



**THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE**

**DETERMINANTS AND OUTCOMES OF SECOND TRIMESTER
ABORTIONS AT THE UNIVERSITY TEACHING HOSPITAL,
LUSAKA**

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**A Dissertation submitted in Partial Fulfillment for the Award of the Degree of
Master of Medicine in Obstetrics and Gynecology in the School of Medicine of the
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Dedication

To my family, teachers and my patients my life's work is for you.

Declaration

I hereby declare that this dissertation herein presented for the degree of Master of Medicine in Obstetrics and Gynecology has not been previously submitted either wholly or in part for any other degree at this or any other university, nor is it being currently submitted for any other degree.

Signed

.....

Dr. Mutinta Lina Muyuni

.....

Dr. Bellington Vwalika (Supervisor)

Statement

I hereby state that this dissertation is entirely the result of my own personal effort. The various sources to which I am indebted have been clearly indicated in the bibliography.

Signed

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Approval

The dissertation of Dr. Mutinta Lina Muyuni is approved as fulfilling part of the requirement for the award of the degree of Master of Medicine in Obstetrics and Gynecology by the University Of Zambia

Examiners

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Abstract

Background: Mid trimester abortion constitutes 10-15% of all induced abortions worldwide and accounts for the majority of complications. In Africa, studies demonstrating the proportion of second trimester abortions are few. However to appropriately intervene with a view to reducing the morbidity and mortality due to mid trimester abortions, the determinants in our setting must be established as well as the outcomes of uterine evacuation in this trimester. The aim of this study was to explore the determinants and outcomes of second trimester abortions at UTH.

Methodology: This was a cross sectional non interventional descriptive study that was carried out over a period of three months from March to May 2012 in the Department of Obstetrics and Gynecology at the University Teaching Hospital in Lusaka Zambia. A total of 145 second trimester cases were seen, involving women aged 13-46 years of age either requesting termination of pregnancy or presenting with spontaneous or induced abortion. The enrolled study participants all underwent a standard clinical assessment during which their respective clinical findings were recorded on data sheets. Data analysis was done using SPSS version 17.

Results: The point prevalence of second trimester abortion was 15.3%. The mean frequency of abortion per patient was 1. The index abortion was for a first pregnancy in 84% of the women. Out of 145 women who were admitted 119 (82.1%) were linked to spontaneous abortions, 16(11%) with medically/surgically induced abortion and 10(6.9%) with self-induced abortions. More women, 128(88%) were not using some form of contraception to avoid pregnancy. Few, 17(12%) actually used some form of contraception prior to index pregnancy. Five (3.4%) out of 26 who had induced abortion had desired pregnancy. Of the delay factors, the most frequent was conflict with partner. Amongst those who had spontaneous abortion, illness was reported as most frequent determinant (49.7%). It was observed that there was no statistically significant association between seeking care and with any delay factors. With regard to standard of care or health system factors, overall 89% were provided with appropriate uterine evacuation method while the rest were not. Fifty percent did not receive analgesia. The mean time between expulsion of fetus and uterine evacuation was 4.31 hours. Complications noted included uterine perforation, hemorrhage, cervical or vaginal lacerations, shock and even death.

Conclusion: The determinants of the second trimester abortion cases at the University Teaching Hospital are social, economic, health system factors, trauma, illness and unknown factors. The outcomes of second trimester abortion in terms of complications are varied. These are due to patient factors and methods used for uterine evacuation. The outcomes included uncomplicated complete abortion, retained products of conception, haemorrhage, uterine perforation, pain, shock, infection, lacerations, delayed vaginal bleeding and death. The methods of uterine evacuation varied from patient to patient but the overall outcome of the patient was not significantly affected by this.

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ABBREVIATIONS AND ACRONYMS

CAC	:	Comprehensive Abortion Care
CO3	:	Emergency Gynecology admission ward
DHS	:	Demographic and Health Survey
MOH	:	Ministry of Health
MVA	:	Manual Vacuum Aspiration
RCOG	:	Royal College of Obstetricians and Gynecologists
Rh	:	Rhesus
TOP	:	Termination of Pregnancy
UNICEF	:	United Nations Children's Fund
UTH	:	University Teaching Hospital
WHO	:	World Health Organization

CHAPTER ONE - INTRODUCTION

1.0 Background

Throughout history, women have sought to terminate unwanted pregnancies in spite of the legal standing of abortion wherever they may be. Abortions have been procured without regard to culture, economic status and religion. Women have been willing to risk their health, their future fertility, their social standing and even their life, in often desperate attempts to end unwanted pregnancies (Shain, 1986). Worldwide, induced abortion is the oldest and one of the most commonly used methods of fertility control. Abortion techniques have varied greatly over time and across cultures. They include a wide variety of abortifacients, mechanical devices, strenuous physical activity, excessive abdominal massage and starvation (Shain, 1986).

Millennium Development Goal 5 states that maternal mortality should be reduced by three quarters between 1990 and 2015. Actions to achieve this goal must include prevention of abortion-related maternal deaths as globally about 13% of these deaths are caused by unsafe abortions and most of them occurring in the second trimester (WHO, 2007). It is also a cause of maternal death that can be relatively easily reduced with the right interventions. About 210 million pregnancies occur each year throughout the world. It is estimated that 46 million of these pregnancies end in abortion: 36 million in developing countries and 10 million in developed countries. The World Health Organization (WHO) estimated in 2008 that, worldwide, almost 20 million unsafe abortions take place each year, with almost all of these performed in developing countries. Abortion related complications account for about 13% of all maternal deaths in the world, one in eight pregnancies related deaths (WHO, 2011). However, this global figure for abortion and its consequences masks large differences between regions and countries. In Africa, 5 million unsafe abortions are performed annually, resulting in an estimated 34,000 maternal deaths, a total very similar to that reported for Asia (38,500), which has twice the numbers of abortions (10 million). Thus, the maternal mortality ratio, corresponding to the risk of death due to unsafe abortion, may exceed 100/100,000 live births in Africa, whereas it is about 40/100,000 in Asia or in Latin America and less than 1/100,000 in the USA and Europe (Henshaw, 1999).

In the case of Zambia, the adoption of appropriate strategies to reduce maternal mortality and complications is especially important, because in this country up to 30% of maternal deaths can be attributed to abortion. Such a high proportion of maternal deaths resulting from abortion (most of it being unsafe) calls for a response from the professionals and policy makers responsible for women's care in Zambia. A focused intervention by the relevant stakeholders however would require that the determinants whether social, economic, health system or other reasons for second trimester abortion be established. The outcomes of these abortions are equally important to reinforce the need for intervention. The outcomes would include uneventful evacuations, complications such as hemorrhage, incomplete abortion, shock and even death. Abortion was legalized in Zambia in 1972. The Termination of Pregnancy Act provides for termination of pregnancy under specified conditions, where continuance of the pregnancy would involve risk to the life, physical or mental health of the woman; injury to physical or mental health of any existing children of the woman than if the pregnancy were terminated and substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped. The Penal Code amendment in 2005 also allows abortion in cases of rape and defilement in accordance with the Termination of Pregnancy Act. (Penal Code. Chapter 87, section 152. Amended by Act No. 15 of 2005). The Standards and Guidelines for Reducing Unsafe Abortion Morbidity and Mortality outline legal provisions and guidelines for implementation of safe abortion care services.

It must be noted that the Termination of Pregnancy Act applies as far as 28 weeks of pregnancy. There is no formal position on the upper limit for 2nd trimester termination of pregnancy in Zambia above which termination cannot be performed. All cases above 13 weeks gestation should only be managed in a unit staffed by a specialist or trained medical officer in consultation with a gynecologist as it requires providers with special training and experience (MOH 2009).

Mid trimester abortion constitutes 10-15% of all induced abortion worldwide and accounts for majority of complications (WHO, 1997). In Africa, studies such as that demonstrating the proportion of second trimester abortions are few partly because of legal restrictions (Usta M.B et al “2008”).

1.1 Statement of Problem

Although the law permits abortion in Zambia within the confines of the Termination of Pregnancy Act and it is safer to have it in the first trimester, women wait until the second trimester to seek termination. Worse still, some women still procure second trimester abortions outside the formal healthcare system. It is not known why this should be the case. There may be social, economic and other determining factors that could be behind this and which this study will explore. There is also need for mid trimester therapeutic abortion with improved prenatal care and diagnosis. It is also notable that the hospital lacks a protocol for providing this service and little is known of the many methods used by different practitioners. The outcomes of these second trimester abortions and those of patients seeking abortion care for spontaneous abortion are unknown.

1.2 Research Questions

1. What factors cause women to seek abortion care in their second trimester?
2. What are the outcomes of second trimester abortions at UTH?
3. What is the quality and outcome of second trimester abortion care?

1.3 Null Hypotheses

1. Delays leading to women seeking second trimester abortions are not socio-economic.
2. Delays leading to women seeking second trimester abortions are not health system related.
3. Outcomes of second trimester abortions are not dependent on the method of uterine evacuation used.

1.4 Main Objective

The main objective of this study was to explore the determinants and outcomes of second trimester abortions at UTH.

1.5 Specific Objectives

1. To determine the magnitude of second trimester abortions at UTH
2. To explore socio-economic factors associated with delay in seeking abortion among patients undergoing second trimester abortions at UTH.
3. To find out health system factors that are associated second trimester abortion.
4. To describe the quality of abortion care for women in their second trimester.
5. To establish the outcomes of the current methods of abortion care among second trimester abortion patients.

CHAPTER TWO - LITERATURE REVIEW

2.0 Definition of Key Words

Abortion is one of the oldest procedures known to man and is well documented throughout history (Riddle, 1992). It is the termination of pregnancy before the age of viability (WHO, 2003). Abortion can be in the first twelve weeks of pregnancy, normally referred to as first trimester abortion. Second trimester abortions occur between thirteen and twenty eight weeks of pregnancy (MOH 2009). Whether in the first or second trimester, abortion may be spontaneous or induced. Spontaneous abortion commonly referred to as miscarriage is a natural or unintentional loss of pregnancy whereas induced abortion is the intentional termination of pregnancy. An abortion induced to save the life of the gravid woman is termed as a therapeutic abortion whereas that for any other reason is an elective abortion.

2.1 Safe and Unsafe Abortion

Only during the 20th century, with the introduction of antibiotics and improved anaesthesia techniques, has both first and second trimester abortion, when performed by trained personnel, become significantly safer than childbirth, with the greatest safety being seen in first trimester terminations. In fact, suction curettage for a first trimester abortion is among the very safest of all surgical procedures. An estimated 208 million pregnancies occurred worldwide in 2008 and of these, 33 million or 16% ended in unintended births whilst 41 million or 20% were induced abortions (Singh, 2009). Induced abortion may be described as safe or unsafe. If performed by trained healthcare personnel, pregnancy terminations are safe procedures. In contrast, unsafe abortions carry a substantial risk for serious and life-threatening complications. Unsafe abortion is a procedure for terminating unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking minimal medical standards or both. Unsafe abortion as defined by WHO (1993), causes a significant proportion of maternal deaths. Nearly 70 000 women globally die each year due to the complications of unsafe abortion (Singh, 2009). The evidence shows that women who seek an abortion will do so regardless of legal restrictions (WHO, 2009). Abortions performed in an illegal context are likely to be unsafe (Berer, 2004, WHO,

2007). More than 95% of pregnancy terminations in Africa and Latin America and 60% of procedures in Asia are performed under unsafe conditions.

Legal termination of pregnancy is most commonly achieved by variations of one of two methods: instrumental evacuation of the uterine contents in the first or second trimester; or, in the second trimester after 16 weeks of pregnancy, induction of uterine contractions to expel the products of conception through the intra-amniotic introduction of saline, urea or a prostaglandin. The vaginal administration of a prostaglandin E₁ derivative appears to be a promising method for second trimester abortion (Berer, 2004).

Successful use of the procedures largely depends on the gestational age of the pregnancy; a more advanced gestational age generally correlates with a greater risk of complications, the skill and training of the practitioner, and the overall health of the pregnant woman. Each procedure has its own risks and benefits and is appropriate for different clinical situations and gestational ages. There is, of course, great interest currently in making available new medical means of terminating a pregnancy early in the first trimester through the use of antiprogesterins such as mifepristone or the antimetabolite methotrexate, both used in conjunction with a vaginal or oral prostaglandin (WHO, 2007). Abortifacients used in those situations where abortion is illegal or unavailable, range from innocuous to toxic. Substances such as hashish, laundry soap, writing ink, potassium permanganate and purgatives have been reported as being inserted vaginally to induce pregnancy loss (Shain, 1986). Lead oxide was used as an abortifacient during the late 19th and early 20th century in Europe, and there are many reports of acute lead poisoning after using it in attempts to terminate pregnancies. In general, the more effective the substance, the more toxic it is to the pregnant woman; that is, the more an abortifacient poisons the woman, the more likely it is to cause her to expel the foetus as a side effect.

Even more common, a number of different devices have been used to terminate pregnancies; these include sticks, hooks and bent wires. Certain Eskimo tribes have used thinly carved walrus ribs and some African tribes have been reported to use slivers of ivory. These instruments are inserted into the uterus to evacuate its contents (Shain, 1986). In some countries, such as Thailand, there have been reports of violent abdominal and uterine massage as a means of pregnancy termination. The great lengths that women are willing to go in order to terminate their pregnancies demonstrate their level of desperation.

