

**MAGNITUDE OF INDUCED ABORTION AND QUALITY OF
POST ABORTION CARE AT KENYATTA NATIONAL
HOSPITAL, NAIROBI, KENYA.**

A dissertation submitted in part fulfillment of the degree of Masters of
Medicine in Obstetrics and Gynaecology by:

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DEDICATION

This book is dedicated to my lovely twins Kyla Ndinda and Kyle Kimilu for being the source of my motivation.

DECLARATION

I declare that this dissertation is my original work and has not been submitted for a degree course in any other University.

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ABSTRACT

Background

An estimated 46million pregnancies in the world end in induced abortion each year. Nearly 20million of these are unsafe. About 13% of pregnancy related deaths have been attributed to complications of unsafe abortion. Unsafe abortion contributes significantly to maternal mortality in resource poor countries. In Kenyatta National Hospital a total of 7 to 10 patients with abortion are treated daily.

Objective

The objective was to determine the magnitude of induced abortion and quality of post abortion care at Kenyatta National Hospital.

Methods

This was a cross sectional study. It was done from acute gynaecological unit of Kenyatta National Hospital over duration of two months. A total of 329 patients were recruited into the study and interviewed using a structured questionnaire.

Results

The mean age was 25.9yrs. Majority (80.2%) were below 30yrs and most (58%) were of low socioeconomic status. Magnitude of induced abortion was at 38%. About 16% of the patients had complications, haemorrhage being the commonest at 58.8%, sepsis 41.2%, uterine perforation 11.8%, 2% died and 2% had intestinal injuries. Manual Vacuum Aspiration was the commonest (83%) uterine evacuation method that was used. Post abortion counseling and provision of family planning was at 85%.

Conclusions

Magnitude of Induced abortion was high at 38%, young people below 30yrs formed majority (80.2%) of post abortion care patients.

Manual Vacuum Aspiration was the commonest (83%) uterine evacuation method used. About 16% had complications with haemorrhage and sepsis being the commonest at 58.8% and 41.2% respectively and post abortion counseling and provision of family planning was at 85%.

Recommendations

To strengthen primary intervention measures, family planning to avoid unwanted pregnancies and thus reduce the magnitude of induced abortions and the guidelines of comprehensive abortion care to be revised and encourage use of medical management in the abortion patients who meet the criteria for its use.

INTRODUCTION

1.1 BACKGROUND

In October 2000, at the United Nations Millennium Summit, all countries agreed on the global imperative to reduce poverty and inequities. The need to improve maternal health was identified as one of the key Millennium Development Goals (MDG), with a target of reducing levels of maternal mortality by three quarters between 1990 and 2015.

Eliminating unsafe abortion is necessary to achieve MDG 5 targets and to ensure fewer maternal deaths and better reproductive health especially for women in the developing countries. Steps required include increasing couples' access to modern contraception to prevent unintended pregnancy, improving the quality and accessibility of post abortion care and expanding access to safe, legal, voluntary and affordable abortion care.

In the past 15 years, beginning with the International Conference on Population and Development (ICPD) in 1994, the international community has committed itself in a series of political and legal agreements to promoting and fulfilling women's and men's sexual and reproductive rights. Abortion is one of the most common gynaecological experiences for women. Unsafe abortion is a critical public health, social and economical justice and human rights issue.

Despite dramatically increased use of contraception over the past three decades, an estimated 40-50 million abortions occur annually, nearly half of them in unsafe circumstances. Globally approximately 13% of all maternal deaths are due to complications of unsafe abortion. In addition to some 70,000 women who die each year, tens

of thousands suffer long term health consequences including infertility¹.

Even where family planning is widely accessible, pregnancies occur due to contraception failure, difficulties with use, none use or as a result of incest or rape. Of the 210 million pregnancies that occur each year, about 46 million (22%) end in induced abortion². Where effective contraception methods are available and widely used, the total abortion rate declines sharply², but has nowhere declined to zero thus even with high rates of contraception use, unwanted pregnancies will occur which women may seek to end by induced abortion.

Unsafe abortion contributes significantly to maternal mortality in resource poor countries. The abortion rate in Kenya is 34.3 abortions per 1000 women of reproductive age. In Kenyatta National Hospital (KNH) a total of 7 to 10 cases of unsafe abortion are treated daily in the acute gynecological ward³. A study on the magnitude of induced abortion at KNH has not been done for the past 30 years and study on post abortion care at KNH needs to be done to continue assessing the quality of care being given to the patients with abortion.

LITERATURE REVIEW

Throughout the world, every year approximately 210 million women become pregnant and some 130 million of them go on to deliver live-born infants⁴. As many as 80 million pregnancies are unplanned⁴. Some of these are carried to term, while others end in spontaneous or induced abortion. Estimates indicate that 46 million pregnancies are voluntarily terminated each year—27 million legally and 19 million illegally. In the latter case the abortions are often performed by unskilled providers or under unhygienic conditions or both⁴.

Unsafe abortion is one of the neglected problems of health care in developing countries. It is characterized by inadequacy of skills on the

part of the provider and use of hazardous techniques and unsanitary facilities. Hence, the women who resort to clandestine facilities and/or unqualified providers put their health and life at risk. Unsafe abortion is defined by the World Health Organization as a procedure for terminating an unintended pregnancy carried out by persons lacking the necessary skills or in an environment that does not conform to minimal medical standards or both. It has been estimated that almost two in every five pregnancies worldwide are unplanned⁴, the result of non-use of contraception or of ineffective contraceptive use or method failure.

When induced abortion is performed by qualified persons using correct techniques and in sanitary conditions, it is a very safe surgical procedure. In the USA, for example, the death rate from abortion is 0.6 per 100 000 procedures, making it as safe as an injection of penicillin⁵. In developing countries, however, the risk of death following unsafe abortion procedures may be several hundred times higher than that of an abortion performed professionally under safe conditions. Abortion related maternal mortality is therefore high.

Studies show that many married women in developing countries do not have access to the contraceptive methods they would prefer to use in order to space pregnancies or limit family size^{5,6}. The situation is worse for unmarried women, particularly adolescents, who rarely have access to reproductive information and counseling and are frequently excluded from contraceptive services.

In all countries, access to induced abortion is dependent on the legal framework. Where induced abortion is restricted and largely inaccessible, or legal but difficult to obtain, little information is available on abortion practice. Its occurrence tends to be unreported or under-reported, and it is therefore difficult to quantify and classify abortion in such circumstances. What information is available is inevitably not completely reliable because of legal, ethical and moral constraints that hinder reporting.

Whether legal or illegal, induced abortion is generally stigmatized and frequently censured by religious teaching. Women are often reluctant to admit to an induced abortion, especially when it is illegal. Surveys show that under-reporting occurs even where abortion is legal. When

abortions are clandestine they may not be reported at all or reported as spontaneous abortion^{5,6,7,8}. The mortality and morbidity risks associated with unsafe induced abortion depend on the facilities and the skill of the abortion provider, the method used, the general health of the woman and the stage of her pregnancy. Unsafe abortion may be induced by the woman herself, by a non-medical person or by a health worker under unhygienic conditions.

