AN ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE ON ABORTION AMONG FEMALE PATIENTS IN NAIROBI: A CASE STUDY OF KENYATTA NATIONAL HOSPITAL AND MARIE STOPES CLINIC.

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DECLARATION

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

Signature _____ Date 7th feb, 2007

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This work is dedicated to my husband Francis Mbugua Kimari and my children, nieces for their love, patience, support and encouragement throughout the study, particularly when I suffered injuries from road traffic accident.

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LIST OF ABBREVIATIONS / ACRONYMNS

AMWA	-	American Medical Women Association
AVSC	-	Association for Voluntary Surgical Contraception
CO	-	Clinical Officer
CRHCS	-	Commonwealth Regional Health Community Secretariat.
D&C	-	Dilatation and Curettage
DR	-	Doctor.
FGDs	-	Focus Group Discussions
F P	-	Family Planning
HCP	-	Health Care Provider
HIS	-	Health Information System
IHT	-	International Herald Tribute
IPAS	-	International Program for Adolescent Study.
IUCD	-	Intrauterine Contraceptive Device
JHPIEGO	-	John Hopkins Program for International Education Gynaecology and Obstetrics.
KAP	-	Knowledge Attitude Practice
KEN/CN	-	Kenya Enrolled Nurses/ Community Health Nurse
KNRH	-	Kenyatta National Referral Hospital
KRCHN	-	Kenya Registered Community Health Nurse
MoH	-	Ministry of Health
MS	-	Marie Stopes
MVA	-	Manual Vacuum Aspiration
NGO	-	Non Governmental Organization
PID	-	Pelvic Inflammatory Disease
PRN	-	When Necessary
SDPs	-	Service Delivery Points
TBA	-	Traditional Birth Attendants
TL	-	Tubal Ligation
UNHCRS	-	United Nations High Commissioner for Refugees
UNICEF	-	United Nations Children Fund
USA	-	United States of America
WHO	-	World Health Organization

ABSTRACT

Abortion is a social stigmatizing and ostracization issue as well as an important reproductive health problem associated with high morbidity and mortality. Each year 3.7 million pregnancies are terminated in Africa, with 200,000 deaths occurring from complications associated with unsafe abortions. In Kenya abortion is illegal. Women carry out abortions using unsafe methods and therefore suffer post-abortal complications. No documented studies have been carried out to determine knowledge, attitude and practice on abortion among female patients suffering from complications associated with abortion, and those seeking abortion services. A descriptive cross-sectional study was carried out among patients admitted at KNH and those patients seeking abortion services at Marie Stopes family planning clinic (Eastleigh), in Nairobi. The study recruited 286 respondents, 92 from KNH and 194 from MS, proportionate and only those who had an abortion. Respondents were interviewed using structured open and closed-ended questionnaires for quantitative data. The questionnaires were pre-tested at KNH for clarification. Two focus group discussions were held with HCP for qualitative data, 1 fgd was held at MS with 10 KECN, five KECN from gynecological ward of KNH and five from FP clinic of MS. While the second fgd took place at gynecological ward of KNH for KRCHN, five from MS and five from KNH. All the HCP had worked in those areas for more than a year. The discussions were monitored by the researcher while the proceedings and tape recording were managed by the research assistant. Data was collected 3 days per every week for four months, then was processed using SPSS and analyzed using the chi-square test to determine associations between variables. The results of the study showed that most of the respondents (60.1%) were single, (32.7%) married. Majority of respondents (54.1%) had secondary education while (3.5%) had no formal education, (55.0%) were protestants, (30.5%) Catholics (12.1%) Muslims and (2.4%) atheist. Majority of respondents had first sexual intercourse at mean age of 19 years, (SD =2.46), number of sexual partners mean 1.89 = 2, (SD = 1.03), age at first pregnancy mean 21.34 years, (SD=2.77), number of times respondents aborted mean 1.32, (SD=0.73), 48.3% respondents reported that poverty and economic constraints were the factors that led to termination of pregnancies. The respondents had poor knowledge on emergency contraceptives (mean score 1.0385) (SD=0.8048), which was a contributing factor to unwanted pregnancies, (34.6%) had poor knowledge on complications related to abortion that contributed to admissions for treatment, had association between knowledge of abortion and level of education (p=.031), 62.5% respondents had poor knowledge on methods of terminating pregnancies, (mean score 0.41, SD=.60), that explained why women suffered complications related to induced abortion. There was a significant statistical relationship between where abortions were performed between respondents at KNH and Marie Stopes (p=0.000), 40.6% respondents reported that doctors were the main providers, religion had no statistical significance with abortion practice (p=0.132). After procuring abortion 74.6% respondents felt satisfied while 3.6% felt depressed, 62.4% respondents perceived HCP as concerned people, majority of HCP appreciated respondents who practiced abortion while minority maintained that abortion was an illegal unethical and immoral practice. Conclusion, the study observed a high incidence of abortion practice despite respondents negative attitude, on daily basis an average of 15 pregnancies were terminated at Marie Stopes and 7 patients were admitted with abortion related complications at KNH. Recommendations, are that the findings of this study will be of value to Ministry of Health and other interested parties such as NGOs in drawing policies to address abortion issues, and in improving reproductive health programs through intensified health education.

CHAPTER ONE: INTRODUCTION

1.1 Background Information

Abortion is defined as a pregnancy expelled or extracted before the 28th week of gestation, the foetus may or may not show signs of life. An abortion may be complete or incomplete, that is complete abortion is described as all uterine conceptus being expelled while incomplete abortion is defined as retention of some uterine conceptus.

Induced abortion is therefore an intentional termination of pregnancy that may be therapeutic or criminal. Therapeutic abortion is defined as a deliberate termination of pregnancy which is performed to safeguard the woman's life and is ethically accepted, while criminal/induced abortion is done upon a woman's choice and is against the law hence it is illegal.