2.2 Complications of Abortion

While abortion procedures carried out in the first or second trimester by properly trained personnel carry very little risk of serious complications, the situation is much different when an abortion is performed, usually in illegal circumstances, by personnel with little or no training in abortion procedures and little or no knowledge of aseptic techniques. Complications of abortion can be divided into those that occur soon after the procedure usually within one month and those that occur later. Immediate complications include uterine perforation during an instrumental evacuation, injuries to other internal organs such as the urinary bladder or intestines, hemorrhage, amniotic fluid embolus, cervical or vaginal lacerations or complications of anesthesia. Delayed but still early complications usually result from lack of asepsis and from retained fragments of placenta that can lead to post abortal bleeding and or infections. Infections can range from mild post abortal endometritis to generalized peritonitis or septicemia. Venous thrombophlebitis resulting in pulmonary embolism is a complication that should be grouped in this category (Richards, 1985; Faundes, 1997). Fortunately, as already mentioned, such complications are rare when an abortion procedure is carried out properly, although those complications that do occur are more common the later the termination is performed. In those settings in which abortion procedures are performed unsafely, serious complications are far too frequent. Perhaps the most common are infections caused by the lack of sterile technique, particularly when a foreign body has been inserted into the uterus, with little or no attention to proper aseptic techniques, and left in place for an extended period. This, in turn, can lead to irreversible septic shock and death, or in women who survive acute pelvic inflammatory disease Pelvic Inflammatory Disease., chronic Pelvic Inflammatory Disease, pelvic abscesses, peritonitis and or septicemia (Faundes, 1997).

On occasion, in a woman suffering from severe septic shock, an emergency hysterectomy may be a life-saving procedure (Richards, 1985). Other acute complications include hemorrhage, genital burns and serious vaginal scarring when agents are inserted into the vagina, often resulting in severe dyspareunia, and or urinary tract complications. Similarly, there may be serious reactions when various toxic compounds are ingested. Later complications include severe anemia, ectopic pregnancy or infertility because of scarring of the fallopian tubes and chronic pelvic pain. Furthermore, in addition to the tragic impact

on women, unsafe abortion has a significant adverse effect on the health care system, in terms of costs, resources and time (Faundes, 1997).

There is little evidence that termination of pregnancy increases the risk of adverse outcomes in subsequent pregnancies. The vast majority of studies that involve large populations have found no association between abortion, subsequent sub fertility, ectopic pregnancy or spontaneous abortion in ensuing pregnancies. (Thorp JM 2002) Further studies are needed to determine whether multiple induced abortions carry increased risk of these adverse outcomes. One final late complication of unsafe abortion is Rh sensitization of Rh-negative women who abort Rh-positive pregnancies. This can result in isoimmunization and erythroblastosis fetalis in subsequent pregnancies. It has been estimated that up to 2% of Rh-negative women who have a spontaneous abortion and 5% of those who electively terminate their pregnancies become isoimmunized if they are not given Rh-immune globulin afterwards (Cunningham, 1997).

Globally, approximately 5 million women are treated for consequences of unsafe abortion each year. Sixty-eight thousand women lose their lives due to complications such as massive hemorrhage and shock, sepsis, uterine perforation, and gastrointestinal or genitourinary tract injuries. Exact figures however remain unknown due to under reporting even in countries where abortion law is liberal and services are accessible. To date it is not possible to quantify the number of abortions done outside the formal health system. Hospital based studies in Zambia however, show that 30-50% of acute gynecological admissions are due to complications of abortions and a large proportion are unsafe abortions as such up to 30% of maternal deaths result from unsafe abortion (UNICEF 1994). The maternal mortality ratio is 591 per 100,000 live births (ZDHS, 2007).

Induced abortions occur throughout the world, whether legally sanctioned or not. In regions of the world where induced abortion services are not publicly available due to the law, misinformation exists about the legal status of abortion, or safe abortion services are either non-existent or not publicized despite the legal status of the procedure; women are admitted to hospitals at alarmingly high rates for treatment of complications of induced abortion. In contrast, induced abortion has become one of the safest and most frequently used clinical procedures for women in areas where it is legal and publicly available .Mid-trimester abortions, those done between 13-28 weeks gestation constitute 10-15% of all induced abortions worldwide but are responsible for 60% of all major complications

(WHO, 1997). Reducing the incidence of second trimester induced abortions and providing timely care for postabortal patients is therefore key to the reduction of morbidity and mortality associated with abortion. The abortion law in Zambia is considered by many as liberal because of the range of indications under which a woman can be allowed an abortion and so it is expected that women will report within the first trimester if they need pregnancy termination. The need for second trimester terminations of pregnancy will always be present, more so with improved prenatal diagnosis and detection of fetal anomalies in the mid trimester.

2.3 Delays

It is widely recognized that to prevent maternal mortality the sooner appropriate care is provided the higher the chances of survival. The effect of delays in providing care has long been accepted as a principal determinant of maternal death. Three typical forms of delay have been described by Thaddeus (1994):

- 1) Delay in the woman's decision to seek care,
- 2) Delay in the woman arriving at a health care facility, and
- 3) Delay in the provision of adequate care.

On the other hand, there is evidence from Bolivia and Argentina that women seeking medical care for complications of unsafe abortion are often left waiting for treatment for longer periods than other patients (Camacho, 1996). A longer waiting period prior to treatment – whether related to treatment exigencies or discrimination against women who have had an abortion – may increase women's risk of dying, the third form of delay. In 2008 Reproductive Health Matters published a journal supplement on second trimester abortion (Berer, 2008) with papers from the 2007 International Conference on Second Trimester Abortion (Medical Abortion Consortium, 2007) Studies from England and Wales, Mozambique, Netherlands, Spain, South Africa, United States and Viet Nam, demonstrate that the factors influencing the need for second trimester abortions are present in almost all societies (Tuyet, 2008).

There are a number of important reasons that women wait until the second trimester to have abortions. Some women do not realize that they are pregnant or are in denial about their pregnancy until the second trimester. Other women face pressure from family members or partners that delays their making a decision, or they are themselves undecided

about what course to take. Some decide not to continue a wanted pregnancy after facing difficult altered personal circumstances or a diagnosis of serious fetal anomaly. After the decision to have an abortion is made, other factors can cause delays. These include lack of money to pay for the abortion, lack of information on where it can be obtained, the need to travel long distances (Barnes 1998), including to another country, to find an abortion provider, concerns about what is involved in undergoing an abortion, and delays in getting a pregnancy test or obtaining a clinic appointment. In addition, the stigma associated with second trimester abortion can cause further delay. These factors are particularly serious for young women, women with little education, poor women, and rural women. Further, evidence of fetal abnormalities or threats to health may not be present until after the 1st trimester. Other factors contributing to delay in seeking earlier abortion included late suspicion of pregnancy, delayed administration of pregnancy test and other logistical barriers such as inappropriate referral and lack of insurance cover (Drey, 2006).

In the Netherlands where abortion is permitted on request up to 22 weeks gestation since 1984, mid trimester abortions constitute less than 7% of all registered abortions. Reasons cited for delays in seeking early abortion include relationship ills with partners, ambivalence to the pregnancy and immigration delays for those who have to travel to the Netherlands for abortion services (Loeber 2006). Finally, threats to health and life often do not arise until the second or third trimester of pregnancy, and many tests to detect fetal abnormalities cannot be carried out until well into the second trimester (WHO, 2003).

South Africa has over 20% of abortions performed in the second trimester according to South African Department of Health 2005. In the United States these account for 10% of abortions, in Vietnam, second trimester abortion accounted for an estimated 8-11% of abortion caseload in 2001 at three referral hospitals (Gallo, 2007) whereas in all Scandinavian countries it is less than 5% (Henshaw, 2001).

2.4 Quality of care

Zambia has adopted the concept of comprehensive abortion care that involves primary prevention of unintended pregnancy, secondary treatment of unintended pregnancy with provision of safe abortion services or referral for focussed antenatal care and treatment of complications of abortion after the event. The final component is referral to other reproductive health services. It follows that services must be of certain minimum standard

as outlined in the Standards and Guidelines for reducing unsafe abortion morbidity and mortality in Zambia 2009 (Refer to appendix 12).

The concept of comprehensive abortion care does not exist in Romania. It was noted that doctors provided little if any information to women about the procedure, return to fertility, signs and symptoms of complications or post-abortion contraception, and rarely encouraged women to return for follow-up. Procedure tables often had no linens and were not cleaned between procedures; there was often more than one woman per bed; and there was general inattention to basic human needs and privacy. Infection prevention practices were uneven at best and in many centres very poor. Pain management practices observed ranged from no anaesthesia to heavy sedation with intravenous anaesthesia; however, most procedures were usually performed with local paracervical anaesthesia. There was little or no screening or referrals for reproductive tract infections or other reproductive health services (Johnson, 2004).

In South Africa the laws regarding abortion can be considered the most liberal in sub-Saharan Africa. In spite of this, mid trimester abortion represents a staggering 20% of all abortions. The reasons for delays in South Africa include late recognition and testing of pregnancy, indecision and health service provision related barriers. (Harries 2006) Although minimal data exists in UTH on second trimester abortion, anecdotal evidence shows that these cases are common in the hospital. Records from 2009 show that the second trimester cases of abortion range from 13-22 weeks of pregnancy, constituting over a fifth of all abortion cases. What is not known is why women would wait until the second trimester before seeking abortion services in Zambia. Although it is known that such terminations bear more morbidity even under safe settings (Bartlett, 2004), outcomes of treatment are currently not audited and documented in UTH. It is also notable that the hospital lacks a protocol for providing this service and little is known of the many methods used by different practitioners.

Women who have second trimester abortions may have greater morbidity and mortality as reported by various studies (Lawson, 1994; Henshaw, 2001, Bartlett, 2004). A study done in Kenya showed that over a third of women admitted with abortion complications were in their second trimester and that abortion related morbidity and mortality shows an increase with gestational age (Gebreselassie, 2005). Second trimester abortion should not be performed in primary health facilities as they may lack trained health care providers and

adequate medical equipment or emergency support (MOH Zambia, 2009, MOH Vietnam, 2003). Second trimester pregnancies can be terminated surgically or medically by use of various pharmacological agents. A woman should be given the option to choose between the two modalities where possible however, this is influenced by availability of trained personnel, adequate medical equipment and required drugs.

2.5 Uterine Evacuation Methods

There are a number of abortion methods but the following are used in Zambia:

Surgical Abortion

Vacuum Aspiration can be used during the early second trimester. It is generally agreed that the risk of complications increases with gestational age (Brenner, 1974). The method of choice at gestations 12–15 weeks depends on the skill and experience of the concerned clinicians (Child, 2001). Specialized instruments are not necessary in pregnancies up to 15 weeks of gestation if clinicians have gained experience with this method (RCOG, 2004). The complications could be reduced by preoperative cervical dilatation (Schulz, 1983; Grimes, 1984). Cervical dilation can be achieved using prostaglandin analogues, mechanical dilatation or osmotic dilators (El-Refaey, 1994; MacIsaac, 1999; Ngai, 1999). Cervical preparation before surgical abortion for durations of pregnancy over 9 weeks for nulliparous women, for women younger than 18 years of age, and for all women with durations of pregnancy more than 12 weeks is recommended (Cook, 2004).

Dilatation and Evacuation

Dilatation and evacuation is the standard method at gestations above 13 weeks in many parts of the world. The conventional suction evacuation would be an appropriate method for gestations between 12 and 15 weeks, whereas dilatation and evacuation would be a safe and an effective option for gestations above 15 weeks when undertaken by specialist practitioners with a sufficient workload to maintain their skills (RCOG, 2004). Although dilatation and evacuation for the termination of mid-trimester pregnancy by experienced hands is safe. (Grimes 1977, Schneider 1996, Autry 2002), some practitioners feel it very distressing to perform this procedure at an advanced gestation. A report on the confidential inquiries into the maternal deaths in the UK questioned the appropriateness of dilatation and evacuation as a method of terminating second-trimester pregnancy when safe and

effective medical alternatives exist (Report of Confidential Enquires into Maternal Deaths in the United Kingdom, 1994–1996). Compared to primary Prostaglandins, PGF_{2α}, dilatation and evacuation was found to be faster, safer and more acceptable up to about 18 weeks of gestation (Grimes, 1980). Cervical injury is more frequent with dilatation and evacuation in the second trimester, and hence, preoperative cervical priming reduces the complications (Schulz, 1983; Grimes 1984).

Dilatation and Extraction

This procedure is accomplished by cervical preparation similar to cases of dilatation and evacuation, but the fetus is removed in a mostly intact condition. The fetal head is made of cartilage and is able to be collapsed after the contents are evacuated so that it may pass through the cervix.

Hysterotomy

Hysterotomy is reserved for very few cases. The presence of large uterine leiomyomata has been an indication for hysterotomy in the performance of an abortion, and in the past, placental previa was another indication, however dilatation and evacuation can be performed safely in some of these cases (Paul, 2011). The lower uterine segment is never developed well enough to place the incision there, so virtually all hysterotomies must be performed by classic uterine incisions.

Very few indications exist for the use of hysterectomies to terminate pregnancies. The extra uterine vasculature that develops in pregnancy makes hysterectomy more dangerous, and the incidence of hemorrhage and complications rises. Hysterectomy is reserved for rare instances in which other gynecological pathology dictates removal of the uterus.

The uneven geographical availability of dilatation and evacuation may stem from lack of information, lack of requisite equipment and training, or lack of motivation. This method is not used at all at UTH. Where surgical evacuation is not feasible, medical methods may be applied. The standards and guidelines suggest use of mifepristone in combination with misoprostol or misoprostol alone.

