, or covering, made to fit a man’s erect penis. Most condoms are made of a thin latex rubber. Some are coated with a dry lubricant or with spermicidal, while, female condom is made of thin, transparent, soft plastic. The condoms are used by the men and women who participate actively in family planning and need a back up method. It is also used by the couples who have sex infrequently and do not need continual protection and protection from STI/HIV (MOH, 2005).

(a) Benefits of Barrier Methods

Barrier methods are easy to obtain, highly effective in protection against STIs/ HIV with consistent and proper use. It offers contraception when it is only needed, safe and
easy to obtain without seeing the health care provider. The female condom protects against Pelvic Inflammatory disease. There is no health risks associated with the method (MOH, 2005).

(b) Limitations of Barrier Methods

The limitations of barrier methods are that it has a high failure rate if used inconsistently. It requires a new condom to be worn for each act of sexual intercourse, the condom may also reduce sensitivity, cause itching for a few people who are allergic to latex. Female condoms are also expensive for single use and require insertion before sexual intercourse (MOH, 2005).

(iv) Types of Natural Family Planning

Natural family planning (NFP), also called fertility awareness, and periodic abstinence, is the practice of abstaining from intercourse during fertile time. The fertile period is recognized through various ways, such as checking the physiological cervical mucus changes, measuring changes in body temperature, changes in the feel of the cervix, calendar calculation, or combination of several of these for more accurate identification of fertile time. Couples who choose to use fertility awareness methods usually need personal guidance from a trained personnel on its use, however, the pregnancy rate can be reduced to 1-9% with consistent and correct use of the method (Cunningham et al., 2003).

(a) Cervical Mucus or Billings Ovulation Method

In this method the woman identifies the fertile time by increasing amounts of cervical mucus. She may feel wetness at the opening of her vagina or see mucus in her fingers, underpants or tissue. The mucus has a peak day, when the cervical mucus can stretch
and its feel is slippery, the woman can predict that it is the fertile time and she is instructed to avoid sexual intercourse (MOH, 2005).

(b) **Body temperature (BBT)**

In this method the woman is instructed to take her body temperature each morning before getting from bed. The temperature readings are recorded on a special graph paper being the baseline temperature. When the woman's body temperature rises by 0.2°C to 0.5°C, this is around the time of ovulation, being the fertile period. The couple is instructed to abstain from sex or use a barrier method until the baseline temperature is maintained (MOH, 2005).

(c) **Calendar or Rhythm Method**

The calendar method is used to identify the start and end of the fertile time. Before starting to use the calendar method, a woman must record the length of her menstrual cycles for at least 6 months. The couple avoids sex, uses barrier method or withdrawal during the fertile time. The calendar method may require 16 days or more in a row of avoiding sex or using withdrawal, barrier method in each cycle (Cunningham *et al*, 2003).

(d) **Advantages and Limitations of NFP**

Natural Family Planning Methods has no physical side effects, does not require prescription by medical personnel, improves knowledge of reproductive systems. However, it has low effectiveness, requires daily record keeping and requires varying periods of abstinence during fertile phase and cooperation of both partners (MOH, 2005).
2.6 Contraceptives Failure

Contraceptive failure is profound inability of contraceptive to carry out its desired effects, leading to conception (Cunningham et al., 2003). The ideal Contraceptive method should be certain, without risk to health, aesthetically acceptable and inexpensive. Even if such a method were freely available psychological difficulties might still arise, to a few women sexual satisfaction is related to the possibility of contraception. However, unwanted pregnancy can cause much misery to the individual and in many parts of the world unchecked growths of the population threaten to be disastrous (Hatcher, et al., 1990).

It has been suggested that the ideal contraceptive would be 100% effective, perfectly safe and painlessly reversible (Hatcher et al., 1990). There would be no interruption of spontaneity, no mess, unpleasant odour or taste. It would be easy to use, cheap, not reliant on the user’s memory and culturally acceptable. However, such a contraceptive does not exist as yet (Cunningham et al., 2003). Failures do occur and for many reasons, thus method effectiveness and use effectiveness have been used to designate efficiency with correct and incorrect use of a method. There are various studies, which have been done to assess various reasons and failure rates of contraceptive (Best, 2005, Trussel et al., 1999; Smith et al., 2003).

When choosing a method of birth control women often consider the published success or failure rates for the method they are considering. However, these rates are based on "perfect use" by women that means, using the method exactly as prescribed during every act of sexual intercourse. The failure rates for a given method of birth control may actually be much higher during "typical use" than you might expect: Oral
contraceptives failure rate at typical use was found to be 9% while implants and injectables were found to be 2-4% (Trussel, et al., 1999).

Efficacy data, or failure rates, for oral contraceptive use can be analyzed based on information about the "perfect" user and the "typical" user. The perfect user never misses taking a pill, takes the pill at the same time each day and never vomits or has diarrhea. The "typical" user's behavior results in the failure rates reported for the general population. Whereas only one of 1,000 women who take oral contraceptive pills "perfectly" becomes pregnant within a year, 50 of 1,000 women who take the pills "typically" become pregnant within one year (Hatcher, et al., 1990).

Contraceptive failure rate is generally assessed by measuring the number of unplanned pregnancies that occur during a specified period of exposure and use of a contraceptive method. Two methods have been in use to measure contraceptive efficiency (failure rate); pearl index and life table analysis. Pearl index is the number of failures per 100 women years of exposure, that is, unwanted pregnancies, which occur in 100 women using that method for one year. With most methods of contraceptive, failure rate declines with rate for each use (Pernoel and Benson, 1994). Life table analysis calculate failure rate for each month of use. The results are as follows: vasectomy 0.15, tubal occlusion 0.5, Progestin-only implants 0.1, progestin-only injectables contraceptives 0.3-1, intrauterine devices 0.8, COC pills 6-8, condoms 35, diaphragms with spermicides 46, and Natural Family planning 43 (Hatcher, et al., 1990; WHO, 2005).

In addition, Contraceptives were ranked for effectiveness over the first year of use, utilizing data from the 1995 National Survey of Family Growth (NSFG) and the
1994–95 Abortion Patient Survey. The findings showed that long-acting methods such as Norplant and DMPA exhibited the lowest failure rates (2–3%) while Failure rates increased with combined oral contraceptives (8%), the diaphragm and cervical cap (12%), male condoms (14%), periodic abstinence (21%), withdrawal (24%) and spermicides (26%). Thus method choice greatly impacts a couple’s ability to avoid an unintended pregnancy (Fu, et al., 1999).

The most commonly reported contraceptive methods, in a study in USA in 1996, are oral contraceptive pill (60%) and the Condom (27%), while a study conducted in Australia found that 95% of 6,278 women aged 16-59 were at risk of unplanned pregnancy (currently having penetrating intercourse and using contraceptives). Given the relatively high level of contraceptive use and knowledge in Australia, many unplanned Pregnancies are thought to be due to method failure or inconsistent method use even when used correctly and consistently, all contraceptive methods can fail (Best, 2005).

In contrast, a study in Upper Egypt found that women who do not use contraceptives but have an unmet need for family planning contribute the largest share of unintended (mistimed or unwanted) pregnancies. (Fu et al., 1999). The fact that in Sub-Saharan Africa the levels of contraceptive use and unmet need were similar to those of Upper Egypt, this study recommended that family planning programs should continue to focus on the promotion of proper contraceptive use among women and men with contraceptive failure (Skjeldastad, 2000).

A study conducted by Obwaka and colleagues, analyzed cases of failure and an equal number of controls at Kenyatta National Hospital (KNH) - ANC Clinic, Nairobi,
Kenya, found that contraceptive user failure was more common than contraceptive method failure. High parity and high number of living children were associated with increased risk of failure. They found that better counseling on use and compliance would reduce contraceptive failure and diminish the negative programme effect of failed contraception. Counseling will also enhance acceptance of the pregnancies and minimize the chances of negative psychological sequences (Obwaka et al., 1997).

2.7 Abortion in relation to Contraceptive Failure

Abortion is the termination of a pregnancy by the removal or expulsion from the uterus of a fetus or embryo, resulting in or caused by its death. Induced abortion is a deliberate termination of pregnancy. The practice of abortion dates back to ancient times. Pregnancies were terminated through a number of methods, including the administration of abortifacient herbs, the use of sharpened implements, the application of abdominal pressure, and other techniques (Cunningham et al., 2003).

There are probably as many reasons for abortions as there are women who have them. Some pregnancies result from rape or incest, and women who are victims of these assaults often seek abortions. Most women, however, decide to have an abortion because the pregnancy represents a problem in their lives. Contraception currently is hailed as the solution to the problems consequent on the sexual revolution; many believe that better contraceptives and more responsible use of contraceptives will reduce the number of unwanted pregnancies and abortions and will prevent to some extent the spread of sexually transmitted diseases (WHO, 2004).

In a case–control study conducted on the contraceptive attitudes and contraceptive failure among women requesting induced abortion in Denmark the findings showed
that lack of contraceptive knowledge and experience of contraceptive problems were associated with the choice of abortion. This association was most pronounced among immigrant women, where women lacking knowledge had a 6-fold increased odds ratio (OR) and women having experienced problems a 5-fold increased OR for requesting abortion. A partner's negative attitude towards contraception was also associated with an 8-fold increased OR for requesting abortion contraceptive failure was prevalent; 21% of the women who intended to give birth had experienced contraceptive failure. However, women who had experienced contraceptive failure were significantly more likely to request abortion (Vibeke R, et al., 2009).

To support the argument that more responsible use of contraceptives would reduce the number of abortions, some note that most abortions are performed for "contraceptive purposes". That is, few abortions are performed because a woman has been a victim of rape or incest or because a pregnancy would endanger her life, or the effects of the unborn child. When contraceptive failed, couples resort to abortion as a back-up. Effective and efficient contraceptive use will reduce the number of unwanted pregnancies and abortions (Dawn, 2007).

Unwanted pregnancy can have profound effects on the individual concerned if the client was to decide to keep the pregnancy, the psychosocial sequelae may adversely affect the mother and consequently the baby. In many countries Kenya included, induced (criminal) abortion is still illegal unless it is done to save the mother (when mothers life is at risk). The consequence of this is an increased incidence of criminal abortion. Population report series in 1980, estimated that illegal abortion in developing countries kills 1 of every 1000-2000 cases induced (Obwaka et al., 1997). It is estimated that 123 million women succeed to get pregnant yearly, while a substantial additional number of women, around 87 million, become pregnant
unintentionally following contraceptive failure. Among 211 million pregnancies that occur each year, about 46 million end in induced abortion (Trussell, et al., 1999).