Abortion is a global reproductive health problem and each year about 40-60 million pregnancies are terminated worldwide (WHO, 1994). Approximately 75 million women experience unwanted pregnancies each year, of which 20 million end in unsafe abortion. Complications arising from unsafe abortion practices account for 80% of maternal deaths worldwide (UNICEF, 1999). WHO has classified abortion as: spontaneous (35%), possibly induced (58%), certainly induced (5%) and probably induced (2%). Every minute around the world, 380 women become pregnant, 190 women face unplanned or unwanted pregnancy, 110 women experience pregnancy-related complications, 400 women have unsafe abortions and one woman dies of post abortal complications (UNICEF, 1999). Thus induced abortion is a social, stigmatizing and secretive practice performed all over the world and is considered mystical especially where abortion is illegal, making, women with unwanted pregnancies seek

abortion services. However, the practice of induced abortion prevails and constitutes an important reproductive heath problem.

1.2 Statement of the Problem

In Kenya induced abortion is a public health concern, associated with high morbidity and mortality among adolescents. Induced abortion is associated with unsafe sex and unwanted pregnancies (Mutungi, 1990). Abortion is illegal and is performed through secret referral system involving unsanitary conditions that lead to high morbidity and mortality. Clinical observations among patients reveal sepsis, haemorrhage, anaemia, genital injuries, uterine wall perforation leading to peritonitis and death due to excessive bleeding or infections. It is estimated that each year three deaths per a thousand admissions take place, with hospitalization of three days to six weeks for patients with severe post abortal complications (Mati *et al.*, 1982). Bed occupancy due to abortion ranks seven out of the ten top diseases in Kenya and clinical observations of case load of patients with incomplete abortion warrants post abortal care and family planning counseling. Young adults are exposed to early premarital sex giving rise to unwanted pregnancies that are finally terminated (HIS, 1999). Abortion is a serious public health problem and it occurs very frequently in our midst. The study thus addresses an area where many lives of unborn fetuses and mothers would be saved.

1.3 Justification

In Kenya there is a high rate of unwanted pregnancies among adolescent, which are associated with high morbidity and mortality from unsafe induced abortions (Mutungi, 1990). The main admission in gynecological wards are abortions with 62.3% of these being patients with incomplete induced abortions. Most of these patients present with abortion complications such

as haemorrhage, sepsis and anaemia (Anate, 1995). Some patients suffer long term problems such as chronic pelvic inflammatory diseases ectopic pregnancies (tubal pregnancy), cervical incompetence leading to habitual abortions and secondary sterility, while others die. Limited studies have been carried out in Kenya to determine the factors that lead to induced abortion. This study aims at finding out the knowledge, attitude and practice towards abortion among women admitted at the acute gynecological ward of Kenyatta National Hospital, and at Marie Stopes family planning clinic (Eastleigh).

The findings of this study will be important in designing improved reproductive health programs and promoting the use of emergency contraceptives for those who practice unprotected sex.

1.4 Research Questions

What is the level of knowledge regarding abortion and its complications among women who have abortions in Nairobi?

What is the attitude and practice towards abortion among women with post abortion complications?

1.5 Null Hypothesis

Women in Nairobi do not have adequate knowledge regarding induced abortion and its health implications.

1.6 Objectives

1.6.1 General Objective

To determine the knowledge, attitude and practice towards induced abortion among women undergoing treatment for complications of abortion at the emergency gynecological ward of Kenyatta National Referral Hospital and Marie Stopes FP clinic (Eastleigh).

1.6.2 Specific Objectives

1. To determine the factors that influence women to seek abortion
2. To establish the complications associated with abortion among women seeking post abortion services.
3. To determine the knowledge of abortion among women patients seeking abortion services.
4. To determine the attitude of women towards abortion practice.
5. To determine practice of abortion among women patients seeking abortion services.
6. To determine the attitude of health care providers towards patients seeking abortion and those with abortion related complications.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Induced abortion is a deliberate interruption of pregnancy prior to the age of viability. It may be performed at the request of the women (criminal) or upon the recommendation of a physician because of medical reasons (therapeutic). Induced abortion is regarded as mystical in many societies of the world. This is especially so in countries where abortion is still illegal. Irrespective of the legal status of abortion, unintended and or unwanted pregnancy remains a universal problem across all societies and therefore the demand for abortion services is universal.

Restrictive abortion law limit access to safe abortion services and for this reason many women with unwanted pregnancy resort to clandestine abortions. The overall impact is an increase in abortion –related morbidity and mortality. It is estimated that around 500,000 women die from pregnancy – related causes every year (WHO, 1994). Majority of these deaths occurs in developing countries, and many of them as a result of unsafe abortion. It is estimated that only 40% of the world's population have access to safe legal abortion, however, illegally performed safe abortions are expensive and therefore remain limited to a few individuals. In countries where abortion laws are restrictive, induced abortion is known to be prevalent and an important cause of morbidity and mortality, the actual dimension of the abortion problem cannot be determined with accuracy. However, it is known that in addition to restrictive abortion law, there is lack of access to contraceptive services particularly for single women aged <25 years who are at the highest risk of having unwanted pregnancies, and often suffer the severest abortion-related morbidity.

In Kenya, abortion remains illegal unless the mother's life is in danger, hence abortion practice remains very common. Abortion related complications constitute the most common reason for admission in gynecological wards. Between 15% and 65% of patients admitted with incomplete abortion have criminally induced aborting, of which abortion morbidity and mortality place great emphasis and concern on women's health. Most developed countries have adopted abortion laws which has shown reduction in abortion related mortality whereas septic criminal abortion occurs more commonly among young girls from lower socio-economical strata, the problem of unwanted pregnancies is universal. Most Kenyan cultures do not accept the practice of abortion when it is desired, making it difficult for women to make decision to terminate pregnancy and where to seek abortion services, thus the public opinion play an important role in hindering the need for safe abortion, hence induced abortion is obtained secretly. This social stigma has a direct impact on the consequences of abortion and particularly on the medical outcome.

2.2 Forms of Abortion

2.2.1 Spontaneous Abortion

The primary cause of spontaneous abortion is the precipitating necrosis and hemorrhage with subsequent separation of the placenta. Irrespective of underlying aetiological factors, the basic pathophysiology of spontaneous abortion in the first trimester is the chorio decidual separation and haemorrhage. Often, this is preceded by decidual necrosis fetal death may occur before decidual necrosis or vaginum bleeding may then be experienced and this may be followed by uterine contractions with expulsion of products (Mwangi, 2000).