In a study to understand causes of gangrene of the uterus following unsafe abortion, deplorable conditions under which unsafe abortions were performed are described. In one case a patient had infection following placement of a wooden “abortion stick” in the cervical canal to induce termination of pregnancy. The abortion stick may have been a wooden or bamboo twig, or a piece of an irritant plant such as *madar* (*Calotropis*) or *chitra* (*Plumbago zeylanica*). These sticks are soaked in an irritant solution (eg, marking nut juice; paste from white arsenic, lead, or asafoetida), or may act by themselves as abortifacients.⁹

Women who want to terminate a pregnancy in countries with restricted law and poor access to services start with a homemade or locally purchased remedy. The home therefore seems to be a main location for unsafe abortion. Women then follow this up with visits to health facilities and chemists as complications set in.⁹

A study by the Ministry of Health and its partners in Nepal show that providers of unsafe abortion like inserting foreign bodies into the cervix. A nurse working in a health post was found to insert a catheter in the cervix for days; a traditional birth attendant inserted a stick coated with unknown medicine; and a village provider inserted a tube full of herbal medicine. All the patients ended up with severe complications.¹⁰

A study in Ilorin, Nigeria, in 1992–1994, which included 144 women who underwent abortion, half of whom were under 20 years of age, reported typical complications: death, 9%; sepsis, 27%; anaemia

(haemorrhage), 13%; sepsis with anaemia, 3%; cervical tear, 5%; pelvic abscess, 3%; uterine perforation with peritonitis, 3%; injury to gut, 4%; chemical vaginitis, 4%; laceration of vaginal wall, 3%; and vesico vaginal fistula, 1%. Only 25% had no complications¹¹.

Severe complications, such as sepsis, haemorrhage, genital and intestinal injuries, perforated uterus and poisoning due to ingestion of harmful substances, may be fatal if left untreated. Death may also result from secondary complications such as acute renal failure.

Unsafe abortion may lead to reproductive tract infections (RTIs), chronic pelvic pain, pelvic inflammatory disease (PID), and at times to infertility; genital injuries and infection may also warrant an immediate hysterectomy.

A study done in Uganda has described how unsafe abortions are performed. In health facilities, physicians were found to favor dilation and curettage over vacuum aspiration and medical abortion which are recommended by the World Health Organization. Most informal providers in urban areas were thought to use hormonal drugs or rubber catheters, and many providers in rural areas, as well as women who induce their own abortions, were found to use herbs and sharp objects such as sticks and hangers¹².

The demand for induced unsafe abortion is an indication of the frequency of unwanted pregnancies and unmet need for family planning. Access to abortion is still restricted in Kenya and only permitted when it is necessary to save the life of the woman. In 2010, Kenya adopted a new constitution that explicitly permits abortion when there is need, in the opinion of a trained health professional, for emergency treatment; if the life or health of the woman is in danger; or if it is permitted under any other written law. Previously, abortion was only permitted to protect a woman's life. To date, it is unclear how widely the new legal status of abortion is understood or being implemented. Sections of the Kenyan penal code have not been revised to reflect the language in the new constitution; thus, many

medical providers may be reluctant to perform abortions for any reason for fear of legal consequences¹³.

A study on maternal mortality in informal settlements in Nairobi, which found that unsafe abortion complications were the leading cause of maternal mortality, determined that “all abortion related deaths followed an abortion carried out by a non-professional.”¹⁴. It is important to emphasize that these deaths are caused by unsafe abortion, if performed by a competent health professional in the appropriate setting, abortion is a safe medical procedure.

According to one hospital-based study, approximately 21,000 women are admitted each year to Kenya’s public hospitals for treatment of complications from incomplete and unsafe abortion, spontaneous or induced¹⁵. More than 40% of those women “fall into the categories of probable or likely induced abortion.”¹⁵, however, these statistics represent only a fraction of the actual number of abortion-related complications; they do not capture women who seek treatment at private healthcare facilities or those who cannot, or do not, obtain treatment at all.

Over 2,600 women die annually in Kenya from complications of unsafe abortion¹⁵. In fact, according to a 2004 study on unsafe abortion in Kenya, “the risk of dying after abortion is alarmingly high in Kenya, compared to global and regional estimates. The fatality rate associated with abortion complications was found to be higher than the rate for Africa by about 30%, more than two fold higher than the rate for less developed regions and the global rate and more than nine fold higher than the rate for more developed regions¹⁵

A 2005 study found that close to 30% of Kenyan women hospitalized annually with abortion complications have complications of high severity¹⁶, including uterine perforation, hemorrhage, sepsis, pelvic abscess, and shock. The same 2005 study found that “over a third of the women admitted with abortion complications were in the second

trimester of pregnancy,” when risks of severe complications and mortality are substantially higher¹⁶.

In a 2002 study conducted at Provincial General Hospital in Kakamega, the referral hospital for Western Province, abortion was found to be “the most common acute gynaecological ailment with its complications accounting for the longest hospital stay in comparison with other acute gynaecological conditions.” 51% of patients with abortion complications were under 20 years old¹⁷.

The Kenyan government’s National Post Abortion Care Curriculum, in discussing maternal mortality, states, “These women leave behind millions of motherless children whose survival is precarious due to lack of maternal support and care. Children who are left motherless due to maternal mortality are up to ten times more likely to die within two years than children with two living parents^{18,19}.”

Hospital based studies in Nairobi have shown that unsafely induced abortions accounts for 35% of maternal mortality and at least 50% of hospitals’ gynaecological admissions²⁰. These figures underestimate the true extent of the problem because they represent only those women who are able to reach public hospitals for treatment; women who seek services from private providers or through other means are excluded from these estimates, as are women who do not seek or who lack access to services.

A study involving 1007 women who were admitted and treated for incomplete abortion and its related problems in 8 provinces of Kenya between October 1988 and March 1989 showed 15.7% had undergone induced abortion and complications were more prevalent in the induced group²¹. A retrospective study analysis of 95 deaths due to abortion at KNH between 1974 and 1983 showed that the average death rate over the 10yr period was high nearly 3 deaths per 1000 abortion admissions. Of the 95 abortions 80% were induced. Septic

abortion with its complications accounted for 97% of the deaths from induced abortion.²²

At KNH, it has been noted that death from abortion complications account for 22.2% of all maternal deaths. It has also been noted that 43% of post abortion patients lacked knowledge of family planning.²³ A study done to assess abortion care services at KNH, found that the majority of patients were in the high fertility age group and of low socioeconomic status. Post abortion counseling for family planning was low at 15% and was noted that the post abortion care was poor hence contributing significantly to high maternal mortality²⁴.