Nearly all currently couples know at least one modern method of contraception. Although induced abortion is legal only in situations to save a woman's life, the incidence of unwanted pregnancies and, consequently, the desire for abortion services is wide-spread, particularly among adolescents. As a result, unsafe abortion is a major problem contributing significantly to the high number of maternal deaths and significant maternal morbidity in Kenya, a country in which women have a one in twenty chance of dying from pregnancy related causes in their lifetime. The contraceptive methods may have a role in improving women's reproductive health in Kenya, the methods could potentially play an important role in reducing unwanted pregnancy (Family Planning Perspectives, 1999).

2.8 Drug Interactions with Oral Contraceptives Failure

Oral contraceptive Method failure has been attributed to a lesser extent to be related to other drugs interaction especially anti-microbial (Stuart and Ash 2000). In USA, a study on the effects of oral antibiotics in relation to oral contraceptives failure rates, results revealed that short term use of antibiotics do not increase contraceptive failure rate (Helms et al., 1997).

Drug interaction and hormonal contraception, both components of combined oral contraceptive oestrogen and progestin are metabolized in liver. Some drugs, through the effects on the liver enzymes, increase or reduce metabolism of these hormones and thereby interfere with their contraceptive efficacy. The proposed mechanisms of these interactions are many but include hepatic microsomial enzyme induction or
inhibition, interference with the entero-hepatic circulation of steroid metabolites, interference with absorption from the gastrointestinal tract, competition between 2 drugs for the same metabolizing enzyme, alterations in plasma protein binding, or induction of an opposite physiologic effect or increased urinary or fecal excretion of the contraceptive. The following drugs affect efficacy of hormonal contraceptive: Anti-Epileptics: Phenytoin and carbamazepine.; Anti-Fungal: Griseofulvin, Anti-Tuberculosis: Rifampicin, Anti-Retrovirals: Nevirapine (MOH, 2005).

In addition, Weisberg (1999) also studied interactions between oral contraceptive and anti-fungal/anti-bacterial and concluded that the effectiveness of oral contraceptive may be impaired by concomitant treatment with antimicrobials. This may occur because of reduction in plasma concentrations of ethinylestradiol by the induction of hepatic metabolism, as for rifampicin and possibly Griseofulvin or in a small percentage of women because of interference with entero-hepatic recirculation. However, there are no scientific data to support the anecdotal evidence that the concomitant use of combined oral contraceptives and antimicrobials reduces contraceptive efficacy in the majority of women.

It has been postulated that there is a subset of minority women in whom the entero-hepatic recirculation of ethinylestradiol plays an important role. In this small percentage of women, the action of antimicrobial may reduce the efficacy of oral contraceptive by interfering with this mechanism. All women using combined oral contraceptive should be informed of the very low level of risk of interactions with antimicrobials (probably about 1%) and that it is not possible to identify who may be at risk (Weisberg, 1999). Oral contraceptive interferes with the actions of some drugs: some drugs decrease the contraceptive effectiveness of combination oral
contraceptive; *phenytoin* and *rifampicin* have been implicated in causing failure rates (Stuart and Ash, 2000).

### 2.9 Socio-Demographic Factors affecting Oral Contraceptive Failure

Socio-demographic factors play a major role in relation to provision of family planning services. A study in U.S.A revealed that failure rates vary more by user characteristics such as age, marital status and poverty status than by method suggesting the extent to which failure results from improper and irregular use rather than from improper limitation of the method (Jones and Forest, 1992).

- **(a) Poverty**

Contraceptive failure varies widely by method as well as by personal background characteristics. Income is a strong influence on contraceptive failure suggesting that access barriers and the general disadvantage associated with poverty seriously impede effective practice. Poverty continues to have a negative impact on effective contraceptive use there is a relationship between contraceptive user failure and poverty due to misuse (Fu *et al.*, 1999).

- **(b) Accessibility to Health Facility**

Women who have unprotected sexual intercourse or experience contraceptive failure can seek emergency contraception to reduce their chance of unintended pregnancy. Emergency contraception is a safe medication, and to be effective, must be taken within two days of unprotected intercourse.

Several barriers can discourage use of emergency contraception, including an inability to obtain the medication fast enough. This is associated with the distance from the health facility and client’s residence, lack of accessibility of the contraceptives is a heavy burden in increasing unintended pregnancy (Ezzati *et al.*, ...
Young girls are likely to have contraceptive failure due to fear of disclosure, financial constraints and accessibility of the contraceptive. Between 7% and 48% of adolescent girls report that their pregnancies were unplanned, as a result of failure of methods of contraceptives (Musahi, 2005). The recommended outlets for pills include hospitals, health centers, dispensaries, outreach/mobile clinic services and pharmacies. However, poor infrastructures in the rural set up hinder accessibility to the recommended health facilities (KDHS, 2003).

(c) Knowledge on Contraceptives

The language of sexual risk taking in modern medical contexts is often a highly moralized, though rarely explicitly, moral discourse. Some clinicians expressed reluctance to offer advance prescription because of a concern that facilitated access to emergency contraceptives (EC) might increase a woman's risk for sexually transmitted diseases (Ritchets et al., 2003). This inconsistency suggests that a major, if tacit, objection to EC has more to do with moral concerns about post-coital methods of contraception than with actual safety concerns. It is striking that several participants suggested that patients who did not have a more regular (i.e., pre-coital) method of contraception were inappropriate candidates for advance prescription (Ezzati et al., 2004, Ritchets et al., 2003).

Clinicians who are able to communicate effectively with their patients can facilitate lifetime contraceptive success, studies have documented that the quality of care a patient receives at the time she adopts a contraceptive method affects her subsequent contraceptive use through knowledge empowerment (Kravitz et al., 2004).
(d) Contraceptive Myths

Among women using contraception, the majority of unintended pregnancies occur because of inconsistent or incorrect use of the method, or because the user discontinued one method without immediately switching to another effective one. Analysis of data from the Demographic and Health Surveys (DHS) reveal that, among women who end up having unplanned pregnancies, most had stopped using contraceptives due to fear and pressure from the family in-laws and society on myths of contraception. Oral contraceptives and condoms are the methods that are user-dependent and that people often use inconsistently and incorrectly (Trussel et al., 2003). Although there is a lot of information available about family planning, it does not necessarily affect the acts or attitudes of people. The largest impact on contraceptive use and family planning comes from culture and traditions. The largest difficulties in the use of contraceptives are false beliefs, stigmatization and the inequality driven secret use of contraceptives.

2.10 Contraceptive Counseling

Counseling is an important prerequisite for the initiation and continuation of a family planning method. Service providers should be competent in counseling for all methods of contraceptives. There should be no coercion to adopt family planning or any other particular method of contraception (WHO, 2005). Counseling is a vital part of reproductive health care: it helps clients to arrive at an informed choice of contraceptive methods options, select a contraceptive method with which they are satisfied and use the chosen method safely and effectively (Trussell and Vaughan, 1999).
There are six principles of counseling (MOH, 2005):

a) Treat client well: A good counselor should understand and respect their client’s rights, earns clients trust by establishing rapport.

b) Being polite and respectful: The counselor should understand the cultural and emotional factors that affect a client’s decision to use a particular contraceptive method.

c) Interact with the client: In a counseling relationship, the counselor and client work together to explore every aspect of the client’s circumstances, enabling the individual to re-evaluate his or her experiences, capabilities and potential.

d) Encourage clients to talk and ask questions: The counselor should encourage a client to ask questions by using a non-judgemental approach which shows the client respect and kindness.

e) Tailors information to the client: In addition a counselor should present information in an unbiased client sensitive manner, and understand the effect of nonverbal communication.

f) Listen to the client: The provider should actively listen to clients concerns, learns what information each client needs, and provide the method that the client wants.

Even if all the needs for contraception were met, there would still be many unwanted and mistimed pregnancies. Although most modern methods of contraception are highly effective if used consistently, advice and counseling on their correct use is often not available. If all users were to follow instructions perfectly, there would still be nearly 6 million accidental pregnancies per year. The fact is that with typical, real-life use of contraceptives, an estimated 26.5 million unintended pregnancies occurs each year because of inappropriate use failure. In addition, dissatisfaction with
Men play a vital role in determining the status of women health, especially in reproductive health. If women do not have the power to take decisions which affect their wellbeing, then their health status can only be improved by involving persons in position to do so. Most women use contraceptives without the knowledge of their husbands while others fear to raise the issue of family planning due to rejection or violence (Rash, 2002).

Informed choice emphasizes that clients select the method that best satisfies their personal, reproductive and health needs, based on a thorough understanding of their contraceptive options. The following is a decision-making model to family planning counseling sessions in Kenya, a country with a long-established family planning program and one of the highest rates of contraceptive prevalence--33% among married women--in Sub-Saharan Africa (Bertakis, 1997).

a) Step One: Understanding personal circumstances. The first step in making an informed choice about a family planning method is for the client to understand his or her own needs, priorities and reproductive intentions. In this step, providers encourage clients to examine these personal issues, and they explain to clients how these issues relate to method choice. Providers help returning clients review their current situation and experience with their method, and also encourage them to think about other options.

b) Step Two: Considering alternatives. By relating information about contraceptive methods to the client's personal situation, providers help clients narrow their contraceptive options. Providers can discuss--and clients can absorb--only a limited amount of information in a single session. Therefore, providers must be selective in the information they offer, focusing on the most
methods can lead to discontinuation, which is often associated with lack of choice, incorrect use or fear of side effects, all symptoms of poor quality family planning counseling and services (Rash, 2002).

However, the study on effectiveness of contraceptive did not capture the above attributes of counseling within the health systems in place in Kenya. It reveals that most of the counseling sessions done are two sessions i.e. initial counseling at reception and method specific counseling and there is no follow up counseling especially during the return visits, on use of method, satisfaction or side effects (WHO, 2005).

2.11 Decision Making of Contraceptive Use

The decision of when or whether to have children is a human right that all people must enjoy, with this right can come benefits or risks through family planning individuals, their families and society are more likely to enjoy the benefits that result from procreation (WHO, 2005). Contraceptive, which is temporary or permanent prevention of fertility, is one of the means by which the population problem can be addressed or alleviated. It is noteworthy that in countries where contraception is promoted and accepted by the people there is marked reduction in population growth rate and increased standard of living (Stuart and Ash, 2000).

To make an informed decision when choosing a contraceptive, women and couples need to know how effective different methods are when used perfectly, where perfect use is defined as following instructions and directions of use. Estimates of pregnancy rates during perfect use can be guaranteed only if information on consistency and correctness of use is available for each menstrual cycle (Dominik et al., 1999).
important issues for the client and then thoroughly explaining potential side
effects or inconveniences. If returning clients are dissatisfied with their current
method, providers can alert them to their options: adjusting to side effects,
switching to a different method or discontinuing contraceptive use and facing
the risk of pregnancy.

c) Step Three: Choosing the best option. In this step, clients compare the
advantages and disadvantages of their different contraceptive options, with the
provider's help. To ensure that clients fully understand their options, providers
may ask them to explain the reasoning behind their choice. Likewise,providers can encourage returning clients who are considering a change of
method to evaluate how another method might better suit their needs or
increase their satisfaction.

d) Step Four: Implementing the decision. Once clients have chosen a
contraceptive method, providers offer them the practical information that they
need to use the method safely and effectively. They discuss how to use the
method, when to return for a check-up or for contraceptive supplies and what
to do in case side effects or other problems arise. Providers offer new clients
this information, while for clients who are continuing with a method,providers restate and reinforce this material

However, the role of unequal power relations between men and women in decision
making is still a challenge. These contribute substantially to both unwanted sex and
subsequent unwanted pregnancy Young women are at particular risk of unwanted sex,
or sex in unwanted conditions, particularly when there are large age differences
between them and their partners, thus making the women not to effectively use contraceptive (Chama et al., 1999).