2.2.2 Induced Abortion

Induced abortion is a deliberate termination of pregnancy that may either be therapeutic or voluntary. Therapeutic abortion is performed for the purpose of safeguarding the health of the mother (Cap.240). In Kenya, pregnancy termination and in particular abortion is illegal. The penal code, section 158 clearly states:- "Any person who, with intent to procure miscarriage of a woman, whether she is or not with child, unlawfully administers to her or causes her to take poison, or other noxious thing, or uses any other means whatsoever is guilty of a felony and is liable to imprisonment for 14 years". The provision is further buttressed by Cap. 244, which bans the publication of advertisement of drugs and appliances in terms "Calculated to lead to the use of drugs for procuring miscarriage in women". It is only under section 159 that abortion, described as a surgical operation "performed in good faith and with reasonable care and skill " is allowed" for the preservation of the mothers life" while the elective abortion is the termination of pregnancy at the request of the woman with no reasons of impaired maternal health or foetal disorders.

2.2.3 Legal Induced Abortion

This is abortion that is performed within the law of the land and is provided by trained physicians where life of the mother is threatened by the pregnancy (Kenyan Laws, Cap 240).

2.2.4 Illegal Induced Abortions

These are abortions that are induced against the law of the land (Cap 244), by either a qualified doctor or unqualified person. Criminal or illegal abortions are usually performed by the pregnant woman herself, friends, or untrained person/paramedical practitioners by use of intra-uterine instruments such as hair pins, knitting needles, catheters or by intra-uterine injection of

fluids. The danger involved in this type of procedure is perforation of uterus, haemorrhage, tear of the genitalia and introduction of sepsis. Illegal induced abortions lead to complications such as hemorrhage, shock, renal failure, peritonitis and septicemia, which may have fatal outcomes (Dunnihoo, 1990). In countries such as Latin America, 95% of induced illegal abortions are carried out in unsafe conditions, 30% of 1,000 women of reproductive age in both Caribbean and Latin America have unsafe abortions, 27 per 1,000 women in Africa, 11 per 100 women in Asia (excluding Japan) and 5 per 1000 women in Europe (Larsen *et al.,* 1990).

2.3 Abortion Globally

Abortion is a common practice worldwide, 40-60 million terminations of pregnancy are performed each year, and one out of 400 women die because of complications of unsafe abortion (WHO, 1994).

Half a million women die each year due to pregnancy related complications, 99% of these in developing countries. About 14% of all maternal deaths in South Asia are attributed to unsafe abortion (Look *et al.*, 1999).

The incidence of induced abortions reported in UK in 1999 was 5759, and 6900 cases in year 2000 (Axby, 2000). In America, termination of pregnancy rate is high, as it occurs after every three minutes.

In 1992, abortion rate in Vietnam shot to approximately 100 per 1000 women making it third in the World (Kapil *et al.,* 1998). In Romania abortion rates were 199 per 1000 women while in Soviet Union 112 per 1000 women (Henshaw, 1990). On average women had 2.4 live births and 1.5 abortions, most of which took place before 8 weeks of gestation at Vietnam (Lap *et al.*,

1996). In 2000, the IHT reported that 170,000 abortions were induced corresponding with a rate of 15 per 1000 women aged 15-44 years, while in China and Eastern Europe 40-100 per 1000 women of reproductive age abort. Induced abortion is widely practiced in Indonesia by both married and single women and is more acceptable for married women with 2 or more children than unmarried women with premarital pregnancy, which makes abortion a highly stigmatized and isolated experience for single women. The government does not offer family planning services to single women, hence reproductive health care is very limited to this group (Bernett, 2001). A Warsaw based women group estimates that up to 200,000 illegal and often-unsafe abortions are performed in Poland each year (IHT, 2001). The fact that abortion is illegal in many developing counties has not prevented the practice from occurring. Women with unwanted pregnancies resolve to abortion regardless of the legality and risks associated with the procedure. By liberalizing restrictive abortion laws, and investing in safe abortion services, government can save the lives of thousands of women each year (Basnayake, 2001).

2.4 Abortion In Africa

Termination of pregnancy is a common practice in many African countries. Abortion laws restrict or prohibit women from obtaining safe legal abortions. Despite these laws women continue to seek abortions (Murage, 2002). Each year, 3.7 million pregnancies are terminated in Africa and 2,000 deaths occur from complications of unsafe abortion (WHO, 1994). Maternal deaths due to abortions are reported among hospitals in Harare (30%), Lusaka (23%), Dar es Salaam (15%) Nairobi (24%) and Kampala (20%) (Kinoti *et al.*, 1995).

Ghana has implemented safe motherhood programs in an effort to reduce the unacceptable high level of maternal mortality estimated to be 214 per 100,000 live births (WHO, 1994). These deaths occur as complications of unsafe induced abortion and are primary cause of maternal

mortality. Fertility reduction due to abortion in Africa is 32% (Wilson, 2001). However in East Africa about 10,000 illegal abortions are performed each year (Mutungi *et al.*, 1990).

2.4.1 Abortion In Kenya

Abortion remains illegal in Kenya but women continue to seek secretive abortions. Adolescents are the main seekers of unsafe abortion which is often associated with high morbidity and mortality (Mati, 1977).

A study in 1996 of 1007 women admitted in 8 hospitals in Kenya identified that induced abortion was underreported (15.7%) and that (38.6%) of pregnancies were unwanted. Adolescents aged 10-19 years, 70.4% of whom were unmarried had induced abortion. Complications of induced abortion were sepsis (34.3%), anaemia (17.8%), genital injuries (16.6%), hemorrhage (12.4%), and death (Lema *et al.*, 1996). Restrictive abortion law in Kenya makes it difficult to obtain abortion services. Women are prompted to seek clandestine abortions, through a secret referral system that involves unsanitary conditions (Lema *et al.*, 1996).

A study carried out in 1982 involving 610 patients admitted at KNH, showed that abortion seekers occupied 60% of the acute gynecological beds, and 62.3% of the total abortion admissions were induced, 79% of the respondents were unmarried, 60% were school girls or unemployed women, 25% of the cases were performed by non-medical personnel using dangerous methods. Such abortions lead to complications both immediate and long term. Maternal mortality rate in this study was 3 abortion deaths per 1000 admissions (Mati *et al.*, 1982). The mean hospital stay was 98 hours. Another observation made was that between 10-

15 pregnancies were terminated per day in one of the health clinics where abortion services were offered, but any more were performed elsewhere and were not reported for the fear of law, social stigmatization and the secrecy involved.