Medical Methods

Induction abortion is termination of pregnancy by stimulation of labor like contractions that cause eventual expulsion of fetus and placenta from the uterine cavity (Blumenthal et al., 1999). Medical abortion has a long history and has been refined in time to use drugs that have fewer side effects and shorter induction-abortion intervals. The uterus has prostaglandin receptors and in pregnancy, they regulate uterine contractility. Naturally occurring prostaglandins cause uterine contraction, cervical ripening and dilatation. Their use in induced abortion is limited however due to their rapid metabolism and high incidence of gastrointestinal side effects (Blumenthal et al., 1999).

Prostaglandins analogues have been found more acceptable for clinical use as they have more routes of administration and are not metabolized as fast as naturally occurring ones (WHO Task Force on Prostaglandins). Sulprostone, a prostaglandin analogue was used in the 1980s for mid trimester abortion but was abandoned for its propensity to cause cardiovascular complications in particular myocardial infarction due to coronary artery spasm

Gemeprost is a prostaglandin E₁ analogue and used widely to dilate the cervix before surgical procedures such as vacuum aspiration and in mid trimester terminations (Smith, 1980). Misoprostol is a prostaglandin E₁ analogue. It is used for prevention and treatment of peptic ulcers and off label for abortion (Gynuity, 2004). Misoprostol is readily available in Zambia and is the prostaglandin analogue that is used in medication abortion at the University Teaching Hospital. The side effects of misoprostol are dose and route of administration related. Commonly observed side effects include nausea, vomiting, diarrhea, fever and chills (Tang, 2004). Various studies have explored use of various prostaglandins alone at different doses. (Jain et al 1994) describe outcomes and use of 200ug misoprostol 12 hourly.

The anti-progesterone mifepristone or RU 486 has revolutionized medication abortion. Progesterone the key hormone in sustenance of the pregnancy prevents softening and dilating of the cervix reduces prostaglandin output from the decidua and suppresses uterine contractions. Progesterone antagonists prevent progesterone from exerting its effects. (Van look, 1989). Mifepristone, a synthetic steroid is the only anti progestin approved for induction of abortion. Treatment with mifepristone results in decidual

necrosis (Johansson, 1989) and increases myometrial sensitivity to prostaglandins (Swahn, 1988; Norman, 1991).

Medical abortion with mifepristone and a prostaglandin analogue for mid trimester abortion has been shown to be a safe and effective method (RCOG, 2004)

Antiprogestosterone given 36-48hours before prostaglandin administration increases chances of success and shorten induction to abortion interval and reduce amount of prostaglandins required (Baird, 1992)

Old methods since discarded included use of hypertonic saline in the 1940s. These methods were often complicated by coagulopathy and resultant massive bleeding, fever, retained placenta and risk of hypernatremia (Allahbadia, 1992). Hyperosmolar urea was similarly used but less likely to be associated with hypernatremia coagulopathy (Binkin 1983). Ethacridine lactate is still used in some settings but is slow and may require augmentation with oxytocin. Ethacridine lactate is a weak antiseptic and complications from its use are few (Topozada, 1990). High dose oxytocin may be used after cervical ripening with foley catheter or misoprostol (Islam, 2006). Mechanical induction of abortion is achieved using foley catheter, weighted and alone or in combination with prostaglandins (Topozada, 1990; Abramovici, 1995).

2.6 Feticide before late abortion

When medical abortion is chosen, in many settings, clinicians are required to ensure that the fetus is not alive at the time of abortion. A legal abortion must not be allowed to result in a live birth and terminations after 21 weeks before which, the contractions induced by PG make feticide unnecessary. The method chosen should ensure that the fetus is not born alive (RCOG, 1996). This poses a dilemma for health care providers and the patient seeking termination of pregnancy. Feticide can be achieved using hypertonic saline, 1% lidocaine and potassium chloride (Elimian 1999; Jackson, 2001; Bhide, 2002; Senat, 2003,). Feticide with potassium chloride has reduced the PG requirement for mid-trimester medical abortion, compared with similar procedures conducted without feticide (Elimian, 1999; Jackson, 2001). In Zambia, in the event the fetus is born alive all efforts must be made to preserve its life (Standards and Guidelines for reducing Unsafe Abortion Morbidity and Mortality in Zambia, 2009). No randomized study comparing Mifepristone and a PG analogue and D&E for mid-trimester abortion has been published. An attempt

has been performed, but the trial was stopped after 1 year because of slow enrolment (Grimes, 2004).

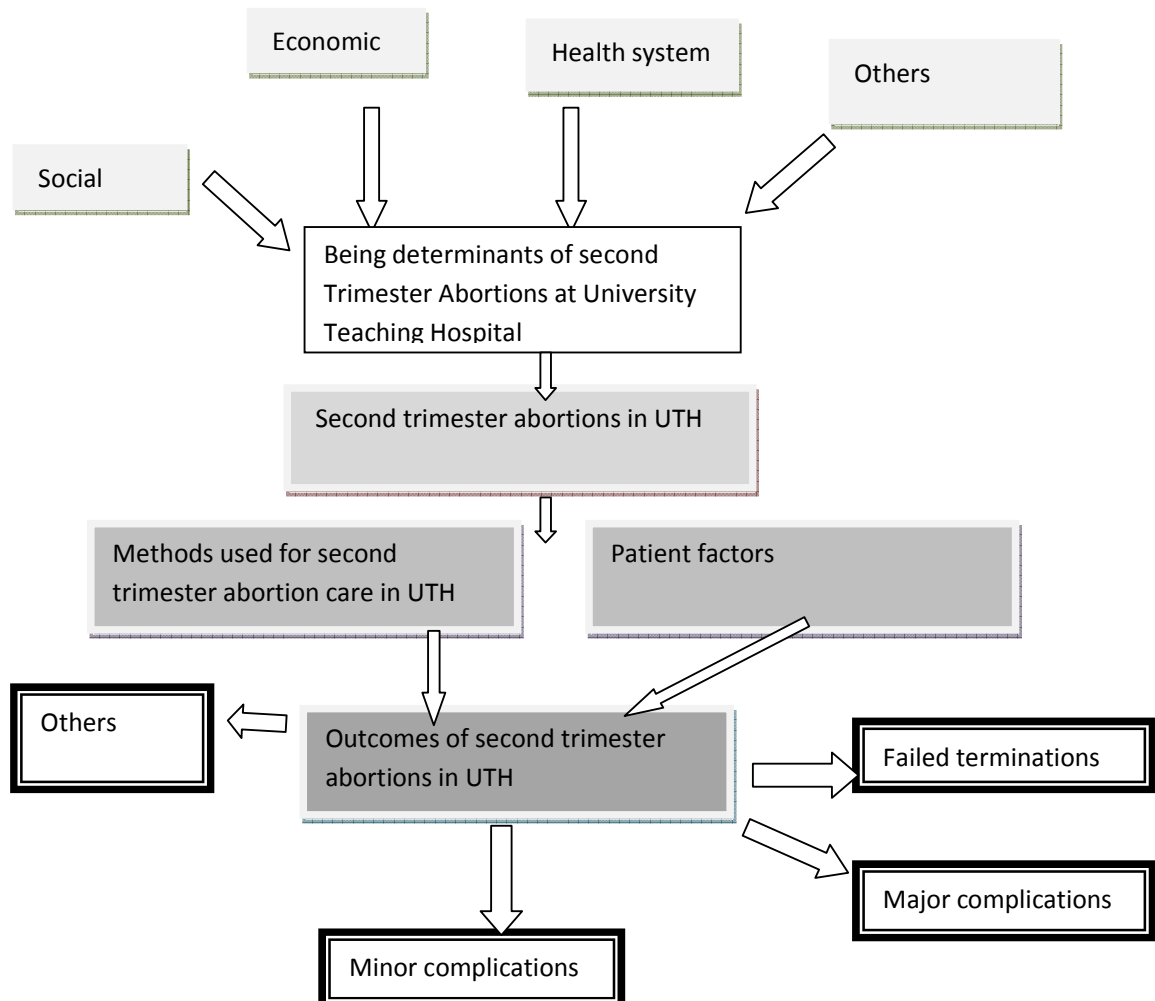
This study explored the determinants and outcomes of second trimester abortions seen at the gynecology section of UTH, Lusaka.

CHAPTER THREE – THE RESEARCH PROBLEM

3.1 Conceptual Framework

This study found out reasons why women sought abortion services in the second trimester and defined factors relating to this. Methods that are used for uterine evacuation in UTH are described. Outcomes of the service could have been influenced by the method used or by the inherent characteristics of the patient. The outcomes were described and related to the uterine evacuation methods and patient factors. The figure below summarizes the conceptual framework:

Figure 1: Conceptual Framework



CHAPTER FOUR - RESEARCH METHODOLOGY

4.0 Study Area

The catchment area of the University Teaching Hospital in Lusaka was the study area. The cosmopolitan city of Lusaka City is the capital of Zambia. It has a mixed population of tribes. The University Teaching Hospital (UTH) in Lusaka is the main reference hospital in Zambia, its catchment area, covers about 2 million people in Lusaka and Lusaka province. The University Teaching Hospital being the main national reference hospital in Zambia the patient population seen is representative of the mid trimester abortion burden in Lusaka.

4.1 Study Design

This was a cross-sectional non-interventional descriptive survey. The sample for this analysis was based on a non-randomized population of women of Lusaka province between 13-28 weeks of pregnancy requiring abortion care in their second trimester presenting to the University Teaching Hospital CO3 emergency gynecology ward.

Inclusion criteria

- All pregnant women attending the hospital during this period in their second trimester with incomplete, inevitable, missed and those requesting termination of pregnancy were invited to participate in the study.
- Patients above 18 years of age, or below this provided they and their guardian was willing to give consent and they assented.
- Those pregnant and requesting termination of pregnancy at 13 – 28 weeks of pregnancy who qualified for termination of pregnancy according to the requirements of the termination of pregnancy act of 1972

Exclusion criteria

- All first trimester cases of abortion.
- All who declined consent to participate.
- All who did not meet inclusion criteria.

Data collection took place in March to May 2012. The data for this study came from file reviews, a short survey questionnaire and structured short interviews based on normal routine screening. A list was made of all abortion cases admitted to the department. The socio-demographic and medical characteristics of the women were extracted from the medical files to complete the designed questionnaire. If it was difficult to establish a diagnosis, particularly to differentiate between miscarriages and induced abortion, the researcher and staff carried out a re-evaluation. The duration of amenorrhea before the abortion was calculated based on the date of the last period, assessed clinically or by scan. The various methods used to perform the abortions were listed and described. The researcher also identified some severe complications (perforations and death) from the files and the details appear later. The questionnaire was also used to elicit information from the study participants on their socio-demographic characteristics, sexual and reproductive histories, family planning knowledge and use, fertility preferences, and on their communication with their male partners as well as other significant others. All questions were close-ended (Refer to appendices 12 and 13).

4.2 Sample Size and Sampling Methods

The sample size was determined using the formula below:

$$n = \frac{N}{1+N(e)^2}$$

N = the known population;

n = desired sample size

e = required precision set at 0.05

It was estimated that 250 women were admitted for second trimester abortion related care over a period of 4 months which period was ideal for the researcher to conduct the study; the appropriate sample size was 145. This sample size was adjusted to include compensation for non-response that is 30% and 10% for those that the researcher is unable to contact (Glenn, 1992: 4).

This study was approved by the University of Zambia Biomedical Ethics Review Board. Each eligible study participant read the consent form in a language they were proficient in.

If the potential study participant agreed to participate, the consent form was signed (Refer to consent and assent forms in appendices 8-11).