The benefits of contraceptives are well known; these are the survival and health of children, the general growth, development and total health of the children and the survival and health of the mothers and the general well-being of families, the community and nation as a whole. If contraceptive failure could be avoided, there will be a marked reduction in unintended pregnancies, abortions with possible complications and unwanted teenage pregnancies (Best, 2005).
CHAPTER 3: MATERIALS AND METHODS

3.1 Introduction
The chapter presents the procedures and strategies used in the study. Research design, location, target population, the sample and sampling procedures, data collection, data analysis and presentation are also discussed.

3.2 Study Design
The study adopted a descriptive comparative study design which sought to establish and describe the prevailing phenomena on contraceptive user failure with respect to the variables. The study was justified because it allowed extensive data collection within a short time; it also described socio-demographic characteristics of respondents, effects of pre-use contraceptive counselling and clients' attitudes influencing effective oral contraceptive use (Mugenda O and Mugenda A, 1999).

3.3 Variables
(a) **Dependent Variable**
Oral Contraceptive failure

(b) **Independent Variable**
Socio-demographic characteristics of clients, pre-use counseling on contraceptive and clients' attitudes on the contraceptive use.

3.4 Location of Study
This study was carried out in Eldoret Municipality Ante-Natal Clinics: Uasin-Gishu District Hospital, Huruma Sub-District Hospital and the Moi Teaching and Referral Hospital’s Ante-Natal Clinic. Eldoret Municipality is located in Uasin Gishu District
of Rift Valley Province in Kenya. The catchments' area for Eldoret Municipality Health facilities consists of the following District Hospitals; Kapenguria, Kitale, Nandi Hills, Kapsabet, Tambach, Kapsowar Mission Hospital and Mosoriot Sub-District Hospital.

Eldoret Municipality has a service provider mix which includes Consultants, Medical Officers, Medical Officers Interns, Reproductive Health Coordinators, Nursing Officers, Nursing Officers Interns, Clinical Officers, Midwives and other paramedics.

3.5 Target Population

The target population included both the urban and peri-urban Oral Contraceptive users attending selected Ante-natal clinics in the Eldoret municipality. The study population included the pregnant mothers attending Ante natal clinics and had used oral contraceptives in Uasin-Gishu District Hospital, Huruma Sub-District Hospital and Moi Teaching and Referral Hospital.

3.5.1. Inclusion Criteria

Both respondents who experienced oral contraceptive failure and those who did not experience failure had same criteria i.e. were pregnant and attending Antenatal clinic at Eldoret Municipality.

Clients with Oral Contraceptive failure

(a). Pregnant clients attending ANC Eldoret Municipality during study period.

(b). Client who conceived while on Oral contraceptive method. This will be confirmed either by card records, referral to the clinic by family planning clinic staff, doctors or upon interviewing the clients.
Clients who did not experience Oral Contraceptive failure

a) Pregnant clients attending ANC, Eldoret Municipality during study period.

b) Clients on Oral contraceptive method before conceiving and deliberately stopped method in order to conceive.

3.5.2. Exclusion Criteria

Pregnant clients who have never been on oral contraceptives method, denial of consent to participate, and Clients who had failure but ended up in abortion.

3.6 Sampling Techniques and Sample Size

3.6.1. Sampling Techniques

Purposive sampling was employed for the choice of Eldoret Municipality. Out of seven Antenatal clinics (MTRH, West, Pioneer, Langas, Huruma, Uasin Gishu county clinic, Kapsoya), three Antenatal clinics were randomly selected which were MTRH, Huruma Sub-District and UGDH. The Sample size was proportionately allocated to the study sites ANC clinics with respect to the sample size in the ratio 1:2:1 i.e. MTRH, Huruma Sub-District Hospital and UGDH respectively hence 48 subjects from MTRH, 97 subjects from Huruma Sub-District Hospital and 48 subjects from UGDH as shown in the table below.

<table>
<thead>
<tr>
<th>Antenatal Clinics</th>
<th>MTRH</th>
<th>Huruma</th>
<th>UGDH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antenatal Clients on Oral Contraceptive use</td>
<td>290</td>
<td>550</td>
<td>260</td>
</tr>
<tr>
<td>Respondents proportionately allocated as per sample size</td>
<td>48</td>
<td>97</td>
<td>48</td>
</tr>
<tr>
<td>Respondents who experience failure</td>
<td>26</td>
<td>52</td>
<td>26</td>
</tr>
<tr>
<td>Respondents who did not experience failure</td>
<td>22</td>
<td>45</td>
<td>22</td>
</tr>
</tbody>
</table>

A systematic random sampling technique was employed where every 2\textsuperscript{nd} client was picked after the first one being picked at random between 1 and 2, till the required
sample size was achieved. The sampling technique was chosen due to its appropriateness in situations where arrival at a service point is random and every arrival at known interval is selected as in the case of clients visit to clinics. In this case preparation of a sampling frame was unnecessary.

3.6.2. Sample Size Determination

Sample size was determined by the formula (Fisher et al., 1998)

\[ n = \frac{1.96^2 \times (p) \times (1-p)}{d^2} \]

\[ n = 1.96^2 \times (0.08) \times (1-0.08), \text{ hence } n = 113 \]

\[ 0.05^2 \]

Where

- \( C \) = confidence level set at 95%
- \( n \) = Desired sample size
- \( p \) = Estimated proportion of subjects with contraceptive failure in the population (KDHS 2008, Oral Contraceptive failure rate is 8%)
- \( z \) = 1.96, value (standard normal deviation corresponding to 0.05 error)

Since the sample size is <10,000, adjustment factor was applied.

\[ n_t = \frac{n}{s} \]

\[ n_t = 113/1 + 113/110 \]

\[ n_t = 103 \]

Where

\[ s = 1 + n/N \]

\[ n = \text{Sample size 113} \]

\[ N = 1100, \text{ anticipated number of clients attending ANC} \]

\[ n_t = \text{ Desired Sample size} \]

Thus the minimum sample size required was calculated to be \textbf{103}

However during the study period 103 respondents were found who had contraceptive failure and matched with 89 respondents who did not experience contraceptive failure.

Using Proportional ratio of 1:2:1

Contraceptive failure  MTHR = 26, HGDH = 52, UGDH = 26
No contraceptive failure MTHR = 22, HGDH = 45, UGDH = 22
3.7 Research Instruments

Data collection tool was an Interviewer-administered structured questionnaire, it contained questions on demographic data, contraceptive use, pre-use contraceptive counseling and clients attitudes were used as the data collection tool from the Antenatal clients by the trained research assistants.

The research assistants were guided by the client’s attendance in the enumeration, and administering of the questionnaires. The research assistants endeavored to ensure that questionnaires were correctly filled to reduce the number of rejected questionnaires during the process of analysis.

The data collection process took a period of twelve weeks in the selected Antenatal Clinics in Eldoret Municipality, (MTRH, UGDH, and Huruma Sub-district Hospital). The questionnaires were only administered after an informed consent had been obtained from the clients. Collected data was then checked for completeness and collated in a Microsoft Access database.

3.8 Pre-test

A pre-test was done before execution of the actual study. The purpose of the pretest was to test if the proposed main study was feasible and if the study instruments were adequate in the collection of the required data. The study was conducted at West Clinic, Eldoret Municipality. The Clinic operates ANC clinic with average attendance of 200 clients per month, a total of 13 clients (10% of the sample size) were interviewed using the study questionnaire. Findings of this pretest showed that the study instrument was valid and reliable.
3.8.1. Validity

At the end of each day the filled interview schedules were counterchecked by the researcher to ascertain that all the questions had been answered correctly and consistently. This involved going through the entire questionnaire to verify and fill the missing information.

3.8.2. Reliability

Reliability was achieved through close supervision of the field assistants and ascertained by analysing the data obtained from the pre-testing exercise. Field assistants with a minimum of form four education levels were recruited and trained in interview techniques.

3.9 Data Analysis

Data was imported from the Microsoft Access database to SPSS Version 13 for analysis. Descriptive statistics including the frequency tables and mean (standard deviation) were generated. Chi-square test was employed to check for significant relationships between contraceptive failure and related categorical variables. Binary logistic regression was used to identify significant predictors of contraceptive failure controlling for confounders. In all the tests, a p-value of less than 0.05 was considered statistically significant.

3.10 Ethical Consideration

Necessary protocol was undertaken from Kenyatta University, Institutional Research and Ethics Committee (IREC) of MTRH and Moi University (Appendix IV). The participants were fully informed about the nature and purpose of the research,
procedures to be used and the expected benefits to the participant/ society (Appendix I).

The participants were assured of confidentiality and anonymity for any information they were to give; participation was voluntary and free of any coercion. Informed Consent was obtained from the clients after explanations of the study protocol; the participants signed a consent form as a way of authorizing their participation in the study (Appendix II).

All the clients with contraceptive failures were counseled by Health care providers, Nurses, Doctors and Clinical Officers on their conditions and future reproductive options.
CHAPTER 4: RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter is a presentation of the results of this study. It involves a descriptive analysis of the socio-demographic characteristics of the study population, influence of socio-demographic factors on contraceptive use failure, effects of pre-use contraceptive counselling on contraceptive failure and clients attitudes on contraceptive failure. The study was undertaken in three antenatal clinics in Eldoret Municipality, Uasin Gishu County.

4.2 Socio Demographic Characteristics of the Study Population

This section presents the socio-demographic characteristics of the respondents in the study area. The attributes of age, level of education, marital status, religion, occupation, residency and monthly income are presented.

A total of 192 respondents completed the questionnaires, while the response rate was 93%, The Proportion of contraceptive user failure in the current study was 103(54%) as opposed to 89(46%)those who did not experience failure.