2.5 Global Abortion Law

Countries that have laws authorizing abortion on broad social economic ground are 36% while 64% are those countries that have laws generally forbidding abortion, however, 61% of the global population lives in the 54 countries that have laws authorizing abortion on broad social and economic grounds, the other 39% are in the 97 countries that generally forbid abortion.

In Britain, abortion law has been legalized for over 40 years, and the latest controversy is first-trimester abortion law requires two doctors to agree to an early abortion, (Stewartson, 1990).

All pregnancies involve potential health risks. A pregnancy that is unintended or unwanted often carries greater physical and mental health risks for the woman. A pregnant woman's decision to complete or terminate a pregnancy is a medical and personal issue (AMWA, 1999). Illegal abortions bring about dangers, through self-induction or by untrained practitioners under clandestine, un-sterile conditions with no follow-up care. Many women suffer reproductive tract damage, infections, bleeding, permanent sterility or death. AMWA supports access to safe and legal abortion as part of comprehensive reproductive health care (AMWA, 1999).

The American abortion law has been in existence since 1889 when a woman was raped and denied the right to abort. Today, the American Medical Women's Association has a mission to support policies and programs that improve women's health, abortion included. It values

equality for women and equal opportunity to achieve their full professional and personal potential.

Abortion law in Italy has been legal since 1978 during the first three months of pregnancy, but the issue could provoke strong sentiments as it did in 1993 when a 29 year old cancer patient refused treatment for fear of damaging her unborn child, after delivery she died within three hours. The case drew praise from the Italian press and the Roman Catholic Church and prompted one of the bishops to call for a ban on abortion (Chow *et al.*, 1971).

The abortion law in France came into place in 1979, and prescribed that in the first 12 weeks of pregnancy any women in **"distress"** may have termination of pregnancy, after being counseled. The French people being strong believers of Roman Catholic Church do not practice it (The Pro-life Infonet, 2002).

2.5.1 Other European Nations

The European countries such as Switzerland and Denmark do not consider abortion to be a contentious issue, and in some former East Bloc States notably Hungary abortion has long been legally available (The Pro-life Infonet, 2002).

In Vietnam, abortion was legalized in 1945, but it did not become widely accepted for many years (Henshaw, 1990). In early 1980's abortion was availed at no charge and upon a woman's request and as a part of family planning service delivered at all levels of the public health network (Lap *et al.*, 1996). In Colombia, Latin America abortion is illegal, in Peru abortion is banned except in cases of saving lives of women where pregnancy posses a risk (the Pro-abortion Center for Reproductive Law and Policy in New York).

2.5.2 Abortion Law in Africa

In most African countries abortion law is restricted and only allowed when the life of a pregnant woman is jeopardized by the pregnancy (Mati *et al.*, 1977). In countries such as Egypt, Liberia and Zaire, abortion is forbidden on any grounds medical or social. The only countries where abortion law allows women to terminate pregnancies as need arises are Ghana, Tunisia and Zambia (Laura *et al.*, 1977). In East Central Southern African (ECSA) countries, abortion laws restrict women from getting safe legal abortions.

2.5.3 Abortion Law in Kenya

Termination of pregnancy remains illegal and is only permissible on medical grounds to safeguard a woman's life. Restrictive law limits access to safe abortion services yet unwanted pregnancies are very common. This results in clandestine abortion practices under unhygienic conditions by untrained persons or by self-induction leading to post abortal complications (Kamau *et al.*, 2001).

2.6 Complications Associated With Induced Abortion

The immediate complications of septic abortion are hemorrhage, anaemia, acute renal failure, bacteramia and endotoxic shock. Long term complications are PID, pelvic abscess, infertility, ectopic pregnancy (tubal), habitual abortions and premature deliveries (Dunnihoo, 1990).

2.6.1 Bleeding (hemorrhage)

This is a common complication of abortion in both spontaneous and induction cases. It is characterized by vaginal bleeding which ensures expulsion of partial uterine conceptus (Rayston *et al.*, 1992). Bleeding is responsible for deaths that take away many lives of young

girls who abort secretively in unsafe conditions and where abortion is performed by unqualified persons. In Kenya in 1993, 1007 patients were admitted in 8 hospitals with incomplete abortion or its complications, 12.4% of them suffered hemorrhage that required replacement of blood (Rogo,1993).

Hemorrhagic shock is a condition whereby a patient loses blood, becomes hypotensive (losing more than 25-30% of the blood volume). The loss of about 15% of the blood volume results in postural hypotension whereas a 30% blood loss, results in cold and clammy skin and the patient becomes hypotensive, tachycardia, and tachypnoenetic, with oliguria and metabolic acidosis follows. If blood lose is 45%, the patients presents with cardiac failure and coma (Dunnihoo, 1990). Thus, hemorrhage after an abortion is a recognized complication because of its outcome being either severe loss of blood or death.

2.6.2 Infection (Sepsis)

A patient with either induced or spontaneous abortion might experience complication such as sepsis which may be mild and localized to the deciduals, caused by micro-organisms such as *Staphylococcus aureus*, *E. coli*, anaerobic streptococci bacteria which are introduced to genital tract during induction of abortion. Infections spread to myometrium causing pelvic cellulitis and pelvic peritonitis. Generalised peritonitis or vascular collapse may be caused by the release of endotoxins produced by *E. coli* and *Clostridium welchi*. Sepsis is severe in situations where abortion is obtained in unsafe conditions and performed by unskilled persons (Rayston *et al.*, 1992), or where a patient suffers spontaneous incomplete abortion, with a history of ruptured membranes and no treatment is given in good time. The common sites of infections are the uterus (endometritis), fallopian tubes (salpingitis) and infection of peritoneum (peritonitis). Sepsis is characterized by high fever, high morbidity and mortality (Rayston *et al.*, 1992).

Sepsis accounts for 3-30% of all complications of pregnancies and varies with different geographical areas and with the laws governing abortion, in countries with strict laws, there are higher numbers of illegal abortions (Mwangi, 2002), and has a mortality of 30-80%. Tubal occlusion occurs after salpingitis and the patients who conceive with healed fallopian tubes get an ectopic pregnancy.