4.3 Strategy for Analysis

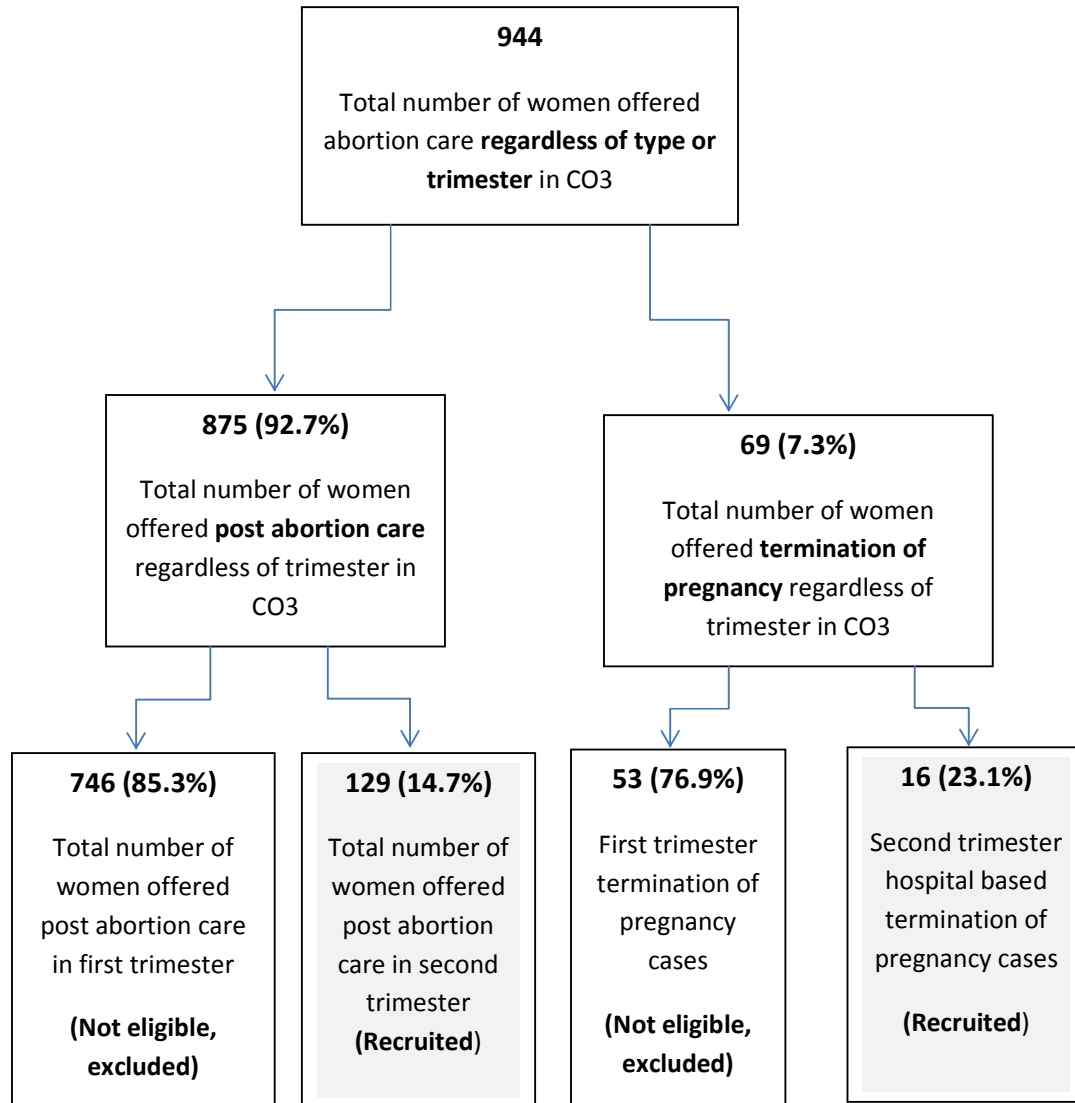
Data was managed using the statistical package for social sciences (SPSS). Statistical analysis was performed using SPSS version 14 software. Descriptive analyses and bivariate analyses were done. In all cases, $p < 0.05$ was considered significant.

CHAPTER FIVE – RESULTS

5.1 Numbers of participants

There were 944 women seen in the gynecology outpatient department between March and May 2012 that required abortion care. Of these 875 (92.7%) required post abortion care and 69 (7.3%) had requested for termination of pregnancy. Of the 69 that requested termination of pregnancy 16 (23.1%) were second trimester cases. Similarly, 129 of the 875 (14.7%) that required postabortion care were in the second trimester. These 145 (15.4% of all 944 women that required abortion care in the second trimester were approached to join the study and all accepted.

Figure 2: Flow chart showing the recruitment of study participants



5.2 Socio-demographic characteristics of the participants

Amongst the 145 respondents, the oldest was 46 and the youngest 13 years. Majority of the respondents were in the age group 20-24 years (32%), followed by 25-29 years (24%), 30-34 years (16%), 15-19 years (12%), 35-39 years (10%), 45-49 years (3%) and 10-14 years (2%). (Table 1)

Within this sample, a higher proportion of women (n=108; 74%) came from low income areas whereas middle and high income areas only contributed a lesser proportion (n=37; 27%) (Table 1)

In this sample, the women were largely literate. Only 5 (3%) had never been to school and just a handful (n = 11, 8%) had attended tertiary education whereas the majority had either gone up to primary level (n = 54, 37%) and (n =75, 52%) attained secondary education. (Table 1)

Most women in this group were unemployed (n=110, 76%) formally employed (n=12, 8%) and informally employed (n= 23, 16%) (Table 1)

Most of the women were Christians. Protestants (n =116, 80%) were in the majority compared to Catholics (n = 26, 18%) and Muslims (n = 3, 2%) (Table 1).

Table 1: Socio-demographic characteristics of the participants

Variable	Frequency (N)	Percent
Age of Respondents (years)		
10 to 14	3	2
15 to 19	17	12
20 to 24	47	32
25 to 29	35	24
30 to 34	24	16
35 to 39	14	10
45 to 49	5	3
Total	145	100
Income profile by residential area		
High income area	4	3
Mid Income area	33	23
Low income area	108	74
Total	145	100
Education status		
Primary	54	37
Secondary	75	52
Tertiary	117	8
None	53	3
Total	145	100
Religious affiliation		
Muslim	3	2
Catholic	26	18
Protestant	116	80
Total	145	100
Employment status		
In formal employment	12	8
In informal employment	23	16
Unemployed	110	76
Total	145	100
Marital Status		
Single	31	21.4
Cohabiting	5	3.4
Married	104	71.7
Separated	4	2.8
Widowed	1	.7
Total	145	100

5.3 Gestation, gravidity and parity of participants

The respondents in this study had varying reproductive histories. In the study population, the women had a mean of 2 children at the time of the abortion. The mean gestation age in weeks was 16. The minimum was 13 and the maximum was 26 weeks. The minimum and maximum gravidity states were 1 and 9. The mean state of parity was 2 (SD \pm 2) and the minimum and maximum were 0 and 7 (Table 2).

Table 2: Gestation, gravidity and parity characteristics of the participants

Gestation age in weeks	Frequency (N)	(%)
13	15	10.3
14	31	21.4
15	12	8.3
16	29	20.0
17	10	6.9
18	14	9.7
19	3	2.1
20	4	2.8
21	4	2.8
22	7	4.8
23	3	2.1
24	10	6.9
25	1	.7
26	2	1.4
Total	145	100.0
Gravidity		
1	41	28.3
2	29	20.0
3	27	18.6
4	17	11.7
5	12	8.3
6	13	9.0
7	3	2.1
9	1	0.7
Total	145	100
Parity		
0	44	30.3
1	35	24.1
2	28	19.3
3	15	10.3
4	10	6.9
5	10	6.9
6	2	1.4
7	1	.7
Total	145	100

5.4 Total abortions and pregnancy desire

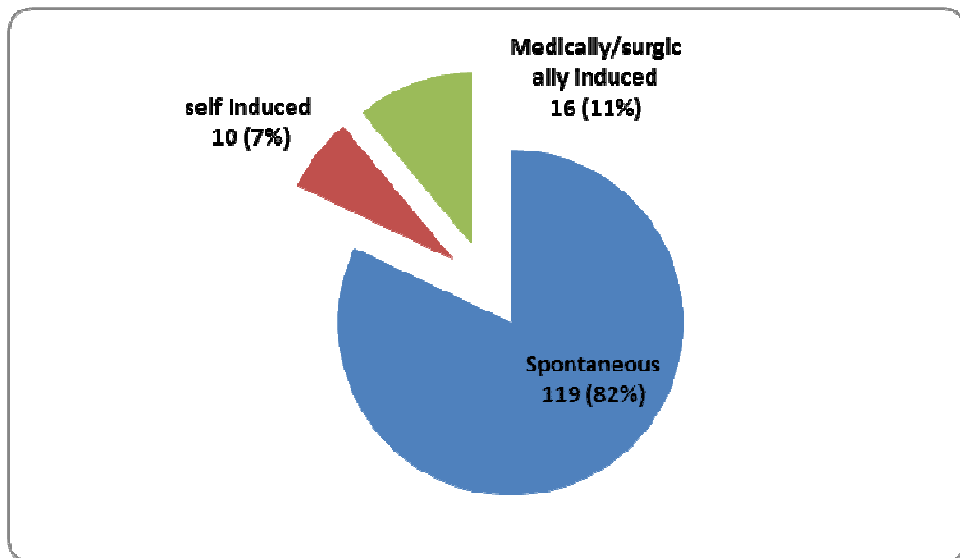
The mean frequency of abortion was 1 the minimum and maximum were 1 and 4 respectively. 122 (84%) women had no previous abortion (Table 3)

Table 3: Total abortions and pregnancy desire.

	Frequency (n)	Percent
Total abortions		
1	122	84
2	14	10
3	4	3
4	5	3
Total	145	100
Pregnancy Desire amongst those who terminated pregnancy(N=26)		
Desire to be pregnant	5	19
Wish you were not pregnant	21	81
Total	26	100

Out of 145 women who were admitted, n = 119 were linked to spontaneous abortions, 16 with medically/surgically induced abortion and 10 with self-induced abortions (Figure 2).

Figure 3: Abortion Profile



5.5 Relationships between Independent Variables and Type of Abortion

These abortions seem to increase with age and tend to taper after the age of 24 (Table 4). More women in the 20 to 24 age group reported more cases of abortions but generally the differences across age groups were not significant $p = 0.701$.

The incidence of abortions seem to increase with level of education and there was a significant statistical association between the occurrence of a type of abortion and level of education $p = 0.05$. An examination shows that more cases of abortions that were attended to were among women who had both primary and secondary education since they constituted the largest group of attendees (Table 4).

The incidence of abortions seem to increase with type of religious belief and there was a significant statistical association between the occurrence of a type of abortion and level of affiliation $p = 0.02$. A critical examination shows that more cases of abortions that were attended to were among Christian women who were Protestants (Table 4).

Table 4: Bivariate Relationships between Independent Variables and Type of Abortion

INDEPENDENT VARIABLE	SPONTANEOUS ABORTION	SELF INDUCED ABORTION	MEDICALLY/ SURGICALLY INDUCED ABORTION	WALD F STATISTIC
Residential area				P=0.0000
High income area	1	0	3	
Mid income area	21	3	9	
Low income area	97	7	4	
Total	119	10	16	
Education level				P=0.05
Primary	50	2	2	
Secondary	58	6	11	
Tertiary	6	2	3	
None	5	0	0	
Total	119	10	16	
Age				P=0.701
10-14 years	2	0	1	
15-19 years	13	1	3	
20-24 years	36	5	6	
25-29 years	31	2	2	
30-34 years	22	1	1	
35-39 years	10	1	3	
40-44 years	0	0	0	
45-49 years	5	0	0	
Total	119	10	16	
Religious belonging				P=0.02
Protestant	100	5	11	
Catholic	16	5	5	
Muslim	3	0	0	
Total	119	10	16	
Marital status				P=0.000
Married	95	1	0	
Single	17	5	9	
Cohabiting	4	3	6	
Separated	3	1	0	
Widowed	0	0	1	
Total	119	10	16	

5.6 Contraceptive use amongst women with second trimester abortion

The 145 women (postabortion care and those seeking termination of pregnancy) were asked about the use of contraception prior to becoming pregnant. Most women n = 128 (88%) were not using some form of contraception to avoid pregnancy. Only a handful n = 17 (12%) actually used some form of contraception prior to index pregnancy.

When the women were asked whether or not they planned the pregnancy and if they had not used contraception to avoid it, it was evident that fewer than expected n = 17 of the women with unplanned pregnancy had used contraception. Of the 128 who did not use any form of contraception, 47 actually had an unplanned pregnancy.

Below is a profile of contraception use among the 26 women who had induced abortion (Table 5). It is evident that the use rate is low.

Five out of 26 had desired pregnancy signifying a change of personal circumstances where a desired pregnancy later becomes unwanted.

Table 5: Contraceptive use among those with induced abortion n = 26

Method	Use Rate Among those with induced Abortion	
	Yes	No
mini pill	0	26
combined pill	1	26
IUD (loop or coil)	0	26
Inject able contraceptive	0	26
condom	4	22
rhythm method	4	22
withdrawal method	2	24
Herbs	2	24
LAM	2	24
Other	2	24

5.7 Delay to Seek an Abortion

Noting that delay is a critical factor in inducing abortions, personal and health system factors were assessed to see if at all they were any associations. Table 6 below shows that frequency of occurrence of factors for delay were not predominant (all of them were occurring below the majority value of 50% within the sub population of those who had induced abortions. Of the delay factors, the most frequent was conflict with partner followed by having tried other methods but failed and not knowing hospitals offered termination of pregnancy services.

Table 6: Determinants of Induced Second Trimester Abortion (N=26)

Determinant of Delay	N	Percent
Conflict with partner	12	48%
Tried other methods of abortion but failed	11	44%
I just did not have information that the hospital could terminate the pregnancy.	9	36%
Some women did not realize that they are pregnant	8	32%
I had this stigma associated with abortion so it delayed me.	8	32%
Feared being arrested/thought it is illegal	8	32%
I just decided not to continue a wanted pregnancy after facing difficult altered personal circumstances.	8	32%
Turned away from clinic when first went	7	28%
I could not have a pregnancy test to confirm my suspicion that I was pregnant.	6	24%
I delayed in getting a clinic appointment.	6	24%
I do not track my periods so I did not know	6	24%
I did not have money to pay for the termination of pregnancy.	5	20%
Feared the effects of abortion on my health	5	20%
I thought that I could not get pregnant	4	16%
I was uncertain about my monthly period	4	16%
I had irregular period so I could not know	3	12%
I had been spotting or bleeding in this pregnancy	3	12%
I was still denying that I was pregnant	2	8%
The distance was rather long for me to travel.	2	8%
I faced pressure from family members and this delayed my decision to seek medical help.	1	4%

Note – respondents could have had more than one determinant

5.8 Association between type of abortion and cause for delay

An attempt to associate with delay for reporting for abortion with known determinants was conducted with asymptotic chi square test and it was observed that there was no statistical significant association with any (Table 7).