4.2.1. Age Distribution

The respondent's age ranged from 15years and 45 years. Among the respondents who had contraceptive failure, 73 (38.1%) were 30 years and below, while 30 (15.6%) were 31 years and above .The respondents who did not experience failure, 41(21.3%) were 30years and below as shown in the figure 4.1. The mean age was 27yrs, median age was 28yrs and modal age of 31yrs.
4.2.2. Level of Education

On the highest level of education attained, most of the respondents who had experienced contraceptive failure had attained secondary school education 44 (22.9%), followed by primary education at 41 (21.9%), while those with college education were 14 (7.6%) and those that had attained university education were 4 (2.1%), while those respondents who did not experience failure were 49 (25.5%) had secondary and primary education while 40 (20.8%) had attained college and university education as shown in the figure 4.2.
4.2.3. Marital Status

Union status consisted of four categories: married, single, widowed, divorced/separated. Majority of clients who experienced contraceptive failure were married 53 (27.6%) followed by singles 41 (21.4%), while those clients who did not experienced failure 59 (30.7%) were married while 14 (7.3%) were singles as shown in figure 4.3.

Figure 4.3. Respondents’ Marital Status

4.2.4. Religious Affiliation

To study the potential influence of religious affiliation on contraceptive use effectiveness, Roman Catholic clients were distinguished from Protestants, while women who reported other religions were grouped (e.g., Jewish, Hinduism, Islam) with those who reported no religious affiliation (since each group was too small to permit separate analysis). With regard to religion 62.1% were Protestants who experienced failure while 37% were Catholics who did not experienced failure, as shown in Table 4.1.
Table 4.1. Religious Affiliation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Characteristic</th>
<th>Contraceptive Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Religion</td>
<td>Catholic</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Protestant</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>43</td>
</tr>
</tbody>
</table>

4.2.5. Respondents’ Occupation

The respondents who experienced contraceptive failure had various occupation with housewives being 36 (18.8%), 15 (7.8%) were professionals, 32 (16.7%) were students while the unskilled were 20 (10.4%). For those respondents who did not experienced failure majority were professionals 31 (16.1%) while housewives were 29 (15.1%) as shown in figure 4.4.

Figure 4.4. Respondents’ Occupation

4.2.6. Monthly Income

The clients were classified according to their household monthly income, out of which those who experienced failure were 52 (27.1%) earning less than KShs. 1,000.00, 29 (15.1%) earning between Kshs. 1,000 and 5,000, 14(7.3%) earned between KSh.5, 000 and 10,000, while only 8 (4.1%) earned more than Kshs. 10,000 per month. The respondents who did not experienced failure majority 32(16.7%)
earned more than Kshs.10,000 while 30 (15.6%) earned less than Kshs.1,000 per month as shown in figure 4.5.

Figure 4.5. Households’ Monthly Income

4.2.7. Location of Residency

Accessibility to health facility influences timely contraceptive use, the location of residency. Township was considered as being within 25km radius from the clinic in urban setup while more than 25km from the clinic was considered being in the Rural set up. Majority of the respondents resided in the rural set up 132 (69%) while 60 (31%) reside within the township, as shown in Figure 4.6.

Figure 4.6. Respondents’ Residency
4.3 Influence of Social Demographic characteristics on Contraceptive User Failure

4.3.1 Association between Social Demographic Factors and Contraceptive Failure

a) Association between Age and the Risk of Contraceptive Failure

The respondent's age ranged from 15 years and 45 years, mean age of 27 years. Age was statistically significance with contraceptive failure, \( N = 192, [\chi^2=14.961; df=4; p=0.005] \), as shown in the table 4.2. This implies that the age of respondents had an influence in the contraceptive failure; the findings were women over 35 years were less likely to experience a Contraceptive failure than their younger counterparts, probably because older women are more likely to be careful about not getting unwanted and mistimed pregnancies than young ones.

b) Association between Marital Status and Contraceptive Failure

Majority of the respondents were married, 51.5% experienced failure while 66.3% were those who did not experience failure in contraceptive use. The respondents marital status was found to be statistically significant with the risk of failure \( [\chi^2 = 14.877; df=4; p = 0.00] \), as shown in the table 4.2. This implies that an influence on the element of oral contraceptive failure, those who were single were more likely to experience failure than those who were married.

c) Association between Education Level and Contraceptive Failure

The respondents who had attended at least primary education as their highest level of education were 13.6%, secondary level were 42.7% for those who had experienced failure, while primary education were 21.4% and secondary level were 33.7% those who did not experienced failure in contraceptives use. However, educational level
was significant with the risk of failure \( \chi^2=10.832; \ df=3; \ p=0.029 \) as shown in the table 4.2. The level of education has an influence on the risk of failure, those who had tertiary education were less likely to experience failure than those with secondary education and below. This could imply that the more educated a woman is the more she could comply with the usage of contraceptives as opposed to those with low education level.

d) Association between Religious Affiliation and Contraceptive Failure

The religious affiliation can influence contraceptive use and choice. In the current study, Majority were Protestants 62.1% and 54% for the cases and controls respectively. There was no significant association between religious affiliation of the respondents and risk of failure, \( \chi^2=2.671; \ df=2; \ p=0.263 \), as shown in Table 4.2. This implies that the religion has no influence on the element of oral contraceptive failure.

e) Association between Occupation and Contraceptive Failure

In the current study most of the respondents who experience failure were housewife 35%, 31% were students and only 14.6% were professionals. The respondents who did not experience contraceptives failure, professionals were 34.8% while housewife were 32.6%. The respondents occupation status was statistically significant with the risk of failure \( \chi^2=11.9; \ df=3; \ p=0.007 \), as shown in table 4.2. This is an indication that the occupation of a respondent has an influence on the contraceptive failure, those who were professionals were less likely to experience failure as opposed to students and housewives.
f) Association between Incomes and the Risk of Contraceptive Failure

Majority of the respondents (50.5%) who had contraceptive failure were earning less than 1,000 while 33.7% were those who didn’t experience contraceptive failure. However, 35.9% of respondents who did not experience contraceptive failure earned more than 10,000 per Month as opposed to the respondents who had contraceptive failure were only 7.8%. The respondents Monthly income was found to be significant \( \chi^2=24.02; \text{df}=3; \ p=0.000249 \), as shown in the table 4.2. Respondents income had an influence on the element of oral contraceptive failure, it suggests that poverty is an access barriers in effective utilization of contraceptives.

g) Association between Location of Residency and Contraceptive Failure

Location of Residency determines accessibility to the Family planning health facility, 73.85 of the respondents who had contraceptive failure resided in the rural area while 26.2% reside in the urban area. In the comparative group, 62.9% resided in the urban area as opposed to 37.1% who reside in the urban. However, respondents’ residency was not significantly associated with the risk of failure, as shown in the table 4.2. This implies that whether the respondent lived in urban or rural setup did not influence the contraceptive failure.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Contraceptive Failure</th>
<th></th>
<th></th>
<th>X² statistic results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Age</td>
<td>&lt; 20</td>
<td>23</td>
<td>22.3</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>21-25</td>
<td>28</td>
<td>27.1</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>26-30</td>
<td>22</td>
<td>21.4</td>
<td>15</td>
</tr>
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<td></td>
<td>31-35</td>
<td>23</td>
<td>22.5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>&gt; 36</td>
<td>7</td>
<td>6.7</td>
<td>18</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Single</td>
<td>41</td>
<td>39.8</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>53</td>
<td>51.5</td>
<td>59</td>
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<tr>
<td></td>
<td>Others</td>
<td>9</td>
<td>8.7</td>
<td>16</td>
</tr>
<tr>
<td>Highest Level of</td>
<td>Primary</td>
<td>41</td>
<td>39.8</td>
<td>19</td>
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<td>Education Attended</td>
<td>Secondary</td>
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<td>30</td>
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<tr>
<td></td>
<td>College</td>
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<td>University</td>
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<td>33</td>
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<td></td>
<td>Protestant</td>
<td>64</td>
<td>62.1</td>
<td>48</td>
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<td>Others</td>
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<td>8</td>
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<td>19.4</td>
<td>12</td>
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<tr>
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<td>Housewife</td>
<td>36</td>
<td>35</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Professional</td>
<td>15</td>
<td>14.6</td>
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<tr>
<td></td>
<td>Student</td>
<td>32</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>Income (KShs)</td>
<td>&lt;1,000</td>
<td>52</td>
<td>50.5</td>
<td>30</td>
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<tr>
<td></td>
<td>1,000-5,000</td>
<td>29</td>
<td>28.2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>5,001-10,000</td>
<td>14</td>
<td>13.6</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>&gt;10,000</td>
<td>8</td>
<td>7.7</td>
<td>32</td>
</tr>
<tr>
<td>Residence</td>
<td>Rural</td>
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<td>73.8</td>
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<td></td>
<td>Urban</td>
<td>27</td>
<td>26.2</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3.2 Association between Other factors and Contraceptive Failure

a) Association between Number of births (parity) and contraceptive failure

Half of the respondents had at least three prior deliveries, 54(52.4%) for the cases and 46(51.7%) for the comparative group, as opposed to 9(5.8%) cases and 10(11.2%) comparative group on those who had more than 5 prior deliveries. The respondents Parity was not significant \( [\chi^2 = 1.594; \ df = 3; \ P = 0.810] \), as shown in the table 4.3.
b) **Association between Breastfeeding and Contraceptive Failure**

The clients who were breastfeeding and had contraceptive failure were 66(64%) while those who conceived while not breastfeeding were 37(36%). Breastfeeding was not significant with oral contraceptive failure \( \chi^2=0.106; \text{df}=1; p=0.766 \), as shown in the table 4.3. This is an indication that whether a respondent was breastfeeding while using the oral contraceptive method did not influence the failure of the oral contraceptive method.

c) **Association between Interval Duration of Method use and contraceptive failure**

On the interval duration of method use, the respondents who had contraceptive failure and had used contraceptives for 3-5 months were 36(35%) as opposed to 17(16.5%) who had used contraceptive for more than 8 months. For those who did not experience failure, majority had used for duration of 6-8 months were 27(30.3%) while those who had used for more 8 months were 23(25.8%). A short duration of contraceptive use below 8 months was associated with risk of failure. This was statistically significant, \( \chi^2=8.090; \text{df}=3; p=0.044 \). As shown in the table 4.3.

d) **Association between contraceptive failure with use of other Medication**

The effects of using other medications while on the contraceptive method was studied, the results revealed that only 14(13.6%) were using other medications together with contraceptives, while 89(86.4%) were not on other medications. For those who experienced failure, majority 74.2% were not on any other medications while on contraceptives. The use of other medications while on Oral contraceptives was significant with risk of failure \( \chi^2=4.606; \text{df}=1; p=0.032 \) as shown in the table 4.3.
This implies that the use of other medication could have reduced the efficacy of oral contraceptive method and influence the failure of the contraceptive.

e) Association between Source of Contraceptives and contraceptive failure

The source of getting the Oral contraceptives was established. From the study findings most of the respondents received the contraceptives from the clinic, the respondents who experienced failure were 55(53.4%) while 72(80.9%) were those who did not experienced failure. For those who received from the chemist and experienced failure 37(35.9%) while 12(13.5) were those who did not experience failure. The source of contraceptives was highly significant with the contraceptive failure $[\chi^2 = 18.969; \text{df}=2; p=0.001]$, as shown in table 4.3. This implies that the source of contraceptive had an influence in the element of contraceptive failure, those who received from the clinic were seven times more to experience failure than those who were given from chemist and donor agency.