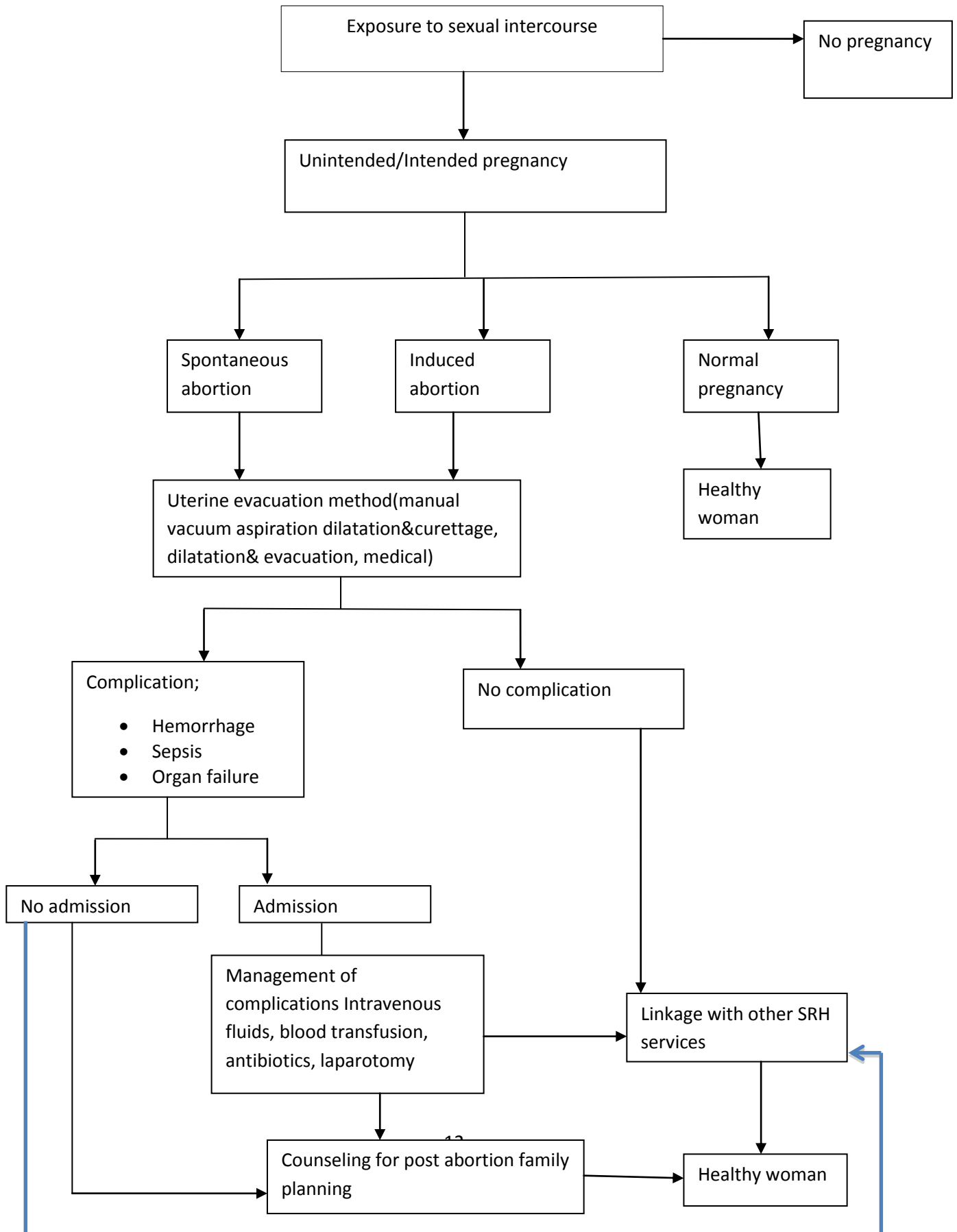
In many instances, provision of post abortion care may be one of the few occasions that a woman and her partner come into contact with the health care provider. Therefore, it represents an important opportunity of providing contraceptive information and services. The contraceptive services should be introduced immediately after abortion and be readily accessible to all²⁵. The post abortion family planning should include the following components of post abortion care as recommended by WHO Technical support ; counseling about contraceptive needs in terms of the clients reproductive health goals, information and counseling about all available methods, their characteristics, effectiveness and side effects, choices among other methods, assurance of contraceptive supply, access to follow up care and information about the need of protection against Sexually Transmitted Diseases^{26,27}. In a study done at KNH showed that post abortion counseling for family planning was low at 15.1%²⁸. This study will be able to inform us about the magnitude of induced abortion in patients seen at the Kenyatta National Hospital with abortion. It will assess the post abortion care given.

1.3 STUDY JUSTIFICATION

Reduction of maternal mortality and improving maternal health has fuelled efforts to address maternal mortality in resource limited settings.

No recent data is available on the magnitude of induced abortion at KNH. Studies have been done on post abortion care but there is need to continue researching and collecting data on the quality of care being offered to these patients. Recognition of the post abortion care being given to patients with abortion at KNH and magnitude of induced abortion will allow for improvement on the current prevention and interventional measures and will enable the stake holders of KNH improve the type and quality of care given and up date the policies and guidelines that are currently present.

CONCEPTUAL FRAMEWORK



As shown above in the conceptual framework, women in their reproductive age engage in sexual intercourse resulting into an intended or unintended or no pregnancy. The outcomes of the pregnancy are either a normal pregnancy, an induced abortion or spontaneous abortion.

Management of abortion may be Manual Vacuum Aspiration, dilatation and evacuation, dilatation and curettage or medical management. The quality of this management is further strengthened by appropriate management of any complications that arise, family planning counseling and provision and linkage with other sexual reproductive health services. These are important elements of post abortion care that determine the subsequent maternal health outcomes.

1.4 RESEARCH QUESTION

What is the magnitude of induced abortion and quality of post abortion care at Kenyatta National Hospital?

1.5 OBJECTIVES

1.5.1 Broad Objective: To determine the magnitude of induced abortion and quality of post abortion care at KNH.

1.5.2 Specific objectives:

- To find out the proportion of induced abortion to spontaneous abortion at KNH.
- To determine the management of complications of abortion.
- To determine the post abortion family planning uptake among women treated with abortion.

METHODOLOGY

3.1 Study Design:

This was a cross sectional study of magnitude of induced abortion and quality of post abortion care from September to October of 2012. About 329 patients were recruited into the study using consecutive sampling strategy.

3.2 Study Setting:

Recruitment was done from the acute gynecological unit of the Kenyatta National Hospital, Nairobi Kenya. Kenyatta National Hospital was selected because it's the largest Teaching and Referral hospital and also was convenient for administrative purposes, the hospital is situated about three kilometers from the Central Business District along Ngon'g road.

It is the largest teaching and referral hospital in East and Central Africa. Patients treated here come from the environs of Nairobi and referrals from all over the country. This makes it very ideal for this study. The acute gynecology unit consists of the outpatient

gynecology room in the accident and emergency department and the acute gynecology ward.

In the outpatient gynecology room, a resident in obstetrics and gynaecology sits in and attends to patients with acute gynecological conditions. Patients with conditions such as abortions (threatened, induced or spontaneous, incomplete or complete), ectopic pregnancy, pelvic abscess and other acute gynecological conditions are seen in the outpatient room. It is from here that patients are filtered and admission of patients is done. The acute gynecology ward is made up of five rooms each consisting of about ten beds. There is also a procedure room where procedures like MVA are done. This study was carried out within the acute gynaecological unit of KNH. This unit serves as a referral and teaching hospital for the college of health sciences, University of Nairobi. The acute gynaecological unit attends to approximately 7 to 10 patients with abortion on a daily basis

3.3 Study Population:

All patients with abortion treated at the acute gynaecological unit and gave their consent and met the eligibility criteria were recruited in the study. KNH treats patients from the environs of Nairobi and also referrals from all over the country. The majority are African women of reproductive age both single and married. Mostly they are of low social economic status.

3.4 Inclusion Criteria

- Patients admitted into KNH acute gynecological ward with abortion.

- All patients seen and treated at the accident and emergency gynecological unit at KNH and diagnosed with abortion below 28 weeks gestation.
- Written informed consent by the patient or guardian to participate in the study.

3.5 Exclusion Criteria

- Patients with gestational age above 28 weeks.
- Refusal to consent.

3.6 SAMPLE SIZE DETERMINATION AND SAMPLING METHOD

KNH was purposely selected and consecutive sampling method was used until the sample size was obtained.

The minimum size required in this study was calculated according to the WHO formula. The minimum size required in this study will be calculated according to the formula shown below.

Where n is the minimum sample size required

N is the expected number of abortions in a year at KNH approximated at 2520.

Z is the standardized score at 95% two tail level to 1.96.