Table 7: Association between type of abortion and cause for delay

Type of abortion and cause for delay	N	Value	df	Decision
Some women do not realize that they are pregnant	4	37.703 ^a	4	No association
I was still denying that I was pregnant	6	50.463 ^a	6	No association
I was uncertain about my monthly period	6	39.579 ^a	6	No association
I had irregular period so I could not know	8	43.507 ^a	8	No association
I do not track my periods so I did not know	6	34.580 ^a	6	No association
I thought that I could not get pregnant	8	28.194 ^a	8	No association
I had been spotting or bleeding in this pregnancy	6	41.752 ^a	6	No association
I faced pressure from family members and this delayed my decision to seek medical help.	6	33.165 ^a	6	No association
I just decided not to continue a wanted pregnancy after facing difficult altered personal circumstances.	6	62.140 ^a	6	No association
I did not have money to pay for the termination of pregnancy.	8	55.146 ^a	8	No association
I just did not have information that the hospital could terminate the pregnancy.	8	67.455 ^a	8	No association
The distance was rather long for me to travel.	6	50.463 ^a	6	No association
I could not have a pregnancy test to confirm my suspicion that I was pregnant.	8	68.266 ^a	8	No association
I delayed in getting a clinic appointment.	6	68.266 ^a	6	No association
I had this stigma associated with abortion so it delayed me.	6	62.140 ^a	6	No association
Feared being arrested/thought it is illegal	8	86.597 ^a	8	No association
Conflict with partner	8	81.840 ^a	8	No association
Turned away from clinic when first went	4	61.824 ^a	4	No association
Feared the effects of abortion on my health	4	84.597 ^a	4	No association
Tried other methods of abortion but failed	6	65.263 ^a	6	No association

5.9 Cause or predisposing factor of Second Trimester Abortion

Examination of what conditions or situations prevailed leading to abortion shows that 3 out of 119(2.5%) who claimed to have had a spontaneous abortion had used sticks, 17 out of 145 (11.7%) tried drugs like; cafenol, aspirin, misoprostol and the placebo tablets in the combined pill packs) This translates to only (n=26, 17.9%) women who could be linked to induced abortions. As for the other women, some had co-morbid and co-factor circumstances that could be linked with the type of abortion. The table 8 shows what may have transpired to cause abortion, for some causes were illness n = 72 (49.7%) and other causes known or unknown n = 32 (22.1%) whilst 17 (11.7%) had an injury in the pregnancy (e.g. beaten or a fall).

Table 8: Cause or predisposing factor of Second Trimester Abortion

Abortion Factor	Frequency	Percentage
	n	%
Sticks	3	2.1
Drugs	17	11.7
Other methods	4	2.8
I had an illness in this pregnancy	72	49.7
I had an injury in this pregnancy	17	11.7
Other causes known or unknown	32	22.1
Total	145	100.0

5.10 Quality of care and outcomes of second trimester abortions at UTH

Noting that the quality of care and the outcomes of care are critical in abortion care, abortion procedures were explored, the type of care that was provided and the outcomes observed if at all they were of acceptable quality. Quality of care was measured in the following ways:

- a) Patient information
- b) Documentation of important information
- c) Appropriateness of method of uterine evacuation
- d) Provision of analgesic
- e) Institution of appropriate resuscitation measures
- f) Complications

Patient Information

Based on the Zambian standards and guidelines for reducing morbidity and mortality due to unsafe abortion, the following were found (see also table 9):

Information sharing was poorest concerning (i) what to expect during procedures (ii) return to fertility and (iii) referral to other reproductive health services.

Table 9: Patient information rendered

Domain of patient information	Yes		No	
	N	%	N	%
Information concerning what to expect during procedures	64	44.1	81	55.9
Information on return to fertility	65	45.0	80	55.0
Information on signs and symptoms of complications	109	75.2	36	24.8
Information on post abortion contraception	124	85.5	21	14.5
Information on self-care after procedure	100	69.0	45	31.0
Information when to resume sexual intercourse	92	63.4	53	36.6
Informed of review date.	94	64.8	51	35.2
Referral to other reproductive health services	48	33.1	97	66.9

Documentation of important information such as estimated amount of blood lost and blood pressure readings.

In this study, every patient required a profile of bleeding document in their personal file. It was generally observed that abortion care providers did not document the amount of bleeding. The amount of bleeding estimated for the 145 patients is tabulated below, n = 22 (15%) were documented as having bled the expected amount and the same number was observed for those who bled more than was expected. However, n = 101 (70%) had their blood loss undocumented.

An examination of quality care shows that out of the 12 for whom nothing was done when IVF or blood could have been given, 7 had no documentation on extent of blood loss. In addition, the care providers were able to give IVF to 10 patients and one patient received blood transfusion and yet blood loss was not documented (Table10).

Table 10: Intervention for bleeding based on blood loss estimate documented

Intervention of bleeding	Amount of bleeding estimated			Total
	Expected	More than expected	Not documented	
Not necessary	21	1	83	105
Did nothing when IVF or blood could have been given	1	4	7	12
Gave blood and IV fluids	0	8	0	8
Gave IV fluids only	0	9	10	19
Blood transfusion alone	0	0	1	1
Total	22	22	101	145

A similar assessment was done for blood pressure and revealed that slightly more than half n = 85 (59%) had undocumented blood pressure (Table 11). This shows poor care in this domain.

Table 11: Documentation of blood loss and blood pressure

Blood loss documented	Frequency	Percentage
Expected	22	15
More than expected	22	15
Not documented	101	70
Total	145	100
Blood Pressure		
Normal	13	9
High	4	3
Low	43	29
Undocumented	85	59
Total	145	100

Appropriateness of method of uterine evacuation

When the women were subjected to a regimen to see whether or not it was appropriate for gestation age or post abortion care, it was observed that n = 129 (89%) were subjected to a regimen that was appropriate for gestation of age or post abortion care and n = 16 (11%) had an inappropriate for gestation age or post abortion care (Table 12). This shows that the quality of care in this domain was still poor. However, there was no statistical significant association with method of evacuation especially when it was inappropriate with the observed complications (p= 0.67).

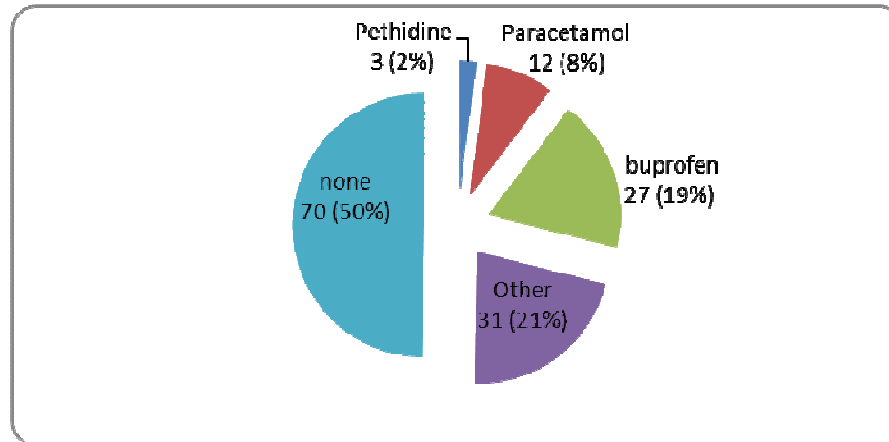
Table 12: Appropriateness of regimen

	Frequency	Percent
Regimen appropriate for gestation of age or post abortion care	129	89.0
Inappropriate for gestation age or post abortion care	16	11.0
Total	145	100.0

Provision of analgesic

Fifty percent of the women in this study were not given analgesics for pain. As for those who received analgesics, n = 31 received other types of analgesics such as morphine, diclofenac and combinations of the different mentioned analgesics, n = 27 got ibuprofen, n = 12 received paracetamol and n = 3 received pethidine.

Figure 4: Use of Analgesic



Generally analgesics were prescribed more inconsistently n = 115(79.2) times than consistently n = 30(20.8%) times to the women. This shows that there was a quality related problem.

Timeliness of response to bleeding

In this study, time in hours between commencement of bleeding and expulsion of fetus varied from person to person. The maximum time it took was 144 hours and the minimum was just one hour. The mode was 1 hour and the mean time was 7.3 (SD \pm 13.9). The mean time was actually affected by the outlier (144 hours). The minimum and maximum time between expulsion of fetus and medical attention was 0 and 20 hours. The mean time was 3.1 hours (SD \pm 4.1). In a related matter, the minimum and maximum time between expulsion of fetus and uterine evacuation was 0 and 26 hours. The mean time was 4.3 hours (SD \pm 4.5) (Table 4.5.6). These figures seem to suggest that the women under study faced a great risk of having serious complications or even death.

Table 13: Indicators of time factor in treatment

	Time in hours between commencement of bleeding and expulsion of fetus	Time between expulsion of fetus and medical attention	Time between fetal expulsion and uterine evacuation
Mean	7.37	3.16	4.31
Median	5.00	2.00	3.00
Mode	1.00	0.00	0.00
Std. Deviation	13.91	4.15	4.56
Minimum	1.00	0.00	0.00
Maximum	144.00	20.00	26.00

Abortion related complications

Women in this study demonstrated at the time of admission a number of underlying complications. There were more pre-intervention complications among those with spontaneous and self-induced abortions than medically and surgically induced.

The complications listed in table 10 were observed and the most frequent being retained products. This however does not mean that all other complications are not serious indeed one death was observed in this study in a patient who had self-induced abortion with a stick and had a uterine perforation and massive bleeding. Those who had medically/surgically induced abortion also had complications in particular pain, retained products of conception and shock.

Table 14: Complications documented

Complication		Spontaneous	Self-induced	Medically/surgically induced	Total
Lacerations	No	117	8	16	141
	Yes	2	2	0	4
Delayed vaginal bleeding	No	106	8	12	126
	Yes	13	6	0	19
Death	No	119	9	16	144
	Yes	0	1	0	1
Infection	No	113	9	16	138
	Yes	6	1	0	7
Severe pain	No	96	6	13	115
	Yes	23	4	3	30
Shock	No	97	8	14	121
	Yes	20	2	2	24
Perforations	No	119	8	16	143
	Yes	0	2	0	2
Hemorrhage	No	94	8	15	117
	Yes	25	2	1	28

CHAPTER SIX- DISCUSSION AND CONCLUSIONS

6.0 Summary of Findings

The number of women seen and offered abortion care in the gynecology outpatient department between March and May 2012 was 944, of these 875 were offered post abortion care whilst 69 had requested for termination of pregnancy.

Of those who requested termination of pregnancy 16(23.1%) were second trimester cases. A total number of 145 were approached to join the study and all were recruited. Out of all the abortion related cases, 15.3% were second trimester cases. These findings are comparable to South Africa with 20% of abortion cases being second trimester and Vietnam 8-11% (Gallo 2007).

Women in the 20 to 24 age group reported most cases of abortions but generally the differences across age groups were not significant $p = 0.701$. The incidence of abortions seemed to increase with level of education $p = 0.05$ and further, the incidence of abortions seem to increase with type of religious belief $p = 0.02$.

Most women $n = 128$ (88%) were not using some form of contraception to avoid pregnancy and 47(36.7%) had an unplanned pregnancy whilst $n = 17$ of the women with unplanned pregnancy had used contraception. This signifies a contraception need among those with unplanned pregnancy and further that they may be prone to risk of induced abortion. It was surprising to see that among those who induced abortion 5 out of 26(19.2%) had desired pregnancy and this signifies a change of personal circumstances where a desired pregnancy later becomes unwanted.

Noting that delay is a critical factor in inducing abortions, personal and health system factors were assessed to see if at all they were any associations. Of the delay factors, the most frequent was conflict with partner followed by having tried other methods but failed and not knowing hospitals offered termination of pregnancy services.

When an association test was performed, it was evident that no determinant had a significant association ($p > 0.05$) A critical examination of what conditions or situations

were prevailing to be linked with abortion showed that 3 out of 119(2.5%) who claimed to have had a spontaneous abortion had actually used sticks, 7(26.9%) of 26 who had induced abortion tried drugs like cafenol, aspirin and misoprostol. This translates to only 10 of the 145 (6.8%) women who could be linked to self- induced abortions. As for the other women, some had co -morbid and co- factor circumstances that could be linked with the type of abortion. In other women who had spontaneous abortion, causes were illness n = 72 (49.7%) and other causes known or unknown n = 32 (22.1%) whilst 17 (11.7%) had an injury in the pregnancy (e.g. beaten or a fall).

Quality of care was observed to be generally poor in all the critical areas that were examined. Information sharing was poorest concerning (i) what to expect during procedures (ii) return to fertility and (iii) referral to other reproductive health services.

In this study, it was generally observed that abortion care providers did not document the amount of bleeding and this was a serious quality omission. A similar assessment was done for blood pressure and a critical examination shows that slightly more than half n = 85 (58.6%) had undocumented blood pressure and this shows poor care in this domain.

When the regimen or method used on women for uterine evacuation was assessed to see whether or not it was appropriate for gestation age or post-abortion care, it was observed that n = 129 (89%) were subjected to a regimen that was appropriate for gestation of age or post abortion care and n = 16 (11%) had an inappropriate for gestation age or post abortion care. However, there was no statistically significant association between method of evacuation and observed complications (P= 0.67).Some of the methods that were inappropriate included use of Foley's catheter combined with misoprostol or oxytocin infusion for induced abortion or oxytocin infusion for those who had not expelled foetuses at gestations when an immediate manual vacuum aspiration could have been done thus prolonging patients hospital stay and bleeding time.