Table 4.3. Association between other factors and contraceptive failure

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Contraceptive Failure</th>
<th>$\chi^2$ statistic results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
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<td>18</td>
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<td>1-3</td>
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<tr>
<td>&gt;5</td>
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<td>Breastfeeding</td>
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</tr>
<tr>
<td>No</td>
<td>37</td>
<td>34</td>
</tr>
<tr>
<td>Interval duration of method use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2 months</td>
<td>30</td>
<td>16</td>
</tr>
<tr>
<td>3-5 months</td>
<td>36</td>
<td>23</td>
</tr>
<tr>
<td>6-8 months</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>&gt;8 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On other medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>No</td>
<td>89</td>
<td>66</td>
</tr>
<tr>
<td>Source of the contraceptive</td>
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<td></td>
</tr>
<tr>
<td>Chemists</td>
<td>37</td>
<td>12</td>
</tr>
<tr>
<td>Clinic</td>
<td>55</td>
<td>72</td>
</tr>
<tr>
<td>Donor Agency</td>
<td>11</td>
<td>5</td>
</tr>
</tbody>
</table>
4.3.3 Factors Associated with Oral Contraceptive Failure

As in table 4.4, multiple binary logistic regression indicated that controlling for age-group, duration on contraceptives, counselling and education level, marital status, income and source of contraceptives were significant predictors of contraceptive failure ($p<0.05$).

Those who received their contraceptives from the clinic were almost seven times more likely to experience contraceptive failure as compared to those who obtained from the donor agency (OR; 95%CI, 6.614; 1.051-41.613). On the Monthly income levels, the respondents who earned monthly income of KShs.1,000-5,000, were almost five times more likely to experience failure as compared to those who earn more than KShs.10,000 per month.( OR; 95%CI, 4.667; 1.564-13.922).

On the marital status, those who were singles were three times more likely to experience contraceptive failure as compared to those who were married (OR;95%CI, 3.072; 1.298-7.272).
<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>Df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>1.122</td>
<td>.440</td>
<td>6.515</td>
<td>1</td>
<td>.011</td>
<td>3.072</td>
<td>1.298</td>
<td>7.272</td>
</tr>
<tr>
<td>Others</td>
<td>.749</td>
<td>.664</td>
<td>1.273</td>
<td>1</td>
<td>.259</td>
<td>2.114</td>
<td>.576</td>
<td>7.762</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;40</td>
<td>1.524</td>
<td>.794</td>
<td>3.687</td>
<td>1</td>
<td>.055</td>
<td>4.589</td>
<td>.969</td>
<td>21.734</td>
</tr>
<tr>
<td>20-25</td>
<td>.814</td>
<td>.614</td>
<td>1.758</td>
<td>1</td>
<td>.185</td>
<td>2.258</td>
<td>.677</td>
<td>7.526</td>
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<tr>
<td>26-30</td>
<td>.455</td>
<td>.696</td>
<td>.427</td>
<td>1</td>
<td>.513</td>
<td>1.575</td>
<td>.403</td>
<td>6.159</td>
</tr>
<tr>
<td>31-35</td>
<td>.704</td>
<td>.679</td>
<td>1.075</td>
<td>1</td>
<td>.300</td>
<td>2.022</td>
<td>.534</td>
<td>7.649</td>
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<tr>
<td><strong>Monthly Income</strong></td>
<td>20.521</td>
<td></td>
<td></td>
<td>3</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1,000</td>
<td>-.396</td>
<td>.455</td>
<td>.756</td>
<td>1</td>
<td>.385</td>
<td>.673</td>
<td>.276</td>
<td>1.643</td>
</tr>
<tr>
<td>1000-5,000</td>
<td>1.540</td>
<td>.558</td>
<td>7.630</td>
<td>1</td>
<td>.006</td>
<td>4.667</td>
<td>1.564</td>
<td>13.922</td>
</tr>
<tr>
<td>5001-10,000</td>
<td>-.505</td>
<td>.506</td>
<td>.997</td>
<td>1</td>
<td>.318</td>
<td>.603</td>
<td>.224</td>
<td>1.626</td>
</tr>
<tr>
<td><strong>Duration on contraceptive</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-2</td>
<td>-.497</td>
<td>.542</td>
<td>.839</td>
<td>1</td>
<td>.360</td>
<td>.609</td>
<td>.210</td>
<td>1.761</td>
</tr>
<tr>
<td>3-5</td>
<td>-.507</td>
<td>.503</td>
<td>1.019</td>
<td>1</td>
<td>.313</td>
<td>.602</td>
<td>.225</td>
<td>1.612</td>
</tr>
<tr>
<td>6-8</td>
<td>.261</td>
<td>.513</td>
<td>.259</td>
<td>1</td>
<td>.611</td>
<td>1.298</td>
<td>.475</td>
<td>3.550</td>
</tr>
<tr>
<td>Counselling</td>
<td>1.098</td>
<td>.686</td>
<td>2.561</td>
<td>1</td>
<td>.110</td>
<td>2.997</td>
<td>.781</td>
<td>11.496</td>
</tr>
<tr>
<td><strong>Contraceptive source</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemist</td>
<td>.204</td>
<td>.818</td>
<td>.062</td>
<td>1</td>
<td>.803</td>
<td>1.226</td>
<td>.247</td>
<td>6.088</td>
</tr>
<tr>
<td>Clinic</td>
<td>1.889</td>
<td>.938</td>
<td>4.053</td>
<td>1</td>
<td>.044</td>
<td>6.614</td>
<td>1.051</td>
<td>41.613</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>-1.442</td>
<td>.731</td>
<td>3.897</td>
<td>1</td>
<td>.048</td>
<td>.236</td>
<td>.056</td>
<td>.990</td>
</tr>
<tr>
<td>Secondary</td>
<td>-.082</td>
<td>.840</td>
<td>.009</td>
<td>1</td>
<td>.923</td>
<td>.922</td>
<td>.178</td>
<td>4.783</td>
</tr>
<tr>
<td>College</td>
<td>-1.055</td>
<td>.723</td>
<td>2.129</td>
<td>1</td>
<td>.144</td>
<td>.348</td>
<td>.084</td>
<td>1.436</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.063</td>
<td>1.279</td>
<td>2.600</td>
<td>1</td>
<td>.107</td>
<td>.127</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4 Effects of Pre-Use Contraceptive Counseling on Contraceptive Failure

Almost three quarters of the respondents 143(74.5%) underwent Professional contraceptive counseling session before the inception of use of the methods chosen, while 49(25.5%) did not receive counseling by a professional personnel as shown in Figure 4.7.

![Figure 4.7. Respondents who Underwent Contraceptive Counselling](image)

4.4.1 Association between Counseled Clients and Contraceptive Failure

Most of the clients received counselling before the inception of contraceptives, 143(74.5%) received counselling while 49(25.45%) did not received counselling. For the respondents who received counselling and had contraceptive failure were 70(68%) as opposed to 73(82%) who received counselling and did not experience Contraceptive failure. There was association between clients who received counselling before use of contraceptive and the risk of contraceptive failure \[\chi^2=4.966; \text{df}=1; \ p=0.026\] as shown in Table 4.5.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Contraceptive Failure</th>
<th>(\chi^2) statistic results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>%</td>
</tr>
<tr>
<td>Received Counselling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>70</td>
<td>68</td>
</tr>
<tr>
<td>Non-Professional</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 4.5. Association between clients who were Counseled and Contraceptive Failure
4.4.2 Counseling Personnel

To determine which personnel (either medical staff or non-medical staff) offered pre-use counselling on the contraception, the following graph was generated indicating the proportionate percentage of clients counselled by various personnel before starting on contraception. Majority of the respondents were counselled by the nurses 88(52.1%), 24(12.5%) were counselled by Clinical officer, 20(10.5%) were counselled by doctors, 11(5.7%) were counselled by other Medical staff (Pharmacist) while 49(25.5%) were not counselled, as shown in figure 4.8.

![Figure 4.8. Counselling Personnel](image)

4.4.3 Clients views on the Counseling Session

The respondents' views of the counselling session, Majority of the respondents 43(61.4%) who had failure in contraceptives were not satisfied with the counselling while 41(58.6%) said the counselling session was not suitable for them, slightly more than half of the respondents 39(55.7%) were not given explanation on risks involved with the contraceptive method while 22(31.4%) were provided with information on alternative contraceptive methods. Only 20(28.6%) were given a chance to ask questions, as shown in Table 4.6.
Table 4.6. Clients views on the Counselling session

<table>
<thead>
<tr>
<th>Item</th>
<th>Cases</th>
<th></th>
<th>Controls</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (%)</td>
<td>No (%)</td>
<td>Yes (%)</td>
<td>No (%)</td>
</tr>
<tr>
<td>Satisfied with counselling</td>
<td>27(38.5%)</td>
<td>43(61.4%)</td>
<td>51(69.9%)</td>
<td>22(30.1%)</td>
</tr>
<tr>
<td>Counselling session suitable for respondent</td>
<td>29(41.4%)</td>
<td>41(58.6%)</td>
<td>47(64.4%)</td>
<td>26(35.6%)</td>
</tr>
<tr>
<td>Given explanation on risks involved with method</td>
<td>31(44.3%)</td>
<td>39(55.7%)</td>
<td>48(65.8%)</td>
<td>26(35.6%)</td>
</tr>
<tr>
<td>Provided with information on other methods</td>
<td>22(31.4%)</td>
<td>48(68.6%)</td>
<td>23(31.5%)</td>
<td>50(68.5%)</td>
</tr>
<tr>
<td>Was given a chance to ask questions</td>
<td>20(28.6%)</td>
<td>50(71.4%)</td>
<td>45(61.4%)</td>
<td>28(38.6%)</td>
</tr>
</tbody>
</table>

4.4.4 Association between Clients views on the Counseling Session and Contraceptive Failure

The second study objective was to determine the effects of pre-use contraceptive counseling which is also measured by clients' satisfaction on the counseling session which determines effective contraceptive use. N=143

a) Association between Pre-use counseling satisfaction and contraceptive failure

On the pre use counselling satisfaction, 27(38.5%) were satisfied against 43(61.4%) reported no satisfaction. There was significant association of pre-use counselling satisfaction on contraceptive and the clients perceived risk of failure \[\chi^2 = 14.01; \text{df}=1; \ p=0.0001\] as shown in the table 4.7. This implies that respondents satisfaction with the counselling session had an influence on the contraceptive failure.

b) Association between Counseled on method risk involved and contraceptive failure

The respondents who had failure in contraceptives and were counselled on the contraceptive method risk were 31(44.3%) while those who were not counselled on the method risk were 39(55.7%). The comparative group (those who did not experience failure in contraceptives) and were counselled on the method risk were
48(65.8%) as opposed to 25(34.2%) who were not explained on the method risk. There was significant association between pre-use counselling on the methods risks and the contraceptive failure, with $\chi^2=6.61; \text{df}=1; p=0.01$ as shown in the table 4.7.

c) **Association between Pre use counseling suitability and contraceptive failure**

Only 29(41.4%) of the respondents who had failure reported that the counseling session was suitable for them as opposed to 41(58.6%) who said counseling session was not suitable for them. However, majority of the respondents (who had no failure) 47(64.4%) reported the session was suitable for them. Pre-use counseling suitability was significant with contraceptive failure $\chi^2=7.56; \text{df}=1; p=0.006$ as shown in table 4.7.

d) **Association between Pre-use Counseling Ratings and Contraceptive Failure**

Pre-use counselling rating on contraceptive adequacy was not associated with contraceptive failure, and this was found to be statistically significant with $\chi^2=4.56; \text{df}=4; p=0.206$ as shown in table 4.7.