2.6.3 Consequences of Abortion

Pelvic Inflammatory Disease (PID) is an acute or chronic disease that follows an abortion due to poor care and hygiene, including sexually transmitted infections (Lawson *et al.*, 1990). The infection may begin in the uterine cavity where it has been introduced by use of contaminated instruments; or lacerations of the vagina that open a track into the pelvic cellular tissue, hence the patient may present with metritis with or without salpingitis or pelvic peritonitis or with any combination (Nyakeri, 1975). Major symptoms are pelvic pain and fever. The uterus becomes bulky and tender, with a lacerated or partially dilated cervix from which offensive discharge of blood and pus exudes (Ngure, 2001). Pelvic inflammatory disease is an important reproductive health infection that has serious consequences such as tubal blockage leading in to secondary infertility (Matthew *et al.*, 1989), 80% of KNH patients presented with sterility had PID, septicemia and death.

Tubal occlusion is a result of pelvic inflammatory disease, which heals with adhesion. If conception takes place, an ectopic pregnancy may occur (Dunnihoo, 1990). The zygote grows and gets stuck at the ampulla (47%), or at the middle third of the tube (36%) or at the isthmus (14%), the tube ruptures and excessive internal bleeding occurs, a fatal condition (Rayston *et al.*, 1992), and death occurs within 2-4 hours. Tubal pregnancy has been evidenced by a previous inflammatory process in 38-42% cases (Dunnihoo, 1990).

2.6.4 Secondary Infertility

Secondary infertility is an important reproductive health problem tha tis associated with abortion which follows pelvic infections arising from unsafe abortion that involve the ovaries and fallopian tubes due to use of unsterile instruments/objects or herbs (Wanyoro, 2000) for processing abortion, the infections lead to tubal occlusion that accounts for 20% of cases of infertility (Dunnihoo, 1990).

Injuries on the cervix during the induction process cause cervical damage with cervical incompetence, which may lead to habitual spontaneous abortions (Fomulu *et al.,* 1989), a cause of secondary infertility. In Kenya 65% of gynecologists time is spent in consulting for treatment of infertility (Fomulu *et al.*, 1989) of which the original cause is PID that results from unsafe abortion. The management of infertility is a long time process and requires 70% of a specialists time (Kamau *et al.*, 2001). Infertility has become a medical and social problem globally, although in sub-Saharan Africa inability to have children is a major socio-cultural problem which leads to much misery (Mati *et al.,* 1982). Women of 50 years account for 13-24% infertility.

2.6.5 Genital Injuries

Illegal abortions are generally provided by unqualified persons, while others are performed by the patients themselves using intra-uterine instrumentation with sharp objects such as hairpins, knitting needles, catheters (Wanyoro 2001). Injuries such as virginal lacerations, cervical tears, perforation of uterus and gut occur, leading to high morbidity with hemorrhagic shock, renal failure, peritonitis and septicemia which is occasionally fatal (Wanyoro, 2001). Psychological trauma is another result of induced abortion as patients suffer mental confusion and later in life depression when infertility is the final outcome (Mati *et al.*, 1982).