Fifty percent of the women in this study were not given analgesics for pain. As for those who received analgesics, n = 31(21.4%) received other types of analgesics, n = 27(18.6%) got ibuprofen, n = 12(8.3%) received paracetamol and n = 3(2.1%) received pethidine. Generally, analgesics were prescribed inconsistently. This shows that there was a quality related problem with regard to the fact that if analgesia is given it must be given consistently but in public health facilities this may be a challenge as there are often drug

stock outs. In addition, an association test was conducted to see whether dosing schedules were not consistent with maximum accepted delay of an hour. There was no statistical significant association that doses were prescribed as scheduled ($p = 0.084$).

Time in hours between commencement of bleeding and expulsion of fetus varied from person to person. The maximum time it took was 144 hours and the minimum was just one hour. The mode was 1 hour and the mean time was 7.3 (SD \pm 13.9). The mean time was actually affected by the outlier (144 hours). The minimum and maximum time between expulsion of fetus and medical attention was 0 and 20 hours. The mean time was 3.1 hours (SD \pm 4.1). The minimum and maximum time between expulsion of fetus and uterine evacuation was 0 and 26 hours. The mean time was 4.3 hours (SD \pm 4.5). These figures seem to suggest that the women under study faced a great risk of having serious complications or even death.

Various complications were noted in this group. The worst was one death following uterine perforation in an attempted induced abortion. The patient was very ill with a poor prognosis and died on the operating table. Other complications in order of frequency retained products of conception, shock, severe pain, infection, perforations, need for operative intervention and hemorrhage. Hemorrhage was noted in only one patient and yet clearly there was more of this complication judging from the 29% who were hypotensive and those who needed blood or fluids as part of their treatment. This can be explained by the poor documentation noted in the file review. The comments were merely on the amount of products of conception and not an estimate of blood loss.

It was interesting to note that a couple of patients who had medically/surgically induced abortion experienced shock as a complication. These were patients in whom the method of evacuation was appropriate for gestation age. This could however be explained by delay in uterine evacuation after expulsion. Perhaps also methods such as dilatation and evacuation that are not used at UTH should be explored.

Some patients had more than one complication and 68(46.9%), 47(32%) had two and 22(15.2%) had three.

6.1 The Meaning of This study

In this study, the frequency of maternal death due to abortion complications was very low or negligible 1 out of 145 of the women (0.6%) died. Dissimilar results were reported in health facilities of Abidjan (Thonneau, 1996). There are a number of possible reasons for such low mortality rates associated with abortion. The care though not optimal is enough to avert some deaths. Patients' factors also play a role. Those who come in critically ill may demise not due to lack of intervention but because of intractable complications. In addition, as shown by (Diadhiou, 1999) in a society in which abortion is perceived not to be permitted and medical care is expensive, women initially conceal abortion complications, seeking medical help only as a last resort after they have tried elsewhere as we saw with some women in this study. We have also seen that the abortion care providers may delay in the management of gynecological emergencies performance is often late and inappropriate in a few. In a study conducted in Zambia, where abortion is legal, Koster-Oyekan (1998) found that most women resort to "local" abortion methods because legal abortion services are inaccessible and unacceptable looking at the fact that women still attempt to induce abortion by themselves and that a number cannot find an abortion provider or do not know where to go for this kind of care. This signifies that abortion services are not available to the full extent permitted by the law to date. It may not be common knowledge among health care providers and the general population.

Finally, the low prevalence of contraception in the urban agglomeration of Lusaka presumably also results in a high number of unwanted pregnancies, leading to numerous illegal abortions (we have seen as spontaneous abortions) using such "local" methods. In other study, sticks, other methods like plant infusions were associated with major complications like neurological disorders and perforations. As reported by Bleek and Asante-Darko (Bleek, 1986), indigenous local plants made up the largest group of abortifacients in Africa. These local plants may be applied in many different ways: mechanically, by inserting a twig into the uterus; as a drink; after grinding (plants, leaves, or roots) and mixing with other ingredients (sugar, medicines, alcohol). The serious complications of these abortion methods may be partly due to synergy between the plants and other adjuvants frequently used.

Some abortion complications were probably omitted from medical records either because of errors in diagnosis (confusion with miscarriage).

Men in Zambia unlike Uganda are often highly involved in the decision to induce an abortion (Nyanzi, et al., 2005) while in Nigeria, nearly half of all women studied made the decision to abort themselves (Oye et al., 2004). Research has shown that induced abortion complication patients tend to be younger, uneducated and poorer (Bankole et al., 2008) and that adolescents and single women are at particularly high risk of unsafe Abortion (Bankole, et al., 1999; Kaye et al., 2006; Berer, 2000). In our study, the finding that women in non-marital unions are more likely to choose induced abortion may be associated with the fact that single women have fewer options when faced with unplanned pregnancies.

Research in other populations has also reported on characteristics associated with induced abortion patients that were not predictors of induced abortion patients in this study, such as higher (Henshaw et al., 2008) or lower parity (Adanu, 1995), more education (Mosoko, 2004) and greater ever use of contraception (Bankole et al., 2008). In our study, the majority of women had a previous birth and education was not a factor that differed by pregnancy termination category. The differences between the population-based studies and the data reported here may be explained by the fact that this study is hospital based; therefore, it is selective in that it only included women who had access to care. It is likely that educated women will have the means, and knowledge, to access safe abortion services even in the context of Zambia where safe abortion services are not publically advertised but are available despite being legal.

In general, however, the data concerning abortions in UTH, particularly where they are illegal, are grossly inadequate 10 out of 145 (6.8%) and one can only make very rough estimates of the numbers of unsafe abortions that take place each month or year. Data on hospital admissions for complications of abortions or from community surveys can be of use, as long as one recognizes their limitations. The rates of spontaneous abortions seem to be abnormally high. Unfortunately, it is almost impossible to adequately define the denominator that includes the total number of abortion attempts leading to those complications that are seen in the hospital setting. Using these sorts of information sources, WHO estimates that there are approximately 20 million illegal abortions performed each year (WHO, 1994). The vast majority of these unsafe abortions occur where service sites with well-trained personnel are in very short supply.

Delay was one other factor to comment on. (Foster et al,1989) also found that many factors can cause delay, including absence of pregnancy symptoms, fear of abortion, denial of the pregnancy, difficulty getting funding for abortion, difficulty deciding, having had a prior second trimester abortion and an unsupportive partner. These authors emphasize that “interventions which are aimed at improving women’s ability to identify a pregnancy at an earlier gestation could be helpful (Foster et al., 2008:291). Finer et al. (2006) also compared first and second trimester patients and their findings were broadly similar. Delay at each stage was longer for the latter group, with delay in suspecting a pregnancy being important. This study detected additional evidence that financial factors cause delay. Statistically significant differences between the two groups that accounted for delay included it taking a long time to make arrangements, in particular raising money for the abortion, and worries about the cost of abortion (Finer et al., 2006). Increased odds of second trimester abortion were associated with problems obtaining money, and finding a provider. Not using contraception was reported similarly by all abortion sub groups (Foster et al., 2008).

6.2 Study Limitations and Strengths

This study has limitations that should be taken into account. First, due to cross-sectional design, the associations reported are not directly causal. However, the information presented may provide a basis for future national cohort study. Second, because UTH was the only site for which the entire participant group was screened, we cannot generalize these findings. It is likely that women's experience with and access to care for pregnancy complications will be different in rural settings. Most importantly, it is possible that this study was subject to misclassification of the outcome, as pregnancy outcome was self-reported. It has been shown that, in societies where induced abortion is stigmatized, women report induced abortions as spontaneous abortions (Lema et al., 1996; WHO, 2007). Even when women are examined clinically and medical charts are reviewed; it is sometimes difficult, in the absence of perforation of the uterus or the identification of foreign objects in the uterus, to accurately identify the type of abortion (Kaye et al, 2006).

In spite of the limitations, this study is among the first to examine the relationship between determinants and outcomes of second trimester abortions at the University Teaching Hospital, Lusaka. Further research is both warranted and pertinent .Given this, larger

population based studies are required so that findings can be generalised and interventions more specific.

Furthermore, this study examines factors associated with second trimester induced abortion that have not been considered in this setting previously. Finally, further exploration of the strong pregnancy social economic and demographic features among the induced abortion subsample may guide future research, program and policy directions in this vital area of public health research and action. The World Health Organization and prominent abortion researchers have requested additional research on the socio-demographics of abortion patients (Bankole et al., 1999; WHO, 2007).

Throughout Zambia, programs and policies must first focus on the provision and uptake of modern contraception to avoid unintended pregnancy. In addition, for women who have unintended pregnancies, substantial effort needs to be made to ensure safe and effective termination methods are available for women who choose this option in a setting where it is legal.

Understanding the induced abortion complication patient profile in this setting, and the role that the relationships with their partners play in women obtaining induced abortions can assist policy makers and program managers in targeting those persons and relationship types at highest risk of opting for unsafe abortions. The result of targeted efforts will be a reduction in the number of unsafe abortions in Zambia and the maternal mortality and morbidity that stem from such procedures.

Since some women reported ‘worry’ and ‘fear’ about having an abortion, another area to consider is ‘education’ of referrers about how best to discuss with women the safety of abortion and how abortion works.

6.3 Conclusions

The determinants of the second trimester abortion cases at the University Teaching Hospital are contributed by social, economic, health system factors, trauma, illness and unknown factors. The outcomes are varied due to patient factors and methods used for uterine evacuation of which not all were standard. Outcomes included uncomplicated complete abortion, retained products of conception, haemorrhage, uterine perforation, pain, shock, infection, lacerations, delayed vaginal bleeding and death. The methods of

uterine evacuation were varied and not all standard but the overall outcome of the patient was not significantly affected by this finding.

6.4 Recommendations

- Information must be given to young male and female adolescents about their sexuality so that they can delay sexual debut, carry out safe sex practices and recognition of signs of pregnancy.
- Education about the signs and symptoms of pregnancy might be pursued and there is need to foster understanding and support for preventing early pregnancy even amongst adolescents. This would entail promoting a greater awareness of symptoms including the fact that some women do experience continuing bleeding while pregnant.
- Promoting the understanding that seeking help from an abortion service does not imply a definite decision to have an abortion could help to speed up the process between finally asking for an abortion and obtaining one.
- Further than this, given the findings, opportunity for information dissemination should be seized at first presentation in the hospital. Tracts with all the information on abortion self- care and contraception should be given to each patient.
- There must be regular audits of abortion care services to ensure all patients are accommodated with adolescent friendly services and referral to support services particularly to vulnerable subsets.
- There is need to ensure documentation in the patient records is standardized.
- All health workers must be sensitized on the legal status of abortion and more must be trained to be service providers so that the number resorting to unsafe abortion is brought to minimum.
- Methods of uterine evacuation must be standardized and methods such as dilatation and evacuation introduced to shorten hospital stay of patients.

REFERENCES

- Abramovici H, Bornstein J, Ben-David Y, Yishai D, Rofe A, Atad J. (1995) Double ballon instillation device for second trimester abortion: Outcome in 340 consecutive cases. *Journal of reproductive Medicine*.40: 56-62.
- Adanu RMK, Ntummy MN, Tweneboah E. (2005) Profile of women with abortion complications in Ghana. *Trop Doct*.35:139-42.
- Allahbadia G. (1992) Comparative Study of Mid trimester Termination of pregnancy using Hypertonic Saline, ethacridine lactate, prostaglandin analogue, and iodine-saline. *Journal Indian Medical Association*. 90: 237-239.
- Autry AM, Hayes EC, Jacobson GF and Kirby RS (2002) A comparison of medical induction and dilation and evacuation for second-trimester abortion. *Am J Obstet Gynecol*. 187: 393-397.
- Bankole A, Sedgh G, Oye-Adeniran BA, Adewolfe IF, Hussain R, Singh S. (2008) Abortion-seeking behavior among Nigerian women. *J Biosoc Sci*.40:247-68.
- Bankole A, Singh S, Hass T. (1999) Characteristics of women who obtain induced abortion: a worldwide review. *Int Fam Plan Perspect*. 25:68-77.
- Barnes-Josiah D, Myntti C, Augustin A. (1998) The “three delays” as a framework for examining maternal mortality in Haiti. *Social Science and Medicine*. 46 (8):981-93.
- Bartlett L, Berg CJ, Shulman HB, Zane SB, Green CA, Whitehead S and Atrash K. (2004) Risk factors for legal induced abortion mortality in the United States. *Obstet Gynecol*.104:636.
- Berer M. (2004) National Laws and Unsafe abortion: The parameters of change. *Abortion law, policy, and practice in transition*. *Reproductive Health matters*.12:1-8.
- Berer M. (2000) Making abortions safe: a matter of good public health policy and practice. *Bull World Health Org*. 78:580-92.
- Bhide A, Sairam S, Hollis B and Thilaganathan B (2002) Comparison of feticide carried out by cordocentesis versus cardiac puncture. *Ultrasound Obstet Gynecol* 20,230-232.
- Binkin NJ, Schulz KF, Grimes DA, Cates W Jr. (1983) Urea prostaglandin versus Hypertonic saline for instillation abortion. *American Journal of Obstetrics and Gynecology*.146:947-952.
- Bleek W, Asante-Darko NK. (1986) Illegal abortion in Southern Ghana: methods, motives and consequences. *Hum Organ*. 45:333-44.
- Bleek W. (1987) Lying informants: a fieldwork experience from Ghana. *Popul Dev Rev*.13:314-22.
- Blumenthal P.D, Lichtenburg E.S, Borgotta L, Grimes D.A, Stubblefield P.G, (1999). *A clinician’s guide to medical and surgical abortion*. Churchill Livingstone, New York.
- Brenner WE and Edelman DA (1974) Dilatation and evacuation at 13-15 weeks’ gestation versus intra-amniotic saline after 15 weeks’ gestation. *Contraception* 10,171-180.