<table>
<thead>
<tr>
<th>Table 4.7. Association between Clients views on the Counselling Session and the Contraceptive Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Characteristic</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Pre-use counselling satisfaction</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Counselling on method risk involved</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Pre use counselling suitability</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Pre-use counselling ratings</td>
</tr>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
4.4.5 Adequacy of Contraceptive Method Counseling

To determine effects of pre-use counseling as stated in the objectives, adequacy of counseling session was analyzed. The respondent’s indicators for counselling adequacy was measured in five categories, Very good, good, average, poor and very poor. Only 10(7%) said the counselling session was very good. 50(35%) said it was average while 25(17.5%) said it was poor, as illustrated in the figure 4.9.

![Bar chart showing the adequacy of contraceptive method counselling](image)

Figure 4.9. Adequacy of Contraceptive Method Counselling

4.5 Clients Views on the Contraceptive Failure

4.5.1. Respondents’ Views on the Index Pregnancy

The respondents and the partners (Spouse) feelings on the index pregnancy were analyzed. Only 42(21.9%) of the respondents were happy, 70(36.4%) felt indifferent while 80(41.7) were not happy with the index pregnancy. In regard with their partners (spouses) views, only 69(35.9%) of them were happy with the index pregnancy. However, 83(43.2%) of their partners/spouses were not happy with the index pregnancy while those who felt indifferent were 40(20.8%) following contraceptive failure, as shown in the figure 4.11.
According to the respondents on the perceived reasons for contraceptive failure, expired drug 28(27.2%) was the reason for contraceptive failure as well as poor compliance 24(23.3%). However, the clients who did not know the reasons as to why the contraceptive fail were, 34(33%) , while those who thought it was due to miscalculation error were 7(6.9%). The other reasons (lack of pill and poor road network to reach the health centre for more pills composed of only 10(9.7%) shown in Figure 4.12.

Figure 4.11. Perceived Reasons for Contraceptive Failure
4.5.3. Association between Client's Views and Contraceptive Failure

a) Relationship between Respondents' Compliance and the Contraceptive Failure

The respondents' attitude on the oral contraceptive usage was analyzed and the key indicator was if the respondent had followed instructions while using Contraceptives. The results revealed that, most of the cases 63(61.2%) who had contraceptive failure admitted that they did not follow instructions while using Oral contraceptives, as opposed to majority of the controls 80(89.9%) who reported that they had followed instructions given while on the Contraceptive method. Compliance of the contraceptive method was found to be highly significance to contraceptive failure with $\chi^2=20.723; \text{df}=1; P<0.000$ as shown in the table 4.8. This implies that the compliance influenced contraceptive failure, this could be attributed to the fact that they were not using the methods correctly.

b) Association of willingness to repeat the same method used and Contraceptive Failure

Majority 96 (93.2%) of the respondents who experienced contraceptive failure were not willing to repeat the same contraceptive method while 56(62.9%) of the respondents who did not experience failure were willing to repeat the same Method. Clients' attitudes on the last method used was associated with the risk of contraceptive failure, this was highly significance $\chi^2=26.547; \text{df}=1; P<0.000$ as shown in Table 4.8.

c) Association between Clients' Method Recommendation and Contraceptive Failure

The respondents views on whether they will recommend the method they had used to someone was also analyzed, the results showed 46 (44.7%) of the Cases would
recommend the method to someone while 57(57.3%) will not recommend. The respondents who did not experience Contraceptive failure and reported that they will recommend the same method to someone were 49(55.1%). The client’s attitudes on the willingness to recommend the last method used to a friend was not significant with risk of contraceptive failure. $[\chi^2=0.200; \text{df}=1; P=0.154]$ as shown in the table 4.8.

**Table 4.8. Association between clients views and contraceptive failure**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Contraceptive Failure</th>
<th>$\chi^2$ statistic results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>%</td>
</tr>
<tr>
<td>Compliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>38.8</td>
</tr>
<tr>
<td>No</td>
<td>63</td>
<td>61.2</td>
</tr>
<tr>
<td>Willingness to repeat the Same</td>
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<td></td>
</tr>
<tr>
<td>Compliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>6.8</td>
</tr>
<tr>
<td>No</td>
<td>96</td>
<td>93.2</td>
</tr>
</tbody>
</table>
4.6 Discussion of Results

Most studies focussing on contraceptive failure in relation to pregnancy have focused on contraceptive failure women having induced abortion, thereby neglecting those women who despite failure accept the pregnancy and intend to carry the foetus to term (Rasch, 2002). A factor in common between the foregoing and their study population was that both were unintended pregnancy. An additional qualifying factor however in the present study clients was that they had actively sought to prevent pregnancy resulting from the contraceptive failure, they had opted to keep the pregnancy. The question one asks is how many did not keep their contraceptive failure pregnancy and ended with bad morbidity or even dead. While the current study has not been able to investigate the impact of such factors directly, some variables available to the study reflect these differences as discussed in the subsequent sections of this chapter.

The aims of this study were to explore factors contributing to Oral Contraceptive Use Failure among Antenatal Mothers attending ANC clinics in Eldoret Municipality, Kenya. In particular, the study sought to determine the socio-demographic factors contributing to failure in contraceptive use, the effects of pre-use contraceptive counseling of clients on contraceptive failure and attitudes of the clients to the index pregnancy.

4.6.1. Socio-Demographic Indicators of Contraceptive User Failure

It had been expected that most of the social demographic differences could be associated with contraceptive failure as reported in most contraceptive failure studies. The study, however, found that contraceptive failure varied widely by method as well as by personal background characteristics as had been suggested by Fu et al., (1999).
The results showed variation in contraceptive effectiveness by user characteristics. The Respondents age was statistically significant $p<0.005$. Consistent with previous research, the findings were women over 35 years were less likely to experience a contraceptive failure than their younger counterparts (Trussell and Vaughan, 1999; Ranjit et al., 2001). It is also noteworthy that failure rates among women aged 21–25 is higher, the extremes of age $<20yrs$ and $>36yrs$ have lower failure rates than women in their early 20s. Failure rates typically begin to decline among women aged 36 years and older, and are consistently lowest among users aged 30–35. While this pattern is often attributed to a lower likelihood of correct and consistent method use among younger women and their partners, it may also reflect a higher frequency of intercourse and fecundity among those who are younger.

Differences in factors such as the predictability of sexual intercourse and access to the resources needed to obtain contraceptives likely also underlie these and other observed socioeconomic differentials in effectiveness poverty status may also reflect times or situations in a woman’s life that are more or less conducive to successful method use, such as variations in expertise for method use, types of sexual relationships, communication with a partner, access to services and control over life circumstances (Ranjit et al., 2001).

In China, Wang Duolao (2002), found that contraceptive failure rate, declines with women’s age for all reversible methods. He also found that rural women have higher sterilization, IUCD and condom failure rates than urban women. Women with two or more children have a higher failure rate for sterilization methods but have lower failure rates for other methods.
On the marital status, those who were single were three times more likely to experience contraceptive failure as compared to those who were married in the current study, these findings are consistent with Hems S.E., 2000. Among unmarried women who are not living with a man (the overwhelming majority of sexually active adolescents), adolescents’ failure rates are similar to those of women in their early and late 20s. The issues like uncertainties about the spouse’s support of contraceptive use and perceptions about his reproductive goals (if the woman thinks he wants to have a child with her immediately) may increase chances of contraceptive failure.

Moreover, there is only a small difference between the failure rates of married adolescents and married women in their early 20s. The only group in which adolescents have markedly different failure rates is unmarried cohabiting women, among whom failure rates are highest for teenagers.

These findings suggest that marital status is more important than age in predicting contraceptive failure. The highest failure rates at almost every age are among unmarried women. Indeed, among all women, the single women (especially teenagers) are most likely to experience a method failure. The lowest rates are for married women, especially for higher income married women aged 30 and older.

In this study, the contraceptive failure was associated positively with educational status $p$ value 0.029 (primary or no education had higher risk of failure as opposed to secondary education and above Only 17.5% of the respondents has attained post-secondary education, this revealed the low literacy level in the country which could inversely affect contraceptive use effectiveness. However, other studies have associated contraceptive failure with low socio-economic status, increased parity, low

For the current study income of the respondents was significantly associated with contraceptive failure $p>0.001$, the respondents who earned monthly income of kshs.1,000-5,000, were almost five times more likely to experience failure as compared to those who earn more than kshs.10,000 per month. This strong influence of income on contraceptive failure rates suggests that access barriers and the general disadvantage and disruption of poverty continue to interfere with effective contraceptive use amongst Kenyans as had earlier been rightly suggested by Fu et al. (1999).

The current study, also interviewed more respondents coming from the peri-urban set-up to access the FP services in the municipality and it’s not surprising that the income disparities have statistically been associated to the contraceptive failure. Several barriers can discourage effective use of contraceptives. Ezzati et al., (2004) noted that contraceptive use in the rural is primarily compounded by an inability to obtain the medication fast enough due to the long distances between health facilities and client’s residence, this suggestion is confirmed in the current study where rural residency was 69% compared to urban residency of 31%. This result however, was not statistically significant on the chi-square tests in the current study.

The occupation of respondents in the current study was also found to be statistically associated with contraceptive failure, $p=0.007$. This explains how poverty continues to have a negative impact on effective contraceptive use as had earlier been asserted by Fu et al., (1999) in the literature review since majority of the respondents who did
not have contraceptive failure were professionals and earning over kshs.10, 000 per month.