P is the prevalence of abortions in Kenya taken at 34.3% according to calculations by Guttmacher Institute in 2008#, the abortion rate is 34.3 abortions per 1,000 women in reproductive age.

d is the level of precision taken at 0.05

Calculating the sample size:

$$n = \frac{2520 * 1.96^2 * 0.343 * 0.657}{0.05 * (2520 - 1) + 1.96^2 * 0.343 * 0.657}$$

$$n = \frac{2181.5}{6.2975 + 0.8657}$$

$$n = \frac{2181.5}{7.1632}$$

$$n = 304$$

329 patients were enrolled into the study.

3.7 DATA TOOLS AND METHODS OF COLLECTION

Three research assistants were trained and used a structured questionnaire containing open and closed questions on socio-demographic characteristics, reproductive history, details about the abortion and post abortion care given during the current abortion to interview the patients as they presented to the acute gynaecological unit.

The questionnaires were filled by direct interview of each participant in a private room after a diagnosis of abortion was made and after receiving definitive treatment. We went through every question to ensure all the data required was captured. I led the whole process to

ensure the data was fully captured and questionnaires completely filled.

The interviewers clearly explained and counseled the patients who presented with abortion and those who fit the inclusion criteria, an informed consent was obtained before the interview process begun.

During the interview the patients were allowed to ask any questions they wished to ask regarding post abortion care. For those who were admitted, follow up to the wards was done and upon discharge the files were retrieved and detail of the post abortion care given extracted from them. The interviews were done 24 hours a day with the help of three trained research assistants, this was to ensure no case of abortion was missed. The research assistants were Clinical Officers. The questionnaires were pre tested by requesting 20 patients with abortion at Kenyatta National Hospital in Nairobi to fill out the questionnaire by the principal investigator. All ambiguities were corrected.

3.8 DATA MANAGEMENT AND ANALYSIS

Data from the questionnaires was coded, entered into the SPSS software. Cleaning was done and the chi square was used to determine the difference among variables in each objective. The Data was then summarized in tables and figures. Data analysis was performed using SPSS version 17.0 software. All tests of associations and comparisons were performed at 0.05 significance level.

The main variables used for data analysis were age, marital status, education level, financial status and type of abortion.

3.9 STUDY LIMITATIONS

- Some patients did not divulge the true information about their socioeconomic status and the truth as to whether the abortion was induced or spontaneous.
- Some case files did not have incomplete information on the details of the management given to the patient.
- The handwritings in some case files were illegible

To overcome these limitations, adequate counseling of the participants was done and that made them feel secure to give honest information about their socio economic status and the nature of the abortion. Assurance was given that the information would remain confidential.

As to whether the abortion was safely induced or spontaneous, it was a bit difficult to ascertain clinically and this may have brought an element of bias in the results. Therefore proper counseling of the patients was done so as to give the correct information. To overcome the issue of handwritings being illegible, constant follow up of the patient was done at every stage and even the admitted ones so that no information was lost.

3.10 ETHICAL CONSIDERATIONS

- Permission to carry out study was sought through the department of Obstetrics and Gynaecology of the University of Nairobi from:- The Ethical and Research Committee at Kenyatta National Hospital.
- Signed informed consent was sought from each woman and only those consenting were included in the study.

- Participation in the study was voluntary and no inducements were offered.
- The questionnaire did not contain the participants name or ethnicity and all the information obtained from the study was treated with utmost confidentiality and used only for the intended purpose.

RESULTS

A total of 329 patients were recruited in the study. These patients were managed for abortion at the acute gynaecological unit.

4.1 SOCIO DEMOGRAPHIC DATA

Table 1: Socio-Demographic Characteristics of the Study Participants (n = 329)

Socio-demographic		Freq.	Percent
Age	<18	8	24
	20-24	128	38.9
	25-29	128	38.9
	30-34	48	14.6
	35-39	14	4.3
	40-44	3	0.9
Marital status	Single	106	32.2
	Monogamous	202	61.4
	Polygamous	14	4.3
	Divorced/separated	7	2.1
Level of education	None	1	0.3
	Primary	42	12.8
	Secondary	189	57.4
	College/University	97	29.5
Religion	Catholic	119	36.2
	Protestant	196	59.6
	Islam	14	4.2
	Other	0	0.0
Dependency status	Dependant	194	58.9
	Self-dependant	135	41.1

Table 1 represents the social demographic characteristics of women who had abortion. The total number of patients recruited was 329 with the mean age of 25.9 years, median age of 26 years and ranging from 16 and 41 years. Majority of the patients were aged between 20 and 29 years representing 78% with most of the clients reporting monogamous marriage at 62%. Most patients had attended school with most obtaining secondary at 57%. Majority of the patients were Protestants.

4.2 TYPE OF ABORTION

Table 2: History of the Abortion (n=329)

Abortion history		Freq	Percent
Type of abortion	Induced	125	38.0
	Spontaneous	204	62.0
	Inevitable	39	11.9
	Incomplete	277	84.2
	Complete	5	1.5
	Missed	8	24
Reason for termination (n=125)	Contraceptive failure	33	26.4
	Rape	7	5.6
	Fear for reprisal	20	16
	Financial constraint of continuing the pregnancy	36	28.8
	Coercion by spouse to terminate the pregnancy	29	23.2
Patients who went for treatment elsewhere before coming to KNH	Yes	275	83.6
	No	54	16.4
Facilities where they	Government	113	41.1

went for treatment first before coming to KNH (n=275)	Private Health Centre	152	55.3
	Traditional	2	0.7
	Relative	5	1.8
	Friends	3	1.1

Table 2 shows clearly that most patients (62%) had spontaneous abortion and 38% had induced abortion. Of those who had induced, 26.4% did so because of contraceptive failure while 28.8% were due to financial constraint to continue with the pregnancy, 23.2% due to coercion by spouse to terminate the pregnancy while 5.6% due to rape. Majority (84.2%) had incomplete abortion while the least (2.4%) had missed abortion. rape. Many (83.6%) of the patients sought treatment somewhere else before coming to KNH, 55.3% sought treatment at private health facilities while 41.1% sought initial treatment at a government/city council health facility and the least number 0.7% went to traditional healers.

4.3 POST ABORTION CARE OF THE PATIENTS.

Table 3: Type of treatment given

	Freq.	Percent.
Patients admitted	80	24.3
Patients not admitted	249	74.7
Reasons for admission	39	48.8
Anemia sepsis	27	33.8
Uterine perforation	1	1.3
Renal failure	1	1.3
Other reasons	12	15
Uterine evacuation method:		
Manual vacuum aspiration	273	83.0
Dilatation and curettage	30	9.1
Dilatation and evacuation	7	2.1
Others	19	5.8

As shown in table 3, the majority of the patients (75.6%) were not admitted and 23.4% were admitted for various reasons. Most (39%) were admitted due to anaemia, 27% due to sepsis, 1.3% due to renal failure and 30% due to other reasons.

Most of the patients (83%), Manual Vacuum Aspiration was used for uterine evacuation of the products of conception, 9.1% had Dilatation & Curettage, 2.1% Dilatation & Evacuation and 5.8% other methods which included use of syntocinon and misoprostol.