- Brookman-Amissah E, and Moyo, J.B. (2004). Abortion Law Reform In Sub-Saharan Africa No Turning Back Reproductive health matters. 12 227-234.
- Camacho VH, et al (1996) Expanding opciones de planificación familiar: Diagnostico cualitativo de atención en salud reproductiva en Bolivia. Secretaria nacional de Salud. Geneva, WHO
- CDC surveillance summaries, December 8 (2000).
- Child TJ, Thomas J, Rees M and MacKenzie IZ (2001) Morbidity of first trimester aspiration termination and the seniority of the surgeon. *Hum Reprod* 16,875–878.
- Cook, RJ, Dickens B and Horga M (2004) Safe Abortion: WHO Technical and Policy Guidance. *International Journal of Gynecology and Obstetrics*, Vol. 86, pp. 79-84,
- Cunningham FG, MacDonald PC, Gant NF, Leveno KJ, Gilstrap LC III. (1997) *Williams obstetrics*. 20th ed. Norwalk, CT: Appleton and Lange.
- Diadiou F, Goyaux N, Faye O, Thonneau P. (1999) A neglected but prevalent tragedy. *Br Med J*. 318:1526.
- Drey EA, Foster DG, Jackson RA, Lee SJ, Cardenas LH, Darney PD, (2006). Risk factors associated with presenting for abortion in the second trimester *Obstet Gynecol*.Jan;107(1):128-135
- Elimian A, Verma U and Tejani N (1999) Effect of causing fetal cardiac asystole on second-trimester abortion. *Obstet Gynecol* 94,139–141.
- El-Refaey H, Calder L, Wheatley DN, Templeton A. (1994) Cervical priming with prostaglandin E1 analogues, misoprostol and gemeprost. *Lancet*. 343:1207-9.
- Faúndes A, Hardy E. (1997) Illegal abortion: consequences for women's health and the health care system. *Int J Gynecol Obstet*. 57:77-83.
- Finer LB, Frohworth LF, Dauphinee LA et al. (2006) Timing of steps and reasons for delays in obtaining abortions in the United States. *Contraception*; 74: 334–344.
- Foster DG, Jackson RA, Cosby K (2008). Predictors of delay in each step leading to an abortion. *Contraception*. 77: 289– 293.
- Gallo MF, Nghia NC (2007) Real life is different : A qualitative study of why women delay abortion to second trimester in Vietnam. *Social Science and Medicine*. 64. 1812-1822.
- Gebreselassie H, Gallo M, Monyo A, Johnson B. (2005) The magnitude of abortion complications in Kenya. *BJOG*.112: 1229-1235.
- Grimes DA, Schulz KF and Cates WJ Jr (1984) Prevention of uterine perforation during curettage abortion. *JAMA* 251:2108–2111.
- Grimes DA, Schulz KF, Cates W Jr and Tyler CW Jr (1977) Mid-trimester abortion by dilatation and evacuation: a safe and practical alternative. *N Engl J Med* 296:1141–1145.
- Harries J, Orner P, Gabriel M and Mitchel E (2007) Delays in seeking an abortion until the second trimester: a qualitative study in South Africa *Reproductive Health*, 4:7.

- Henshaw SK, Adewole I, Singh S, Bankole A, Oye-Adeniran B, Hussain R. (2008) Severity and cost of unsafe abortion complications treated in Nigerian hospitals. *Int Fam Plan Perspect.*34:40–50.
- Henshaw SK, Finer LB, (2003) The accessibility of abortion services in the United states,2001. *Perspectives Sexual reproductive health.* 35 16-24.
- Henshaw SK, Singh S, Haas T. (1999) The incidence of abortion worldwide. *Int Fam Plann Perspect.*25 (Suppl):S30–8.
- Henshaw SK, Singh S, Oye-Adeniran BA, Adewole IF, Iwere N, Cuca YP. (1998) The incidence of induced abortion in Nigeria. *Int Fam Plan Perspect.* 24:156–64.
- Islam A, Abbasi AN, Sarwar I.J Ayub (2006) Use of Foley’s Catheter and prostaglandin F2a in second trimester termination of pregnancy. *Med Coll Abbottabad.* 18(3):35-9.
- Jackson RA, Teplin VL, Drey EA, Thomas LJ, Darney PD. (2001) Digoxin to facilitate late second trimester abortion : A randomized , masked , placebo - controlled trial. *Obstet gynecol.* 97:471-476.
- Jain Jk , Mishell DR. (1994) A comparison of intravaginal Misoprostol with prostaglandin E2 for termination of 2nd trimester pregnancy. *New England Journal of Medicine.* 331:290-300.
- Johnson BR, Horga M, Fajans P. (2004) A Strategic Assessment of Abortion and Contraception in Romania. *Reproductive Health Matters;* 12(24 Supplement):184–194.
- Koster-Oyekan W. (1998) Why resort to illegal abortion in Zambia? Findings of a community-based study in Western Province. *Soc Sci Med.* 46:1303–12.
- Lawson HW, Frye A, Atrash HK, Smith JC, Shulman HB, Ramick M. (1994) Abortion mortality, United States, 1972 through 1987. *Am J Obstet Gynecol.* 171:1365–72.
- Lema VM, Rogo KO, Kamau RK. (1996) Induced abortion in Kenya: its determinants and associated factors. *East Afr Med J.* 73:164–8.
- MacIsaac L, Grossman D, Balistreri E, DarneyP. (1999) A randomized controlled trial of laminaria, oral misoprostol, and vaginal misoprostol before abortion. *Obstet Gynecol .* 93:766-70.
- MMWR morbidity and mortality weekly Rep (2000). 49:1-43.
- Mosoko JJ, Delvaux T, Glynn JR, Zekeng L, MaCauley I, Buve A.(2004) Induced abortion among women attending antenatal clinics in Younde, Cameroon. *East Afr Med J.*81:71–7.
- Munasinghe S, van den Broek N. Abortions in adolescents. *Trop Doct* (2005);35:133–5.
- Ngai SW, Chan YM, Tang OS, Ho PC. (1999) The use of misoprostol for pre-operative cervical dilatation prior to vacuum aspiration: a randomized trial. *Hum Reprod.*14:2139-42.
- Nyanzi S, Nyanzi B, Bessie K. (2005) Abortion? That's for Women! Narratives and experiences of commercial motorbike riders in South-Western Uganda. *Afr J Reprod Health.* 9:142–610.
- Oye-Adeniran BA, Adewole IF, Umoh AV, Fapohunda OR, Iwere N. (2004) Characteristics of abortion care seekers in South-Western Nigeria. *Afr J Reprod Health.* 8:81–91.

- Paul M, Lichtenberg S, Borgatta L, Grimes D, Stubblefield P, Creinin M (2011) Management of Unintended and Abnormal Pregnancy: Comprehensive Abortion Care.
- Report of Confidential Enquires into Maternal Deaths in the United Kingdom (1994–1996) Why Mothers Die. Department of Health on Behalf of the controller of Her Majesty's Stationary Office, London. (1998)
- Richards A. (1985) The incidence of major abdominal surgery after septic abortion an indicator of complications due to illegal abortion. *S Afr Med J.* 68:799-800.
- Schneider D, Halperin R, Langer R, Caspi E and Bukovsky I (1996) Abortion at 18–22 weeks by laminaria dilation and evacuation. *Obstet Gynecol.* 88: 412–414.
- Schulz KF, Grimes DA and Cates W Jr (1983) Measures to prevent cervical injury during suction curettage abortion. *Lancet* 1:1182–1185.
- Senat MV, Fischer C, Bernard JP and Ville Y (2003) The use of lidocaine for fetocide in late termination of pregnancy. *BJOG* 110,296–300.
- Shain RN (1986) A cross-cultural history of abortion. *Clin Obstet Gynaecol Mar*; 13(1):1-17.
- Singh S et al. (2009). *Abortion Worldwide: A Decade of Uneven Process*, New York: GuttmacherInstitute.
- South African Department of Health. Termination of pregnancy update. Cumulative statistics through 2004. Pretoria Dept of health 2005.
- Strauss LT, Gamble SB, Parker WY, Cook DA, Zane SB, Hamden S. (2006) Abortion Surveillance United States 2003, *MMWR surveillance summary.* 55:1-32.
- Thaddeus S, Maine D. (1994) Too far to walk: maternal mortality in context. *Social Science and Medicine.* 38 (8): 1091–110.
- Thonneau P, Djanhan Y, Tran M, Welffens-Ekra C, Bohoussou M, Papiernik E. (1996) The persistence of a high maternal mortality rate in the Ivory Coast. *Am J Pub Health.* 86:1478–1479.
- Thorp JM, Hartmann KE, Shadigian E (2002) Long term physical and psychological health consequences of induced abortion: Review of evidence. *Obstetrical and Gynecological survey.*58:67-79.
- Tuyet HT, Thuy P, Trang HN. (2008) Second trimester abortion in Viet Nam: changing to recommended methods and improving service delivery *May*; 16(31 Suppl):145-50.
- UNICEF (1994) safe Motherhood in Zambia: a situation Analysis monogram (3) (New York family care international
- Usta M, Mitchel E, Brookman-Amisah E, Gebreselassie H, Kwizera A.(2008) Who is Excluded When Abortion Access is Restricted to Twelve Weeks? Evidence from Maputo, Mozambique. *Reproductive Health Matters.*16:14-17

- WHO (1994) Abortion: a tabulation of available data on the frequency and mortality of unsafe abortion. World Health Organization.
- WHO (2011). Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2008,6th edition. Geneva, Switzerland: World Health Organization.
- WHO (2007). Unsafe abortion: global and regional estimates of the incidence of unsafe abortion and associated mortality in 2003, 5th edition. Geneva, Switzerland: World Health Organization.
- W HO (1997) Medical Methods for Termination of Pregnancy. WHO Technical Report Series 871. World Health Organization, Geneva.
- World Health Organization/Division of Reproductive Health. (2011) Unsafe abortion: global and regional estimates of incidence and mortality due to unsafe abortion, with a listing of available country data (WHO/RHT/MSM/97.16). Geneva.

APPENDICES

Appendix 1- Information Sheet

You are invited to participate in this study that is being carried out by Dr Mutinta Muyuni as a requirement for completion of her Degree of Master of Medicine in Obstetrics and Gynecology. This form will provide you with some information about the study. It may contain words that you do not understand. Please ask me to explain any words or information that you do not clearly understand as we go through the form or the questions you are to be asked. The study is being undertaken in order to understand the reasons why women have mid trimester abortions, how they are cared for at this hospital and the outcomes.

Abortion related complications account for 30-50% of all acute gynaecological admissions here at The University Teaching Hospital. Abortion related complications also contribute up to about 30% of maternal mortality. Women who have mid trimester abortions are at higher risk in terms of maternal complications, in fact they contribute to two thirds of abortion related complications. Your participation will help us find out these reasons and outcomes as such we will be able to plan interventions to make our services better and safer for our women .It will also help us plan how we can reduce mid trimester abortions to a minimum.

Participant Rights

You are free to take part or withdraw at any point in this study it will not affect the services you will get at this facility. During the interview, you need not answer any questions that you are not comfortable with. If you have any questions or concerns you are free to ask about them

Risks

There are some sensitive topics surrounding your personal life and reproductive health that may be discussed which may make you feel uncomfortable. The interviewer will be sensitive to your needs. It is not our intention to make you feel this way and you may choose not to answer any part that makes you uncomfortable.

Benefits

You will not get any direct benefit from participating in the study; however, your participation in this study will help us make recommendations and improve care for other women in similar situations.

Confidentiality

Information obtained in this study will be kept confidential. Your name or other identifying information will not appear on any questionnaire and only staff participating in the study will have access to the information you provide. Once you agree to participate in the study, we will assign you a study ID number in order to try to protect your privacy throughout your participation. Your real name will not be used in any report coming from this study. All consent forms, questionnaires and notes from the study will be stored in a locked filing cabinet, and only study staff will have access to them. However, absolute confidentiality cannot be guaranteed. Also, upon signing this consent you give the University Teaching Hospital and Research Ethics Committee consent to access your study records. They would only do this to ensure that your privacy is being maintained and protected.

Contact Details

Should you want further information about this study or your rights as a participant please use the details provided below.

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Appendix 2- Information Sheet Chinyanja

Muyitanidwa kutengako mbali kumaphunziro yosogoleredwa ndi Dr Mutinta Muyuni kuti asilize maphunziro yawo ya Degree ya Masters mu Medicine Obsterics ndi Gynaecology. Pepala iyi izakupasani uthenga umenewu womwe ufufuzidwa. Ikoza kupezekanso ndi mau omwe simungathe kuwaziwa. Chonde ndifunsemi ndipo ndizafotokoza zomwesimutha kumvetsetsa pomwe tili kuyang'ana mu pepala iyi. Maphunziro aya yafuna kuziwa chifukwa chomwe azimai amachosa pathupi, momwe chipatala chimawa samalira ndi zotulukamo zake.