CHAPTER THREE: MATERIALS AND METHODS

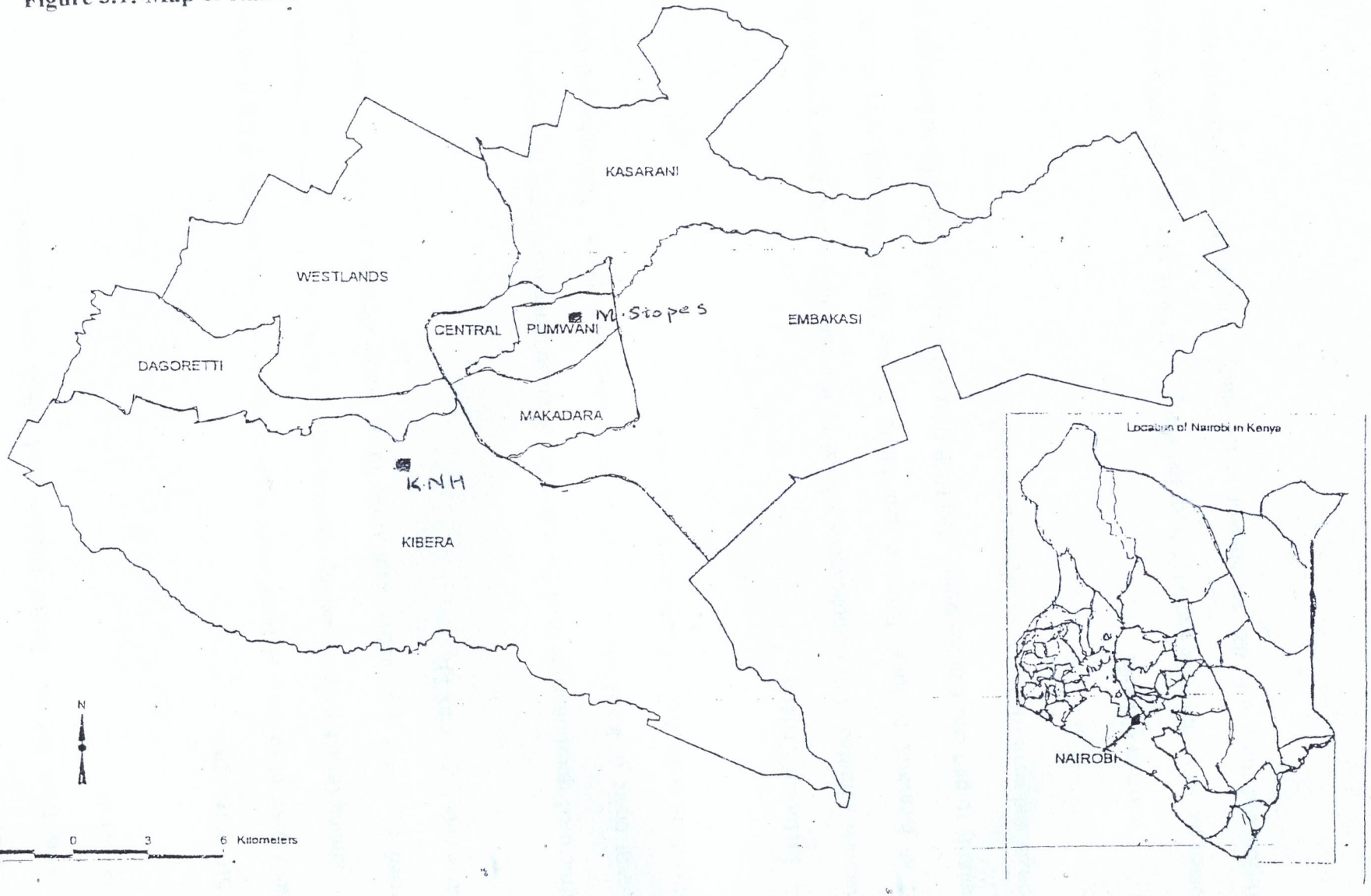
3.1 Study Area

The study was conducted in Nairobi the capital city of Kenya and the major commercial center. Nairobi is divided into 8 administrative divisions (Figure 3.1), has a population of 2,143,254 of which 46% are females and 54% males and a population density of 3079 per Km^2 (KDH. 1998), 88.3% of the population live in slums (UNHCRS, 2002). The population of women of childbearing age (15-49 years) is 28% with an overall illiteracy rate of 2.0 % (Nairobi Situation Analysis, 2001).

Kenyatta National Hospital is one of the major public hospitals in Nairobi and is located 4 kilometres to the Western side of the city. The hospital handles referrals and serves populations within and around the city.

Marie Stopes is one of the private organizations with countrywide centers that provide reproductive health services. Eastleigh, a Marie Stopes family planning clinic in Nairobi was chosen for the study. It is situated in a high-density low cost sub-urban area, about 8 kilometres from the Central Business District. The clinic serves the low socio-economic stratum of the society.

Figure 3.1: Map of Nairobi Province.



Source: Central Bureau of Statistics

3.2 Study Population

The study population consisted of women seeking abortion services or with post abortal complications from the two health facilities and health care providers working at the gynecology wards.

3.3 Study Design

This was a descriptive cross-sectional study to determine knowledge, attitude and practice on abortion among female patients seeking abortion services in Nairobi. Structured questionnaires were used to collect quantitative data while focus group discussions with HCP provided qualitative data (Appendix 2).

The structured questionnaires used for collection of quantitative data, were pre-tested at the adolescent clinic of KNH where post-abortal counselling takes place. This enhanced clarity and alterations were effected before the actual study.

3.4 Inclusion Criteria

All women admitted with complications related to abortion in the emergency gynecological ward at Kenyatta National Hospital and Marie Stopes F.P clinics, and who consented voluntarily to participate in the study. The HCP (Nurses) who had worked for at least one year or longer and were willing to participate in the study.

3.5 Exclusion Criteria

Women patients who were excluded from the study were those who had not had a history of abortion and those who did not consent to the study. The health care providers who had

worked for less than a year in the health facility did not participate in the study and those who did not consent.

3.6 Sampling

Kenyatta National Hospital was purposively selected because it is a referral center for East and Central Africa and also specializes in managing complications associated with abortion. Marie Stopes Health Clinic was purposively selected as a private institution that provides reproductive health care services.

3.7 Sample Size Determination

Since the patient population was less than 10,000 the sample size was determined using the formula of (Fisher *et al.*, 1998).

$$n = \frac{n}{1 + \frac{n}{N}}$$

Nf = desired sample size

$$f = \frac{n}{1 + \frac{n}{N}}$$

f = desired sample size <10,000

N = estimated person with induced abortion

At Marie Stopes there were 2,480 patients with induced abortion while Kenyatta were 1,180, four months prior the study.

2,480 + 1,180 = 3,660

$\frac{2,480 \times 286}{3.660}$ = 193.7 rounded to 194

$\frac{1,180 \times 286}{3,660}$ = 92.2 rounded to 92

Hence sample size was 286

3.8 Ethical Clearance

Approval was sought from Kenyatta University, ethics committee of Ministry of Education Science and Technology, Kenyatta National Hospital (Ethics Research Committee) and Marie Stopes authorities. However, confidentiality was assured by not recording the names or information that could identify the respondents. Verbal consent was asked for after providing the patients with information on purpose of the study.

3.9 Data Collection

Data was pre-tested and necessary corrections made. On every 3rd, 4th and 5th day of the week (Wednesday, Thursday and Friday) data was collected at the two sites for four months. The questionnaires contained information on the demographic data, sexuality and parity, contraception, knowledge, practice and attitude on abortion. Two focus group discussions were held with HCP. The HCP included ten KRCHN and ten KECN. Each group participated separately enhancing freedom of discussion. Each discussion session lasted an hour using a discussion guide (Appendix 4).

3.10 Data Management

Data collected was coded, entered into a computer and processing was done using SPSS computer package. Chi-square (χ^2) test was used to establish any association between the variables that included age, religion, education, marital status and area of upbringing.

CHAPTER FOUR: RESULTS

4.1 Introduction

The respondents consisted of 286 women recruited from Kenyatta National Hospital (92) and Marie Stopes (Eastleigh Maternity Nursing Home) FP Clinic (194).

4.2 Age Distribution of Respondents

The age of respondents interviewed ranged from 16 to 40 years with a mean age of 25.2 years. Majority of the respondents were in the age group 20-24 years, (32.6% respondents at KNH and 47.4% at Marie Stopes clinic). The youngest respondents 16 and 17 years were found at Marie Stopes and KNH respectively, the oldest respondents 40 years was seen at Marie Stopes, (Table 4.2). There was a significant statistical association between health institution where respondents were found and age distribution of respondents ($\chi^2 = 9.228$, df=3, p=.026).

Table 4.2 Age Distribution of Respondents as per health institution

	Health Institution		
Age	**KNH (n=92)**	**Marie Stopes (n=194)**	**Total**
<20 years	13.0% (12)	5.7% (11)	8.0% (23)
20-24 years	32.6% (30)	47.4% (91)	42.3% (121)
25-29 years	29.3% (27)	29.7% (57)	29.4% (84)
>30 years	25.0% (23)	17.2% (33)	19.6% (56)
Total	**100%**	**98.9% (192)**	**99.3% (284)**
*** Missing**	**0**	***1.0% (2)**	***0.7% (2)**
Total			**100%**

4.3 The Marital Status of the Respondents

Out of 286 respondents, 60.1% (169) were single, 32.7% (92) were married, 5.3% (15) were separated / divorced and 1.8% (5) were widowed (Table 4.3). There was no significant association between marital status and abortion practice among the respondents (χ^2 =3.670, df=3, p=.299).