The respondents contraceptive source in the study was found to be significant with the risk of failure, $p$ value 0.001. Those who received their contraceptives from the clinic were almost seven times more likely to experience contraceptive failure as compared to those who obtained from the donor agency. Although it is implied the source of contraceptive methods must be dispersed by the skilled Health workers it must be recognised that with the low health workers to population ratio prevailing they are indispensable. Again with widespread public awareness championed by non-governmental organisations working in the family planning field and advertisement all over in the media, non-medical sources of contraceptive options is indispensable. All contraceptive sources should have a complete package to offer to their clients on their effectiveness and subsequent failure rates. (WHO, 2009)

Nevertheless, whereas socioeconomic status (monthly income, education level, age, marital status) was found to be statistically associated with contraceptive failure, it is important to recognize, that socioeconomic characteristics are markers for differences in patterns of method use, rather than risk factors in and of themselves. Further, multivariate analysis to determine the associations on this phenomenon was established using multiple binary regression model. The model was used to assess simultaneously the effects of socio-demographic characteristics described above on the probability of contraceptive failure, multiple binary logistic regression indicated that controlling for age-group, duration on contraceptives, counseling and education level, marital status, income and source of contraceptives were significant predictors of contraceptive failure ($P<0.05$).
On analysis of other characteristics/factors associated with contraceptive user failure; parity and breast feeding were not significantly associated with contraceptive failure in the current study. This is in contradiction of most of researches that have found associations of these factors to contraceptive failure. (Obwaka et al, 1997)

There are several possible reasons for the lack of statistically significant findings in the current study, the study on adherence rely only on reported behaviors’ which have been shown in one study in the USA comparing self-reported data on pill-taking with data from an electronic device measuring compliance, to suffer from reporting errors. Breastfeeding was not found to be a factor associated with an increased risk of contraceptive failure possibly, due to the fact that breastfeeding mothers are mostly on progesterone only pills whose contraceptives efficacy is lower than the combine pills. Another possible constituent fact or could have been the notion that a mother cannot conceive while breastfeeding hence laxity in compliance.

Furthermore, an inverse association between breastfeeding and contraception has been observed in many settings. Millman, (1985), identified three possible explanations for this pattern. First, contraception may interfere physiologically with lactation, or a perceived incompatibility between breastfeeding and contraception may be at work even in the absence of such a physiological mechanism. Secondly, women may view breastfeeding and contraception as alternative methods of fertility control, and therefore choose between them. Thirdly, some common-cause variable may affect breastfeeding and contraception in opposite directions. A direct physiological effect of contraception on lactation can serve to explain less breastfeeding only among women using those methods that interfere with the physiological process of lactation.
Of note however is the significance of period of prior use of contraception \( p=0.044 \) in determining contraceptive failure rates of the current study group. This was in comparison with other studies like Fu et al. (1999) who asserted that on overall, the probability of failure during the first six months of use accounts for more than half (60%) of failure within the first year of use. This pattern reflects both the greater difficulty in using a relatively new method correctly and consistently and the higher likelihood of continued use among those who are more comfortable with their method and able to carry out the steps needed to use it successfully.

Consistent with a previous study, which examined contraceptive failure rates during the first and second year of use (Ranjit et al., 2001), the results showed that the probabilities of failure generally declined over time, this may be due to the fact that women are more likely to make errors and become pregnant during the early months of use, when they are getting accustomed to their method, than later, when they have developed some expertise with it.

This findings are also consistent with other studies, short duration of use of contraceptive is associated with several medical problems associated with contraceptives especially hormone based contraceptives. Accidental pregnancy occurs more frequently soon after the onset of pills taking and medical conditions/ problems are responsible for a large proportion of this in early months (Wanjala, 2003). The decline in failure rates with duration of use also suggests that providers should specifically address discontinuation of use to help users to continue with their methods as long as they do not intend to become pregnant.
Only 14 (13.6%) were using other medications together with contraceptives, while 89 (86.4%) were not on other medications, the use of anti-microbial together with oral contraceptives was significant with contraceptive failure $p$ value 0.032. The medications which respondents were using together with the oral contraceptives were: anti-malarial, anti-Tuberculosis, anti-hypertensive, Anti-Retroviral and anti-diabetics. Antibiotics use can cause contraceptive failure in a very small percentage of patients; women on oral contraceptives still should be warned about the possibility of contraceptive failure if they receive a prescription for an oral antibiotic. To comply with oral contraceptive product information, the patient should be advised to add alternative non-hormonal contraception during the time and for 7 days after the antibiotic is taken (Weisberg, 1999). These findings are similar to other studies, Pharmacological agents such as antibiotics may interfere with the effectiveness of combination oral contraceptive birth control pills (OCPs) by decreasing the steroid hormone's plasma concentrations (WHO, 2005; Stuart and Ash 2000).

4.6.2 Effects of Pre-Use Contraceptive Counseling

Reflecting research findings in the literature review like, Trussell and Vaughan, (1999) asserted that, counseling is a vital part of reproductive health care: it helps clients to arrive at an informed choice of contraceptive methods options, select a contraceptive method with which they are satisfied and use the chosen method safely and effectively, the second aim of this study was to determine the effects of pre-use contraceptive counseling of clients on contraceptive failure.

In the current study, almost three quarters of the respondents 74.5% underwent contraceptive counseling, while 25.45% did not receive counseling. Respondents who received counseling and had contraceptive failure were 68% as opposed to 82% who
received counseling and did not experience contraceptive failure. There was an association between clients who received professional counseling before use of contraceptive and the risk of contraceptive failure $p=0.026$. Other studies in West Africa, China, and India suggest that women who receive more counseling or information at the initiation of use have lower rates of failure than those who receive little counseling. Pre-treatment and ongoing counseling about hormonal effects and possible side effects appears to be especially important. (Fu et al, 1999)

In counseling, what is important is to take the client through various methods available plus their advantages and disadvantages giving very clear information in terms which the clients understand then finally the client will make an informed choice of the method she wants. Various past studies have associated effective pre-use counseling with contraceptive compliance, like Ranjit et al, (2001) suggested that good counseling helps in prevention of contraceptive failure in that it improves compliance to the method chosen. They further concluded that family planning providers should help clients to identify methods that are most likely to use successfully and counsel them on how to be consistent users and to avoid behaviors that contribute to method failure, after studying contraceptive failure in the first two years of use.

Half of the respondents who had failure 61.4% were not satisfied with the counseling while 58.6% said the counseling session was not suitable for them, while 45.5% were given a chance to ask questions. Only 2.7% said the counseling session was very good while 35.6% said it was average while 19.9% said it was poor. However, there was a significant association between the pre-use counseling satisfaction with contraceptive failure $p=0.0001$, an indication that the clients attitudes on contraceptives during pre-
use counseling has significance in the overall contraceptive failure. Clinicians who are able to communicate effectively with their patients can facilitate lifetime contraceptive success. A challenge for clinicians is to package effective counseling into the time allotted for office visits. This reflects other studies conducted in Indonesia, on quality of counseling, it found that almost 70 percent of women spend fewer than 15 minutes with a clinician during visits for contraception while 40 percent of obstetrician/gynecologists who responded said that they did not have adequate time with their patients (Kravitz et al, 2003).

Slightly more than half of the respondents (those who had failure) 39(55.7%) were given explanation on risks involved with the contraceptive method while 80(54.8%) were provided with information on alternative contraceptive methods. The explanation of the risks of the method was significant p value, 0.01. Most of these clients could have received counselling from a non-medical source. They too could have perceived the information from their counsellors as being inadequate. Studies have documented that the quality of care a patient receives at the time she adopts a contraceptive method affects her subsequent contraceptive use. A retrospective study of contraceptive discontinuation among Indonesian women found that those who reported being given the method of their choice were significantly more likely to be using contraception effectively (Kravitz et al, 2003).

Similarly, Obwaka et al, (1997), found that better counseling on contraceptive use and compliance would reduce contraceptive failure and diminish the negative effects of failed contraception. Women with contraceptive failure were found to know few contraceptive methods than their counterparts. Most of these could have received counseling from a non-medical source. They too could have perceived the information
from their counselors as being inadequate. In counseling about family planning methods, the onus is on the counselor to talk to the client about different type of contraceptives in order to arrive at the best contraceptive option for the client. Although it is implied that non-medical source of contraceptive counseling was hazardous it must be recognized that with the low health workers to population ratio prevailing they are indispensable. With widespread public awareness championed by non-governmental organizations working in the family planning field and advertisement all over in the media, non-medical sources of contraceptive options is indispensable. Efforts should therefore be made to properly train both medical and non-medical people involved in contraception provision at the community level on a comprehensive counseling package.

4.6.3 Clients Attitudes on Oral Contraceptive Use

The study's third specific objective was to establish Clients Attitudes on Contraceptive User Failure. Most pregnancies during contraceptive use result from incorrect or inconsistent use. Exactly how a woman and her partner use a contraceptive method is likely to be related to a number of issues, including (but not limited to) the degree of communication and cooperation between the woman and her partner; the predictability and frequency of intercourse; the attitudes of the woman and her partner about sexuality, the method itself and having an unintended pregnancy; the amount of experience or practice each has had using a particular method; and how easy it is to obtain and to afford contraceptive medical care and supplies. While the current study has not been able to investigate the impact of such factors directly, some variables available to the study reflect these differences as discussed in the subsequent sections of this chapter.
Over 42% of the respondents were not happy with the index pregnancy whereas 43.7% of their partners were not happy with the pregnancy. The psychological effect of contraceptive failure both to the woman and her spouse is great. Moreover the effect to the unborn child may (if not changed) be detrimental. There is therefore need for counseling couples that experience contraceptive failure with an aim of leading them to accept the pregnancy without prejudice.

A large number of the Respondents 57.3% were not willing to recommend the method they were on to a friend and 93.2% of the respondents were not willing to use the method again in future after the index pregnancy, willingness to repeat the same contraceptive method was highly statistically significance $p<0.000$ This group of clients needs to be handled carefully with more counselling since they form a very powerful negative peer influence which could negate the efforts of health care providers to promote use of contraception.

Compliance was also a factor with 61.2% of the clients reporting non-compliance as opposed to 89.9% of those who did not experience failure reported to have compliance on the method they had used. Compliance on the method was highly significant with the risk of failure $p < 0.000$. This could be attributed to the fact that they were not using the methods correctly, it also suggests a need to change the family health providers' counselling skills to include more listening and respond to clients in a more empathetic way, help then make decisions and finally learn to inform and instruct clients in ways that they well remember and follow easily.

Further clients' attitudes towards contraception were compounded with myths about contraceptive use (75%), spouse's refusal (12.5%) and being afraid of complications
(16.7%) posed by various methods of contraception. Tubal sterilization is taken as almost 100% efficacious and is permanent in our society. In Kenya, Ruminjo reported crude failure rates of sterilization (tubal) as 0.4% and over 50% of the failures were due to luteal phase pregnancies while 20% were in patients who had previous ectopic pregnancies and the ectopic site tube turned out to be patent. Timing the procedure (BTL) to occur in follicular phase of the cycle can reduce the risk of luteal phase pregnancies. Pregnancy rate following tubal sterilization is approximately 1.8% after 10 years and when pregnancy occurs up to 73% of pregnancies after tubal sterilization are ectopic pregnancies. The main causes of sterilization failure include spontaneous re-anastomosis, fistula formation, surgical error, equipment failure in laparoscopic sterilization and luteal phase pregnancies.