Table 4: Abortion management of complications (n329)

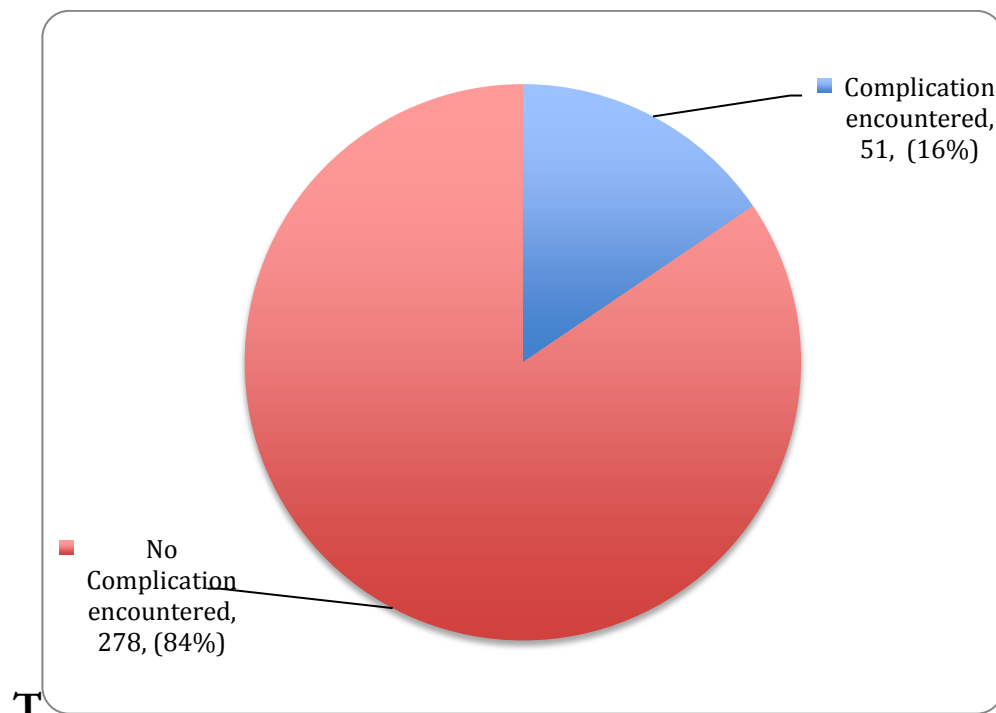
Other Interventions	Freq.	Percent
Blood transfusion	48	14.6
Antibiotics	316	96.0
Intravenous Fluids	194	59.0
Renal dialysis	0	0.0
Laparotomy	7	2.1
Hysterectomy	1	0.3

In table 4, Majority (96%) of the patients were given antibiotics, 59% received intravenous fluids, 14.6% received blood transfusion, 2.1% explorative laparotomy was done and 0.3% hysterectomy was done.

4.4 COMPLICATIONS

About 16% of the patients had complications as shown in figure 2

Figure 2: Complications encountered (n = 329)



As shown in figure 2, 16% had several complications which are further shown in detail in figure 3.;

Figure 3: Type of complication encountered (n=51)

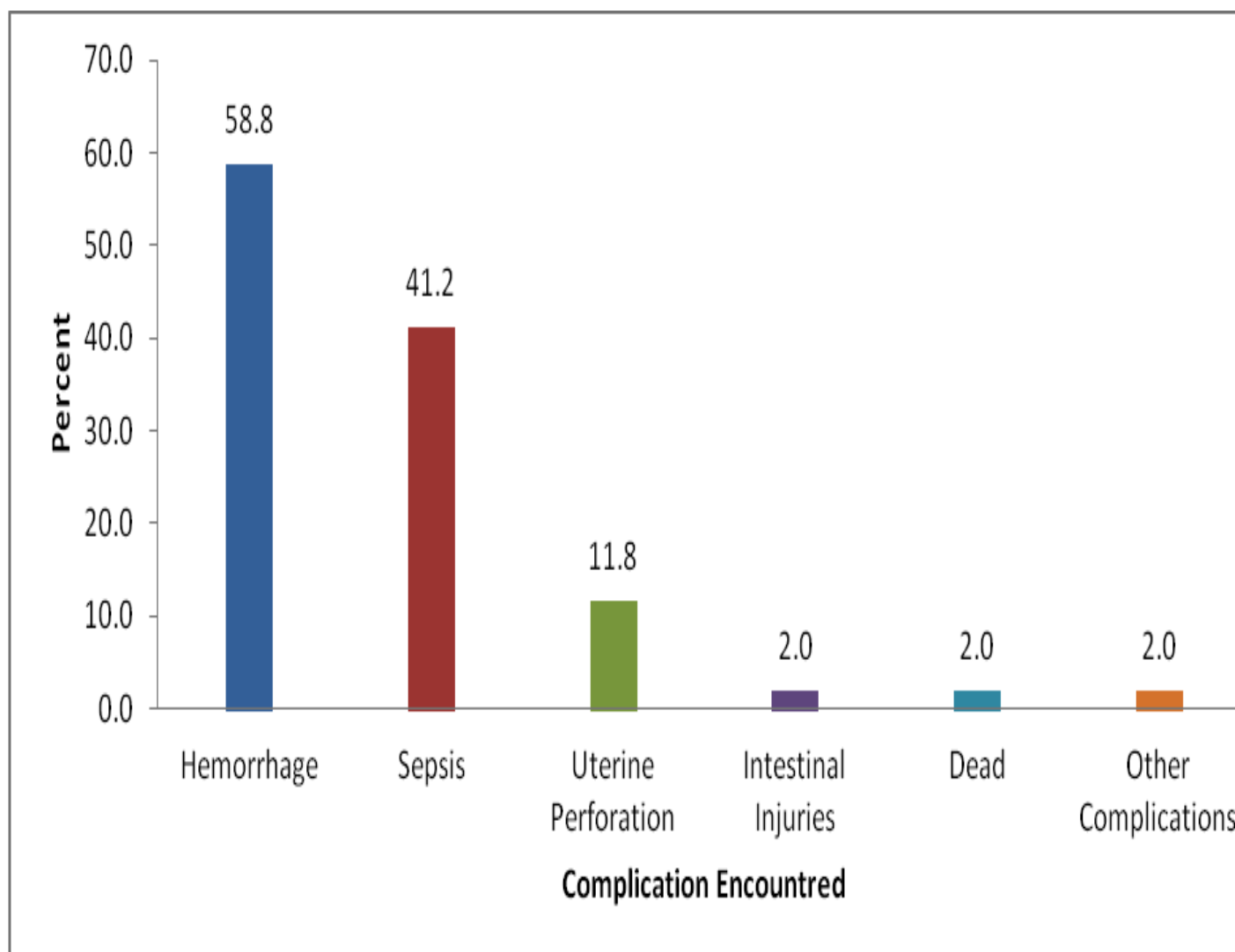
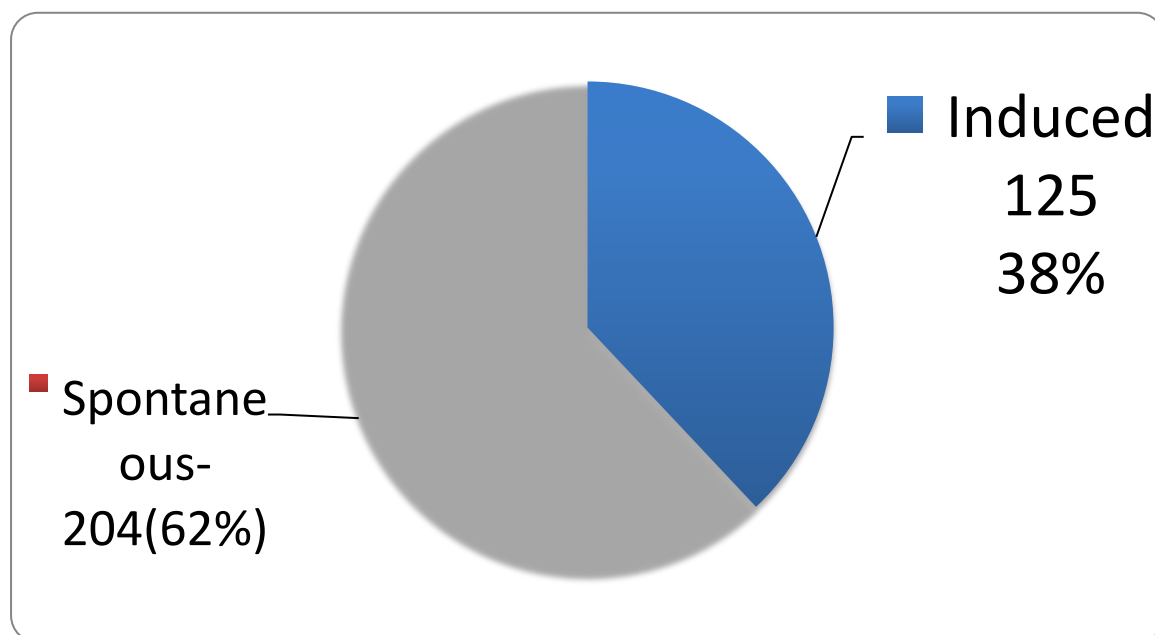