Table: 4.3 Marital Status of the Respondents

	Source of Respondents					
Marital Status	**KNH**	**(n=92)**	**Marie Stopes**	**(n=194)**	**Total**	
Single	52.2%	(47)	63.9%	(122)	59%	(169)
Married	40.0%	(36)	29.3%	(56)	32.2%	(92)
Separate / Divorced	5.6%	(5)	5.2%	(10)	5.2%	(15)
Widowed	2.2%	(2)	1.6%	(3)	1.7%	(5)
Total	**97.8%**	**(90)**	**98.4%**	**(191)**	**98.3%**	**(281)**
*** Missing**	***2.2%**	**(2)**	***1.5%**	**(3)**	***1.7%**	**(5)**

4.4 The Level of Education of the Respondents

Among the 286 respondents, 3.5%, (10) had no formal education while 15.9% (45) had primary education, 54.1% (153) had secondary education, 16.3% (46) had tertiary college education and 10.9% (29) had university education. Majority of respondents with secondary and university education were found at Marie Stopes Clinic (Table 4.4). There was a significant association between level of education of respondents and health institution where they sought abortion services (χ^2 = 18.236, df=4, p=.001).

Table 4.4 Education Level of the Respondents per Institution

	Source of Respondents		
Level Education	**KNH (n=92)**	**Marie Stopes (n=194)**	**Total**
None	1.1% (1)	4.7% (9)	3.5% (10)
Primary	28.9% (26)	9.8% (19)	15.9% (45)
Secondary	45.6% (41)	58.0% (112)	54.1% (153)
University	8.9% (8)	10.9% (21)	10.992% (29)
Tertiary Colleges	15.6% (14)	16.6% (32)	16.3% (46)
Total	**97.8% (90)**	**99.5% (193)**	**98.9% (283)**
***** **Missing**	***2.2% (2)**	***0.5% (1)**	***1.1% (3)**

4.5 Religious Background of the Respondents

Majority of respondents 55% (155) were Protestants, 30.5% (86) were Catholics, Muslims 12.1% (34) while non-religious group were 2.5% (7) (Figure 4.1). There was a significant relationship between religious background of respondents and institutions where they sought for abortion services (χ^2 =13.296, df=3, p=.004).

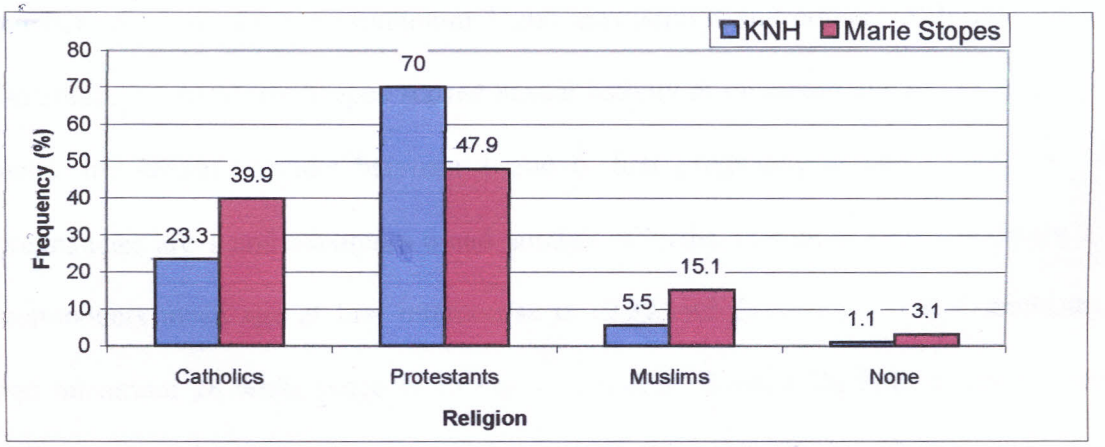


Figure 4.1 The Religious Background of the Respondents.

4.6 Geographical Area of Upbringing of Respondents

33.7% (94) respondents grew up in both rural and urban areas, 35.1% (98) respondents grew in urban areas while 31.2% (87) respondents grew in rural areas (Table 4.6). Marie Stopes had a large proportion (38.8%) of respondents who grew up in urban areas. There was a statistical association between respondents geographical area of upbringing and the health institution where abortion services were sought ($\chi^2 = 16.276$, df=2, p=.000).

Table 4.6 Geographical Area of Upbringing of Respondents

Source of Respondents	Urban	Urban/Rural	Rural	* Missing
KNH (n=92)	27.5% (25)	25.3% (23)	47.3% (43)	* 2.2% (1)
Marie Stopes (n=194)	38.8% (73)	37.8% (71)	23.4% (44)	* 3.1% (6)
Total 100%	**32.4% (98)**	**32.9% (94)**	**30.4% (87)**	*** 2.4% (7)**

4.7 Respondents History of Sexuality and Parity

The study showed that respondents of KNH started sexual activity at minimum age of 14 and maximum 26 years, life sexual partners between 1 and 6, first pregnancy at age 16 and 30, number of pregnancies are minimum 1 and maximum 8 and number of births minimum 1 and maximum 7. At Marie Stopes started sexual activity at minimum age of 13 and maximum 28 years, life sexual partners between 1 and 6, first pregnancy at age 15 and 29, number of pregnancies are 1 and maximum 6 and number of births minimum 1 and maximum 5. For 286 respondents mean age at first intercourse is 19.32, std deviation is 2.464, minimum 13 years and maximum 28 while range is 15 years. Number of mean life time sexual partners is 1.89, std deviation 1.032, minimum 1 year and maximum 6 while range is 5 years. Number of mean age of the first pregnancy is 21.34, Std deviation 2.767, minimum 15 years, maximum 30 years and range is 15, number of pregnancy 2.32, std deviation 1.497, minimum 1, maximum 8,

range 7, number of births 1.99, std deviation 1.205, minimum 1, maximum 7, and range 6 (Table 4.7).