It is hence evident that client attitudes dent the contraceptive uptake in a given population. These variables undoubtedly are markers for relationship and personal factors that determine actual patterns of method use, but this information can help women identify how similar they are to other women who have greater or less difficulty using contraceptive methods. The knowledge will not only increase the likelihood that they will select a method that offers them the greatest chance of success, but will also be linked to improved attention and support from medical care providers and others to encourage them to be correct and consistent users of whatever method they select. Both are important steps toward improving overall contraceptive effectiveness and decreasing the high level of unplanned pregnancy found in Kenya.

Family planning providers must educate couples about the need to choose methods that are appropriate for them at a given point in their life, taking into account the variety of methods available and the individuals’ and couple’s characteristics and
preferences. In addition, providers should give increasing attention to the relationship between method users’ characteristics and the probability of failure, with a view to understanding the underlying reasons. In addition, Family planning providers can apply the lessons learned not only to properly advise clients on methods that they are most likely to use successfully, but also to counsel them on how to be consistent users and to avoid behaviors that contribute to method failure.
CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter is a summary of the results of this study which was carried out in selected Ante-natal clinics in Eldoret municipality to determine factors contributing to oral contraceptive user failure among ante-natal clients. In this chapter, a summary of the major findings is made, conclusions and recommendations are presented based on the findings.

5.2 Summary and implication of the major findings

The main objective of the study was to determine the factors contributing to oral contraceptive user failure among antenatal clients in Eldoret municipality.

From the findings of this study, effective contraceptive use particularly compliance is a problem of public health significance. This is precipitate by socio-demographic factors such as income, marital status and contraceptive source, the general disadvantage and disruption of poverty interfere with effective contraceptive use. It is important to recognize that socioeconomic characteristics are risk factors in contraceptive failure. Pre-use contraceptive counseling is a vital part in reproductive health, non-compliance to the method was precipitated by poor counseling upon initiation of contraceptive use. Further, clients’ attitudes towards contraception were compounded with myths about contraceptive use which is of public health concern among this study population.
5.3 Conclusions

5.3.1 Socio-Demographic Indicators of Contraceptive User Failure

The strong influence of income and contraceptives source on contraceptive failure rates suggests that access barriers and the general disadvantage and disruption of poverty continue to interfere with effective contraceptive use amongst Kenyans.

5.3.2 Effects of Pre-Use Contraceptive Counseling

Poor counseling upon initiation of contraceptive method use contributed to contraceptive failure.

5.3.3 Clients Attitudes on Oral Contraceptive Use

Client’s attitudes dent the effective contraceptive use and its compliance and majority of the contraceptive failure clients admitted responsibility for the failure being poor compliance.

5.4 Recommendations

To all Family planning providers, compliance must be re-emphasized in response to the socio-economic risks of compliance as witnessed in the current study.

Family Health Providers during counselling session should address Low income levels within Eldoret Municipality, by sensitizing clients to enhance income generating projects that will enable them to improve on Economic status and curb the poverty level.
Family planning providers should help clients to identify methods that are most likely to use successfully and counsel them on how to be consistent users and to avoid behaviours that contribute to method failure.

Regarding clients attitudes, the Ministry of Public Health should plan and implement intensive health programmes at the community level to remove the misconceptions associated with contraceptives.

5.5 Recommendations for Further Study

a) A Study should be conducted to investigate the clients who experience failure in other contraceptive methods. The current study focused on the clients who were using only oral contraceptive method.
REFERENCES


Family Planning Perspectives Volume 31, Number 2, March/April 1999
Family Health International Volume 23 Number 3, 2004


APPENDICES

Appendix I: Participant Consent Explanation Form

I am a postgraduate student at Kenyatta University Department of Public Health, am undertaking the study on Oral Contraceptive user failure among antenatal mothers in Eldoret Municipality.

The study involves factors contributing to oral contraceptive user failure of ante-natal mothers attending Ante Natal Clinic in Eldoret Municipality. The objective of the study is to determine the socio-demographic pattern, pre-use counselling status and attitudes to index pregnancy of clients who presented with contraceptive failure and recommendations of how to deal with these clients in Eldoret Municipality.

The procedure involves interviewing clients who have been on contraceptive method are sampled and numbers allocated on first come first served basis and private interviews are conducted whereby a questionnaire is filled. Information gathered will not bear clients names but are coded. The questionnaire is kept in safe custody, locked up by the principal investigator.

The benefits of the study is to know the contraceptives user failure and recommend ways so that in future other family planning attendees will not have the same fate of conceiving while on a method. There is no direct or indirect risk for being included in study and it is of voluntary nature. You have a right to withdraw at any stage of the study and there is no victimization for withdrawal. All services are offered to all clients without discrimination. Kindly, you are free to ask questions concerning the above subject.

INVESTIGATOR

Tallam C. Edna

Kenyatta University
School of Public Health
P.O. Box 43844, Nairobi.
Appendix II: Consent Form Sample

I ____________ do hereby consent to be interviewed for inclusion in the study of Oral contraceptive failure at Eldoret Municipality ante-natal clinics.

I confirm that I have been informed about the study risks, benefits, procedures and voluntary nature of the study and fully understand my right of withdrawal any time. I have had a chance to ask questions and my questions have been answered to my satisfaction.

I give my informed consent without any coercion whatsoever.

Sign ____________________________ Witness ________________________________

Date ____________________________ Date ________________________________

Fomu Ya Kukubali Kuhushishwa

Mimi----------------------------------------------------------nakubali kuhushishwa

kuhushishwa kwa utafiti kuhusu kutofaulu kwa njia za kupanga uzazi.

Nathibitisha ya kwamba nimeelezewa kuhusu utafiti huu na naelewa haki yangu ya kuondoka kwa utafiti wakati wowote. Nimepewa nafasi kuuliza maswali na yamejibiwa kwa ukamiliifu.

Natia sahihi hii bila tashwishwi ye yote au kulazimishwa kwokwote.

Sahihili ------------------------------------------------------Tarehe----------------------

Shahidi ------------------------------------------------------Tarehe----------------------
Appendix III: Questionnaire

QUESTIONNAIRE NO. ..............................

Demographic Data
i. Age: (yrs)

ii. Marital Status: Single □ Married □ Widowed □ Divorced □
   Separated □

iii. Religion: Catholic □ Protestant □ others
   Please specify..........................................................

iv. Highest Education Reached: Primary □ Secondary □ College □
   University □ None □

v. Occupation: Unskilled □ Housewife □ Professional □ Student □ others
   specify............................................

vi. Location Residency: Township (within 25km radius from the clinic) □
   Rural (More than 25km from the clinic) □

vii. Monthly Income (Ksh)..........................................................

Contraceptive Use
1. Was the current pregnancy planned? yes □ No □

2. Have you used any contraception prior to this pregnancy? yes □ No □

3. What was the last contraceptive method you used before this pregnancy? Pills □
   Condoms □ others specify .................................................

4. How many months have you been on contraceptives before conception? 0-2 □ 3-
   6 □ >7 □

5. How many times have you been pregnant? None □ 1-3 □ >4 □

6. If you have been pregnant, what are the outcomes of pregnancy? abortions □
   live births □ still births □ others specify □
7. Were you breastfeeding during your conception? Yes □ No □

8. Are there any other medications you were taking while on contraceptive? Yes □
   No □ If yes specify ........................................

9. What is the source of supply of contraceptive? Clinic □ Chemists □ Donor agency □ Others specify ........................................

**Contraceptive Counselling**

10. Did you undergo a contraceptive counselling session? Yes □ No □

   If yes, kindly answer the following questions.

   I. Were you satisfied with the counselling? Yes □ No □

   II. Was the counselling session suitable for you? Yes □ No □

   III. Were you given an explanation on the risks involved with the methods?

       Yes □ No □

   IV. Were you provided information on other alternative contraceptive methods?

       Yes □ No □

   V. Were you given a chance to ask questions? Yes □ No □

11. What is your opinion on the adequacy of contraceptive methods counselling?

    Very Good □ Good □ Average □ Poor □

12. Who did the counselling on the choice of contraceptive method?

    (a) Medical Staff: □ Doctor □ Nurse □ Clinical Officer □ Other

        Specify .............

    (b) Non Medical Staff: Friend □ Nobody □ Others Specify .................
13. In relation to the last method you used:
   I. Did you follow the instructions  
      Yes □ No □
   II. Do you still recommend the method to a friend?  
        Yes □ No □
   III. Will you use the same method in the future?  
        Yes □ No □

Clients Views.

14. What is your feelings towards the index pregnancy
   I. What are your feelings about the index pregnancy? Happy □ Not happy □
      Indifferent □
   II. Do you wish to have another baby? Yes □ No □
   III. After how long do you want to have another pregnancy? 1-2yrs □ 3-4 yrs □
         >4yrs □ Not decided □ do not want to conceive □

15. Do you know the reasons for contraceptive failure?
    Poor Compliance □ Expired Drug □ Miscalculation □ Don’t know □ other
    Reasons Specify........................................

16. Were you given an option for permanent sterilization before conception?
    Yes □ No □ if yes, why didn’t you opt for it?
    a) Wasted time in going to the clinic □
    b) my spouse refused □
    c) myths about sterilization □
    d) needed more children □
    e) Afraid of Complications □
    f) Undecided □
    g) Other reasons specify.................................................................

17. What were your partner’s feelings about the index pregnancy? Happy □ Not
    Happy □ Indifferent □
Appendix IV: Map of Study Location

Map of Kenya Showing Uasin Gishu County

Map of Uasin Gishu County showing location of UGDH and MTRH

HSDH – Huruma Sub District Hospital
MTRH – Moi Teaching & Referral Hospital
UGDH – Uasin Gishu District Hospital
Appendix V. Approval

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORER
Tel: 33471229

MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORER
Tel: 33471228

Reference: IREC/2009/08
Approval Number: 000397
15th May, 2009

Edna C. Tallam,
Moi Teaching and Referral Hospital,
P.O. Box 3-30100,
ELDORER.

Dear Ms. Tallam,

RE: FORMAL APPROVAL

The Institutional Research and Ethics Committee have reviewed your research proposal titled:

"Factors contributing to Oral Contraceptive User failure among Clients attending Antenatal Clinic at Moi Teaching and Referral Hospital".

Your proposal has been granted a Formal Approval Number: FAN: IREC 000397 on 15th May, 2009. You are therefore permitted to continue with your study.

Note that this approval is for 1 year; it will thus expire on 14th May, 2010. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change(s) or amendment(s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Yours Sincerely,

PROF. D. NGARE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

cc: Director - MTRH
    Dean - SOM
    Dean - SPH
    Dean - SOD

APPROVED
15 MAY 2009