Figure 3 clearly illustrates that the main complication seen was haemorrhage (58.8%), followed by sepsis 41.2%, 11.8% had uterine perforation, 2% had intestinal injuries while 2% died. The two patients who died, died because of sepsis and severe anaemia.

4.5 PROPORTION OF INDUCED ABORTIONS TO SPONTANEOUS ABORTION

Figure 4; **Proportion of induced abortions to spontaneous abortion**



As illustrated in figure 4 shows as the proportion of induced abortions to spontaneous abortions. The majority of the patients, 62% had spontaneous abortion and 38% had induced abortion.

Table 5 shows the type of abortion by socio demographic factors:-

Table 5: Type of Abortion by socio-demographic factors

	Status of Abortion					p value
	Induced		Spontaneous		OR (95% CI)	
	Freq.	%	Freq.	%		
Age						
< 30	115	92.0	150	73.5	ref.	
30+	10	8.0	54	26.5	4.1 (2.0 - 8.5)	<0.001
Marital Status						
Not Married	72	57.6	41	20.1	ref.	
Married	53	42.4	163	79.9	5.4 (3.3 - 8.8)	<0.001
Level of Education						
Primary & Below	22	17.6	21	10.3	ref.	
Secondary & Above	103	82.4	183	89.7	1.9 (1.0 - 3.5)	0.056
Religion						
Catholic	54	43.2	65	31.9	ref.	
Protestant	68	54.4	128	62.7	1.6 (1.0 - 2.6)	0.059
Islam	3	2.4	11	5.4	3.1 (0.7 - 14.6)	0.086
Dependant						
Dependant	85	68.5	102	51.5	ref.	
Self – Dependent	39	31.5	96	48.5	2.1 (1.3 - 3.3)	0.001

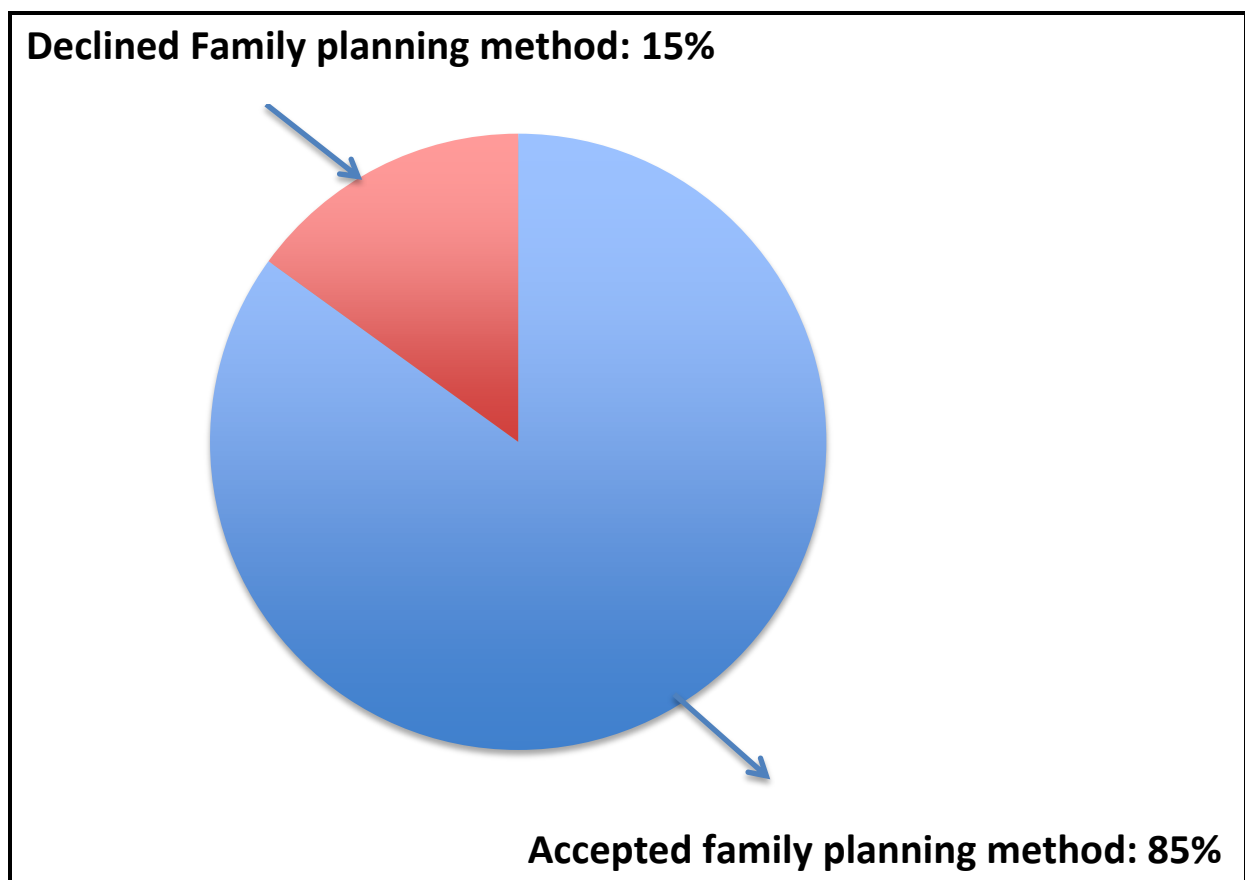
As shown in table 5, there were more (92%) women below the age of 30yrs who had induced abortion compared to those above 30yrs (8%), OR 4.1(2.0-8.5)

$p < 0.001$. Single women (57.6%) were more likely to have induced abortion compared to married women (42.4%), OR 5.4(3.3-8.8),

$p < 0.001$. Women who were dependant (68.5%) were more likely to have induced abortion compared to self dependant ones(31.5%), OR 2.1(1.3-3.3), $P < 0.001$.

POST ABORTION FAMILY PLANNING UPTAKE AFTER COUNSELLING

Figure 5: proportion of the patients who accepted to use a family planning method after counseling (n = 326).



Largest proportion (99.1%) of the patients were counseled for family planning but as demonstrated in figure 5, only 85% agreed to use a family planning method.