Table 4.7 Respondents History on Sexuality and Parity

Health Institution		Age at First Intercourse	No of life time sexual partner	Age of the first pregnancy	No. of Pregnancy	No. of Birth Before Reference Date
KNH	Mean	18.76	2.09	20.88	3.02	2.33
(n=92)	Std. Deviation	2.865	1.276	3.047	1.967	1.492
	Minimum	14	1	16	1	1
	Maximum	26	6	30	8	7
	Range	12	5	14	7	6
M/S	Mean	19.59	1.79	21.57	2.01	1.84
(n=194)	Std. Deviation	2.211	8.85	2.597	1.105	1.017
	Minimum	13	1	15	1	1
	Maximum	28	6	29	6	5
	Range	15	5	14	5	4
Total	Mean	19.32	1.89	21.34	2.32	1.99
(n=286)	Std. Deviation	2.464	1.032	2.767	1.497	1.205
	Minimum	13	1	15	1	1
	Maximum	28	6	30	8	7
	Range	15	5	15	7	6

4.8 Respondents Knowledge on Modern Family Planning

Among the 92 respondents of KNH, 89.1% (82) knew modern FP methods while 10.8% (10) did not know. At Marie Stopes 93.8.% (182) respondents were aware of modern family planning, however 6.1% (12) were not aware (Table 4.8). There was no relationship between

respondents knowledge on modern family planning methods and health institution (χ^2 =1.928, df=1, p=.165).

Table 4.8 Respondents Knowledge on Modern FP Methods

	Knowledge on Modern FP Methods		
Health Institution	**Yes**	**No**	**Total**
KNH (n=92)	89.1% (82)	10.8% (10)	100%
Marie Stopes (n=194)	93.8% (182)	6.1% (12)	100%

4.9 Respondents Knowledge on Abortion as a Family Planning Method

Out of 92 respondents at KNH only 2.1% (2) were aware that abortion was a family planning method and at Marie Stopes only 2.5% (5) respondents knew abortion as a family planning method, the rest of all respondents from both institutions did not know abortion as method of family planning method (Table 4.9). This result had no relationship between respondents knowledge and abortion as a family planning method (χ^2 =.043, df=1, p=.837).

Table 4.9 Knowledge on Abortion as a Family Planning Method

	Emergency Contraceptive		
Health Institution	**Yes**	**No**	**Total**
KNH (n=92)	2.1% (2)	97.9% (90)	**100%**
Marie Stopes (n=194)	2.5% (5)	97.5% (189)	**100%**

4.10 Utilization of Emergency Contraceptive by the Respondents

Among the 92 respondents of KNH, 29.3%(27) had used emergency contraceptives and 29.8% (58) respondents of Marie Stopes, the rest of respondents from both institution had not used emergency contranception (Table 4.10).

Table 4.10 Use of Emergency Contraceptives Among Respondents

	Emergency Contraceptive		
Health Institution	**Yes**	**No**	**Total**
KNH (n=92)	29.3% (27)	53.2% (49)	82.5% (76)
Marie Stopes (n=194)	29.8% (58)	55.6% (108)	85.4% (166)

4.11 Knowledge on the Complications Associated with Abortion among Respondents

Out of 286 respondents, 70% (201) were aware of profuse bleeding, 56.3% (161) were aware of death caused by excessive bleeding, 19.6% (56) respondents were aware of death caused by infection, 23.1% (66) respondents were aware of infection and pain, 24.1% (69) respondents were aware of infertility, 7.0% (20) were aware of removal of uterus, 1.4% (4) respondents were aware of retention of placenta and 1% (3) respondents were aware of ectopic pregnancy (Table 4.11). There was no significant relationship between knowledge of respondents on complications related to abortion and the health facility where services were sought of respondents (χ^2 =3.601, df=4, p=.463).

Table 4.11 **Respondents Knowledge on Complications Related to Abortion**

Complications		**Source of Respondents.**	
		KHN (n=92)	**Marie Stopes (n=194)**
Profuse Bleeding	Yes	68.5% (63)	71.1% (138)
	No	31.5% (29)	28.9% (56)
Total		**100%**	**100%**
Death caused by bleeding	Yes	51.1% (47)	58.8% (114)
	No	48.9% (45)	41.2% (80)
Total		**100%**	**100%**
Death caused by infection	Yes	14.1% (13)	22.2% (43)
	No	85.9% (79)	77.8% (151)
Total		**100%**	**100%**
Infection and pain	Yes	22.8% (21)	23.2% (45)
	No	77.2% (71)	76.8% (149)
Total		**100%**	**100%**
Infertility	Yes	30.4% (28)	21.1% (41)
	No	69.6% (64)	78.9% (153)
Total		**100%**	**100%**
Removal of uterus	Yes	7.6% (7)	6.7% (13)
	No	92.4% (85)	93.3% (181)
Total		**100%**	**100%**
Retention of placenta	Yes	3.3% (3)	5% (1)
	No	96.7% (89)	99.5% (193)
Total		**100%**	**100%**

Complications		Source of Respondents.	
		KHN (n=92)	Marie Stopes (n=194)
Ectopic pregnancy	Yes	1.1% (1)	1.0% (2)
	No	98.9% (91)	99.0% (192)
Total		**100%**	**100%**

During the FGDs the HCP reported common complications related to abortion. These complications included vaginal bleeding, loss of blood (anaemia), lower abdominal pains associated with sepsis, perforation of uterus, ruptured cervix, inflamed and blocked fallopian tubes, pelvic inflammatory diseases (PID), infertility and ectopic pregnancy.

4.12 The Respondents Knowledge on the Safe Gestation Period to Terminate Pregnancy

Generally respondents had good knowledge on gestational period when to terminate pregnancies. At Marie Stopes 42.2% (82) respondents reported 2-3 weeks of amenorrhoe, 21.6% (42), reported 5-8 weeks, 21.1% (41) reported 9-12 weeks, 2.0% (4) reported unsafe period of 13 weeks and above while 12.8% (25) did not know. At K.N.H 35.8% (33) respondents reported 2-3weeks of amenorrhoe, 21.7% (20) reported 5-8 weeks and 39.1% (36) reported 9-12 weeks and 3.2% (3) reported unsafe period of 13 weeks and above. Their knowledge on safe gestation period for inducing abortion was high for respondents from both Marie Stopes and KNH, (Table 4.12).