DISCUSSION

The proportion of patients with induced abortion was 38% while those with spontaneous abortion was at 62%. The majority (83%) underwent manual vacuum aspiration, 9.1% dilatation and curettage was done, 2.1% dilatation and evacuation and 5.8% other methods were used for uterine evacuation. Methods recommended by World Health Organization for uterine evacuation for pregnancies in the first trimester are Manual or electric vacuum aspiration or medical method of abortion however, Dilatation and curettage (D&C) is an obsolete method of surgical abortion and should be replaced by vacuum aspiration and/or medical methods. For pregnancies of gestational age more than 12–14 weeks, the following methods are recommended dilatation and evacuation (D&E), using vacuum aspiration and forceps²⁹

Post abortion family planning counseling was given to most (99.1%) of the patients and biggest proportion of them (85%) accepted to use a family planning method while 15 % declined. This differs with a previous study done more than 30yrs ago in the same setting that showed that 62.3% of the total abortion admissions are induced²¹. There could be an element of bias here since some of the participants may not have divulged the true information about the abortion. This differs with a study done previously in the same setting that showed

post abortion counseling for FP during index abortion was very minimal at 15%²⁸.

Most of the patients were young with the age group below 30yrs forming 80.2% of the study population. Similar findings were reported in a similar study done in the same setting though the percentage in that study was lower at 62.2%²⁸ and also in a study conducted at the Kakamega Provincial General Hospital in 2002,¹⁰ that tracked 400 randomly selected files from the admissions in the gynaecology ward for socio-demographic factors, diagnosis, treatment and outcome, of the 80 per cent of acute admissions, 42.5 per cent were abortion-related, that 45 per cent of the patients were teenagers (mean age 17 years), 86.5 per cent were unemployed and a majority had only attained primary level of education.

Majority of the participants (65.7%) were married while 32.2% were single. These findings are similar to a study done in the same setting²⁸. The biggest proportion (99.7%) of the patients had some education and majority (86.9%) had secondary and above education level. This is slightly different with previous findings in another study that showed majority (61.1%) had attained primary education level²⁸. Many of the participants (58.1%) were unemployed. This is a further confirmation that the majority of these patients are from a low socioeconomic group, a finding cited in a study done in a similar setting²⁸.

Majority of the patients (69%) of the patients had no previous history of abortion. Similar findings were reported in studies done in similar setting^{25,28}. Patients who had induced abortion did so for various reasons, 26% were due to contraceptive failure, 15.2% due to fear of reprisal, 24.8% due to financial constraint, 21.6% due to coercion by spouse to terminate and 5.6% due to rape. Majority (74%) of these patients were not on any family planning method during the time they conceived.

This is rather alarming and more emphasis needs to be put on family planning to avoid these unwanted pregnancies. An increase in the use of effective contraceptive methods results in reducing unintended pregnancies and consequently, the incidence of abortion however, no contraceptive method is 100% effective and some women become pregnant while using a method and there are other reasons that women induce abortion as clearly shown in this study prompting the need to fully embrace comprehensive abortion care. Major progress has been made in some areas of reproductive health, most notably in contraceptive use. However, induced unsafe abortions, though entirely preventable, continue to occur in almost all developing countries, Kenya being one of them. A quarter of the patients were admitted, 48.8% of these were admitted due to anaemia, 33.8% with sepsis, 13% due to uterine perforation and 30% due to other reasons. A small percentage (14.6%) of the patients received blood transfusion, 96% were given antibiotics, 59% received intravenous fluids, 2.1% laparotomy was done and 0.3% hysterectomy was done. Majority (85%) of the patients were counseled on Family Planning method. This differs with a study done previously in the same setting that showed post abortion counseling for FP during index abortion was very minimal at 15%¹⁹. Less than a quarter of the participants (16%) of the patients had complications and majority of these were due to haemorrhage and sepsis, 58.8% & 41.2% respectively while 1.8% had uterine perforation, 2% intestinal injuries and 2% died. These findings are similar to a study done in sub Saharan Africa that showed the most common complications of unsafe abortion were haemorrhage and sepsis²⁶.

The patients who died were 2. They both died from complications of unsafe abortion. The first one was a divorced lady with 3 children who got pregnant due to contraceptive failure, went to a traditional healer to induce the abortion, she was referred to KNH with severe anaemia and sepsis, she died after 1 day. The second patient was a

college student who went to procure an abortion at a private health facility because she wanted to continue with her studies, she sustained uterine perforation and intestinal injuries. She was admitted with sepsis and severe anaemia. She died after one day.

As confirmed by previous surveys women at risk of unwanted pregnancy and unsafe abortion fall between the ages of 14 and 27 years. These women are mainly from urban areas, of low income and with little or no formal education.

The major public health implications include, but are not limited to, maternal morbidity and mortality. In addition, there are financial costs to women and to health services for treating complications.

Preventing unintended pregnancies and unsafe abortion must therefore continue to be a high priority for improving women's reproductive health. It also remains important to study and monitor the extent of unsafe abortion in countries, globally and regionally, so that the public health impact can continue to be assessed.

Governments need to assess the health impact of unsafe abortion, reduce the need for abortion by expanding and improving family planning services, and design laws and policies to improve women's health and wellbeing. Prevention of unintended pregnancies must always be given the highest priority and all attempts should be made to eliminate the need for abortion. Women who wish to terminate their pregnancy should have ready access to reliable information, compassionate counseling and, in parallel, services for the prevention of unintended pregnancy and management of complications.

There, s need to offer Comprehensive abortion care at Kenyatta National Hospital, which includes all of the elements of Post Abortion Care which are:- Community and service provider partnerships for prevention (of unwanted pregnancies and unsafe abortion),

mobilization of resources (to help women receive appropriate and timely care for complications from abortion), and assurance that health services reflect and meet community expectations and needs, Counseling to identify and respond to women's emotional and physical health needs and other concerns, Treatment of incomplete and unsafe abortion and complications that are potentially life threatening, Contraceptive and family planning services to help women prevent an unwanted pregnancy or practice birth spacing, Reproductive and other health services, preferably provided on-site or via referrals to other accessible facilities in providers' networks as well as safe induced abortion for all legal indications.

Rates of induced abortion are the lowest in western Europe, where modern contraceptive use is high and abortion is generally legally available on request. Meeting the unmet need for family planning is, therefore, an effective intervention to reduce unintended pregnancy and induced abortion. Contraception alone, however, cannot entirely eliminate women's need for access to safe abortion services.

Contraception plays no role in cases of forced sexual intercourse, which can lead to an unintended pregnancy.

Following an induced or spontaneous abortion, women should receive appropriate comprehensive abortion care. For those women whose abortions were performed unsafely, post-abortion care is used as a strategy to attenuate the morbidity and mortality associated with complications, including uterine evacuation for incomplete abortion offer of contraception to prevent future unintended pregnancies; and linking women with other needed services in the community.

Following safe, induced abortion, post-abortion care may not require a follow-up visit if the woman has adequate information about when to seek care for complications and has received any needed supplies or information to meet her contraceptive needs. All women should receive contraceptive information and be offered counseling for and methods of post-abortion contraception, including emergency

contraception, before leaving the health-care facility. All methods of contraception, including IUDs and hormonal contraceptives, can be initiated immediately following surgical or medical abortion, as long as attention is paid to each woman's health profile and the limitations associated with certain methods

Information about infection prevention should be particularly emphasized for individuals who may be at increased risk, and in areas of known high prevalence of HIV and other STIs. HIV counseling and testing should be available in the facility, or by referral to other facilities. Dual protection, or the use of one method such as condoms, or a combination of methods, to protect against both pregnancy and STIs should be promoted. Abortion-service-delivery sites should be able to provide a woman's contraceptive method of choice in the facility. If the contraceptive method chosen by the woman cannot be provided on-site (e.g. sterilization is rarely offered at primary-care level), the woman should be given information about where and how she can obtain it, and be offered an interim method.

Providers should discuss prevention of STIs, including HIV, and the importance of condom use with women who choose methods other than condoms.

CONCLUSION FROM THE STUDY

1. Magnitude of Induced abortion is high at 38%.
2. Post abortion counseling for family planning has improved at 85%.
3. The majority (74%) were not on family planning at the time they conceived.
4. MVA was the commonest (83%) definitive treatment given to these patients with abortion.

5. About 16% had several complications, 14.6% received blood transfusion, 59% received intra venous fluids, 2.1% underwent laparotomy and 0.3% hysterectomy was done.

RECOMMENDATIONS

1. Strengthen primary intervention measures, family planning to avoid unwanted pregnancies and thus reduce the magnitude of induced abortions.
2. Guidelines of comprehensive abortion care to be revised and encourage use of medical management in the abortion patients who meet the criteria for its use.
3. Policy issues on safe abortion to be given an urgent priority by the Government as 58.1% of post abortion patients managed at KNH are of low socio economic status and are likely to get complications of unsafe abortion.
4. Follow up study to be done on the long term uptake of family planning.

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Appendix I

CONSENT FORM FOR PARTICIPATION IN THE STUDY

Study Identification Number: _____

Date: _____

Principal Investigator: Dr Doreen Adisa Lugaliki

Address: Department of Obstetrics & Gynaecology,

University of Nairobi,

P. O Box 19676,

Nairobi, Kenya

Mobile number- 0722815122

Introduction

I am a health worker currently stationed at Kenyatta National Hospital. I would like to invite you to take part in a research study. In order to be sure that you understand what it means to be involved in this study please read the information in this consent form carefully. If there is anything you do not understand in this consent form please ask us and we shall explain.

Reasons for the Research

This research study will assess the MAGNITUDE OF INDUCED ABORTION AND QUALITY OF POST ABORTION CARE AT THE KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA.

The objectives are To determine the definitive treatment given to the patients with abortion at KNH, To determine the post abortal family planning uptake among women treated with abortion and To determine the proportion of induced abortion to spontaneous abortion at KNH

It is hoped that the study will contribute to the quality improvement in management of abortion in the hospital.

It will also inform us on the progress we have made at achieving the target of improving maternal health and reducing maternal mortality.

Your part in the research

If you agree take part in the research study you will be asked to fill in a questionnaire. Your name will not be recorded in the questionnaire.

The questionnaire will be marked with study numbers for the purposes of analysis only.

The information you give will be treated as confidential. Filling of the questionnaire will only take about ten minutes only. We have obtained permission from the Kenyatta National Hospital Research and Ethics committee to carry out the study.

Possible Risks of the study

We do not think you will face any risk if you decide to participate in the study. Your reply to the questionnaire will not be used against you but solely for the study research purposes.

Decision to participate/Not to participate in the Research

You are free to decide if you want to participate in the study or not. Your decision will not be used against you if you decide not to participate in the study.

Confidentiality

The information we collect will be kept confidential. The research reports and publications will not reveal your identity.

Compensation

We will not be able to provide you with any payment or gift for being in the research but we will appreciate your participation.

PARTICIPANT'S AGREEMENT

The above document describing the benefits, risks and procedures for the research study the magnitude, morbidity and outcomes of abortion at the gynaecological unit of KNH has been explained to me.

I have been given an opportunity to have any questions answered about the research to my satisfaction; I have agreed to participate in the study as a volunteer.

Signature of participant _____

Date ____/____/____

I certify that I have explained the nature and purpose of the study to the participant whose study Identification number is _____

Signature of person obtaining consent _____

Date ____/____/____

Appendix II

STUDY QUESTIONNAIRE: POST ABORTION CARE AND MAGNITUDE OF INDUCED ABORTION AT THE ACUTE GYNECOLOGICAL UNIT OF KENYATTA NATIONAL HOSPITAL, NAIROBI KENYA.

A.IDENTIFICATION:

Patient's study Identification Number _____

B. SOCIO DEMOGRAPHIC DATA.

1. What is your age in years? _____

2. What is your marital status?

Single

Monogamous marriage

Polygamous marriage

Divorced/ separated

Widowed

3. What is your level of education?

None

Primary

Secondary

College/ University

4. What is your religion?

Catholic

Protestant

Islam

Others (specify)

5. Are you?

Dependant

Self dependant

6. What is your parity?

_____ + _____

7. Number of living children? _____

C. ABORTION HISTORY

8. History of previous abortions

· Yes

No

9. Gestation by dates (state in weeks)

10. Type of abortion

· Threatened abortion

Inevitable abortion

Incomplete abortion

complete abortion

Septic abortion

missed abortion

11. Was the abortion spontaneous or induced?

· Spontaneous

Induced

12. If induced what was the reason for induction?

·
Contraceptive failure

Rape

Fear of reprisal

Financial constraint of continuing the pregnancy

Coercion by spouse to terminate the pregnancy

Other reasons _____

13. Did the patient seek treatment elsewhere before coming to KNH?

·
Yes

No

14. Where did the patient seek treatment?

·

1. Government or city council
health facility

2. Private health facility

3. Traditional healer

4. Relatives

5. Friends

6. Other (specify) _____

D. CLINICAL PRESENTATION

15. Was the patient admitted?

.

1. Yes
2. No

16. If admitted, what was the reason?

.

1. Anemia
2. Sepsis
3. Uterine perforation/rupture
4. Renal failure
5. Other (specify) _____

17. What was the definitive treatment given?

.

1. MVA
2. D&C
3. D&E
4. Other (specify) _____

18. Amount of POCS (state in mls) _____

19. What was the complication encountered?

.

1. None
2. Hemorrhage
3. Sepsis
4. Uterine perforation/rupture
5. Intestinal injuries
6. Death
7. Other (state) _____

20. Was blood transfusion given ?

.

1. Yes
2. No

If yes, how many units?.....

21. Was antibiotic treatment given?

.

1. Yes
2. No

If yes, specify the

antibiotic.....

22. Were Intravenous Fluids given?

.

1. Yes
2. No

If yes.,how many litres?

23. Was renal dialysis done?

1. Yes

2. No

If yes, how many sessions?.....

24. Was laparotomy done?

1. Yes

2. No

25. What were the laparotomy findings? (State)

26. Was hysterectomy done?

1. Yes

2. No

If yes...state the reason

why.....

-

27. What was duration hospital stay in days?

28. What was the total charge to the patient for treatment in Kshs?

29. Was postarbotal counseling and contraception given?

.

1. Yes

2. No

30. Was a referral to an FP clinic done?

1 Yes

2 No

31. According to information available from the patient and the records, this abortion, was it

1. Safe

2. Unsafe



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4th September 2012

Dr. Lugaliki Adisa Doreen
Dept. of Obs/Gynae
School of Medicine
University of Nairobi



Dear Dr. Lugaliki

Research proposal: **Magnitude of induced Abortion and Post Abortion care at Kenyatta National Hospital, Nairobi, Kenya**
(P269/05/2012)

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and **approved** your above revised proposal. The approval periods are 4th September 2012 to 3rd September 2013.

This approval is subject to compliance with the following requirements:

- Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
- All changes (amendments, deviations, violations etc) are submitted for review and approval by KNH/UoN ERC before implementation.
- Death and life threatening problems and severe adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH/UoN ERC within 72 hours of notification.
- Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH/UoN ERC within 72 hours.
- Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. *(Attach a comprehensive progress report to support the renewal)*.
- Clearance for export of biological specimens must be obtained from KNH/UoN-Ethics & Research Committee for each batch of shipment.
- Submission of an **executive summary** report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/or plagiarism.

For more details consult the KNH/UoN ERC website www.uonbi.ac.ke/activities/KNHUoN

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