Mabvuto yabwela chifukwa cha kuchosa pathupi amafika pakati pa 30 kufika 50 percent matenda yopezeka kuchigawo cha Gynecology pano pa chipatala cha University Teaching Hospital. Mabvuto yabwela chifukwa cha kuchosa pathupi yadzanso imfa zambiri kwa azimai kufika pa 30 percent. Azimai omwe amachosa pathupi akhala ndi chiwopyezo chokhala ndi bvuto pomwe akhalanso ndi pakati. Kutengako mbali kwanu kuzathandiza kuti tipeze zifukwa zosiyana-siyana ndipo zizathandiza kuti tipeze mayankho ndipo kuti tipeleke thandizo mofunikira ku azimai. Zizathandizanso kuchepesa kuchosa pathupi kwa azimai.

Ufulu wa onse otengako mbali

Muli ndi ufulu kutengako mbali kapena kuleka nthawi ili yonse ndiponso sizizakhuza thandizo ili yonse yomwe mufunika kulandira. Pomwe tikambirana, ngati sindinu okonzeka kuyankha mafunso ena, mukhoza kutero. Ngati muli ndi mafunso kapena mau, mukhoza kufunsa ndi kulannkhula.

Chiyopyezo

Kuli nkhani zina zachisinsi zozungulira umoyo wanu ndipo zingakuchitsemi manyazi nthawi zina. Ofunsa mafunso sazakuchitsemi manyazi. Ngati sindinu okonzeka kuyanka, muli ndi ufulu kuchita chimodzi-modzi.

Phindu lake

Phindu yeni-yeni monga kulandila kanthu simuzayipeza, koma dziwani kuti kuzipereka kwanu kuzathandiza kuti tipeze njira zothandiziramo azimai ena opezeka mubvuto ngati lanu.

Chisinsi

Uthenga onse mukufufuza uku uzasungidwa mwa chisinsi. Dzina lanu kapena zili zonse zokhuza inu sizizakhalapa pa pepala iyi ndiponso akalaliki okhaokha okhuzidwa ndi nkhani iyi ndiwo okha omwe azakhala ndi danga yodziwa zomwe muzakambirana. Mukango vomera kuti muzatengako mbali, muzapasidwa dzina lina kuti musadziwike kuti ndinu ndani. Dzina lanu siyizasewenzetsedwa munjira ili yonse. Mapepala onse ya nkhani iyi yazasungidwa bwino ndipo kulibe omwe azakhala ndi danga koma okha-okhao ogwira nchito muchigawo chimenechi.

Njira yolankhuliramo ndi ife

Ngati mufuna kudziwa zambiri zokhuza nkhuhi iyi kapena ufulu wani pokhala otengako mbali, chonde sewenzetsani uthenga wolondolapo pansipa.

Dr. Muyuni Principal Investigator. University Teaching Hospital, Department of Obstetrics and Gynaecology Cell: 260-974 004 650 Email:mutinta.muyuni@gmail.com	The Chairperson, Research Ethics Committee Ridgeway Campus, Post Box 50110, Lusaka,10101. Zambia. Phone number: +260-211-256067. Fax:+260-211-250753. Email:unzarec@zamtel.zm
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Appendix 3- Icipepala CeLyashi-Chibemba

Muleitwa ukusendamo ulubali muli uku kufwailisha ukulecitwa naba Dr. Mutinta Muyuni ngo bufwayo bwaku pwisha amasambililo yabo aya pabumi ayakutangata banamayo pabufyashi. Ici cipepala calamipelako ilyashi likumine uk kufwailisha. Kuti cakwata amashiwi eyo teti mumfwe. Ndelomba ukunjipusha ukulondolola amashiwi nelyashi ilyo tamumfwile bwino bwino ilyo tulepituluka mucipepala nangu amepusho eyo bengamipusha. Uku kufwailisha kulecitwa pakuti kwingaba ukwishiba imilandu banamayo bafumisha amafumo ukutendeka pali three (3) ukufika kuli mutanda (6), nefyo baba tangata pali cino cipatala nefitumbukamo.

Ubwafya bufuma mukuponya amafumo bulalenga 30 ukufika kuli 50 % yakutekwa kwamu cipatala pabwafya ubukalamba ubwapali bunacifyashi pa cipatala cikalamba ica U.T.H. Ifilubana pakufumya ifumo kabili filalenga 30% yamfwa yaba namayo pabukulu. Banamayo abafumya amafumo pamyeshi itatu ukufika kuli mutanda, baliba pabwafya ubukalamba ukukonka nefyakulubana pabufyashi, kabili efilenga sana ubwafya bufuma mukuponya amafumo. Ukusendamo ulubali kwenu kwalatwafwilisha ukusanga imilandu nefitumbukamo kanshi tukakumanisha ukukwata amapaange yakucingilila pakuti ukutangata kwesu kwaba ukusuma kabili ukwayana kuli banamayo. Kabili cikatwafwa nokupaanga pafyo twinga cefyako ukufumya amafumo yapa myeshi itatu ukufika kuli mutanda.

Insambu shaulesendamo ulubali

Muli abakakuka ukusendamo ulubali nangu ukuleka panshita iili yonse muli uku kufwailisha tacakalete ubwafya kukutangatwa mukapelwa pali ici cipatala. Ilyo kuli ukulanshanya, tamufwile kwasuka amepusho eyo tamusekelemo. Nga namukwata amepusho ayali yonse nangu ifilemicusha muli abakakuka ukwipusha.

Amafya

Kuli ifyakulanda fimo ifikumine umweo wenu nobumi bwabunacifyashi ifyo fingalandwa efyo teti mutemwe nangu ukusekelamo. Uuleipusha alabikako amino kubufwayo bwenuTekufwaya kwesu ukumilenga ukumfwaya umusango uyu kabili kuti mwasalapo ikukana yasuka imbali ili yonse iyo tamusekelemo.

Ifyaku nonkelamo

Tamwa kwate ukunonkelamo ukumikumine pakusendamo ulubali muli uku kufwailisha; lelo, ukusendamo ulubali muli uku kufwailisha kukatwafwilishako ukusangako inshila yakuwamishako imitangatile yabanamayo bambi mumisango imo wine.

Inkama

Ilyashi ilyasendwa muli uku kufwailisha likasungwa mu nkama. Ishina lenu nafimbi ifyakumishibilapo tafya kamoneke pacipepala camepusho icili conse kabili ababomfi balesendamo ulubali muli uku kufwailisha ebakakwatafye ilyashi mukapela. Ilyo mwasumina ukusendamo ulubali muli uku kufwilisha, tukamipela nambala pakuti mwacingililwa ilyo uku kufwailisha kulecitwa. Ishina lyenu ilya cine talyakabomfiwe muli lipoti iili yonse muli uku kufwailisha. Fyonse ifipepala fyakusumininapo, ifyamepusho nefilembo ukufuma muli uku kufwailisha fikasungwa umo bakalakoma, elyo ababomfi balefwailisha ebakakwatafye ishuko lyakufimona. Lelo teti tumilaye inkama yamupwilapo. Kabili pakusaina icipepala cakusumininapo mulesuminisha icipatala cikalamba ica U.T.H nebumba lyafyaku fwailisha ukumona ifipepala fyenu pali uku kufwailisa. Kuti bacitafye ici ukumona ukuti imibele yenu ili iyakakuka, iyabelelela nokucingililwa.

Ukwakulembela

Ngacakuti mulefwaya ukwishibilapo ifingi pali uku kufwailisha nangu insambu shenu ngo uusendelemo ulubali tulelomba ukuti mubomfye ifishinka ifi panshi.

Dr. Muyuni Principal Investigator. University Teaching Hospital, Department of Obstetrics and Gynaecology Cell: 260-974 004 650 Email:mutinta.muyuni@gmail.com	The Chairperson, Research Ethics Committee Ridgeway Campus, Post Box 50110, Lusaka,10101. Zambia. Phone number: +260-211-256067. Fax:+260-211-250753. Email:unzarec@zamtel.zm
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Appendix 4 - Consent Form

Participant

I _____ (participant's parent or guardian's name) have been informed about the study .I volunteer to participate or have my child participate in the study. A copy of this form signed by me and one of the study investigators is being given to me.

Signature/Thumb:

Date/month/year:

Interviewer

I have explained this research study to the subject. I am available to answer any questions now or in the future regarding the study and the subject's rights.

Signature of Investigators & Printed Names:

Date/month/year:

Appendix 5 – Consent Form Muchibemba

IFILENGA NEFITUMBUKAMO MUKUPONA UKUFUMA PAMYESHI ITATU UKUSHINTA KULI MUTANDA PA CIPATALA CIKALAMBA ICA U.T.H

Uulesendamo ulubali

Nine(umufyashi waulesendamo ulubali nangu ishina lya uumusunga) balinjishibisha pali uku kufwailisha. Naipela ukusendamo ulubali nangu umwana wandi ukusendamo ulubali muli uku kufwailisha. Icipepala cimbi ica musango uyu ico nasaine pamo naumo uulefwailisha pali uyu mulandu calipelwa kuli ine.

Ukusaina/Ukufwatika:

Ubushiku (ubushiku/Mweshi/mwaka)

Kepusha

Ninondolola uku kufwailisha kuli uyu muntu. Ndi uwaipekanya ukwasuka amepusho ayali yonse nombamba line nangu kuntanshi ukukonka nokufwailisha nensambu shaulesendamo ulubali.

Ukusaina kwaba lefwailisha pamo namashina yabo :

Ubushiku(ubushiku/Mweshi/mwaka)

Appendix 6- Consent Form Chinyanja

DETERMINANTS AND OUTCOMES OF SECOND TRIMESTER ABORTIONS AT
THE UNIVERSITY TEACHING HOSPITAL, LUSAKA

Otengako Mbali

Ine _____ (dzina la kholo kapena osunga)
ndauziwa za maphunziro. Ndine ozipereka kutengako mbali ndiponso mwana wanga
kutengako mbali. Pepala yosimikiza kuti ndabvomera ndizakhala nayo.

Kusayina:

Tsiku:

Ofunsa mafunso

Ndafotokoza za kufufuza ndi maphunziro. Ndizakhalapo nthawi zonse kuyankha mafunso
ndikupereka thandizo kwa ophunizirawo.

Kusindikiza kwa ofunsa mafunso:

Tsiku:

Appendix 7- Assent Form

DETERMINANTS AND OUTCOMES OF SECOND TRIMESTER ABORTIONS AT
THE UNIVERSITY TEACHING HOSPITAL, LUSAKA.

Participant

I _____ (participant's name)
have been informed about the study .I volunteer participate in the study. A copy of this
form signed by me and one of the study investigators is being given to me.

Signature/Thumb:

Date (D/M/Y):

Interviewer

I have explained this research study to the subject. I am available to answer any questions
now or in the future regarding the study and the subject's rights.

Signature of Investigators & Printed Names:

Date (Date/Month/Year):

Appendix 8- File Review abstraction tool

Indication for mid trimester uterine evacuation in compliance with termination of pregnancy act
0. medically indicated e.g Eclampsia or other medical condition dictating termination of pregnancy
1. Missed abortion
2. Foetal anomaly ...Specify
3. Request for termination of pregnancy
4. Post abortion care
Method used describe protocol used
0. Misoprostol
1. Mifepristone and misoprostol
2. Misoprostol and Oxytocin
3. Dilatation and evacuation
4. Manual Vacuum Aspiration
5. Other specify
Is method used...
0) Regimen appropriate for gestation age/or Post Abortion Care
1) Inappropriate for gestation age/ or Post Abortion Care
Specify if dosing schedules consistentmaximal accepted delay an hour
0) Consistent
1) Inconsistent
Specify noted delays to nearest hour
0) None
1) 1 hour
2) 2hours
3) 3hours
4) 4hours
5) other specify
Pain management
0) Pethidine
1) Paracetamol
2) Ibuprofen
3) Other Specify
Outcomes
0) Complete abortion without need for intervention.
1) Evacuation achieved with need for 2 nd line intervention measures (MVA or Manual removal of retained products).
Amount of bleeding estimated
0) Expected
1) More than expected
2) Not documented

Intervention for bleeding
0) None not necessary
1) None when it was supposed to be done.

2) Blood Transfusion and IV fluids		
3) IV Fluids only		
4) Blood transfusion alone.		
Blood pressure at start of procedure and at the end		
0) Start BP		
1) End BP.....		
2) Not documented		
Complications documented tick as it applies	Yes	No
0. Delayed vaginal bleeding		
1. Retained products of conception		
2. Lacerations		
3. Perforations		
4. Shock		
5. Severe pain		
6. Infection		
7. Need for operative intervention (describe?)		
8. Death		
Induction to abortion interval (to nearest hour).....		
Observation period post abortion (to nearest hour).....		
Length of hospital stay (to the nearest hour i.e time between admission and discharge).....		

END OF FILE REVIEW

Appendix 9 - Participant Questionnaire

DEMOGRAPHIC INFORMATION (ALL)

Residence(Area)
0. High income area
1. Mid income area
2. Low income area/compound
Age
0. (10-14)
1. (15-19)
2. (20-24)
3. (25-29)
4. (30-34)
5. (35-39)
6. (40-44)
7. (45-49)
Education level...
0. primary
1. Secondary
2. tertiary
3. None
Religious affiliation.
0. Muslim
1. Catholic
2. Protestant
3. Other, specify
Occupation:
0. Formal(private sector)
1. Formal (civil service)
2. Informal
3. Unemployed.
Marital Status:
0. Single
1. Cohabiting
2. Married
3. Separated
4. Divorced
5. Widowed
Information on pregnancy
Last Menstrual Period(LMP).....
Gestation age in weeks(by scan , by LMP, clinical assessment).....

Gravidity
0. G1
1. G2
2. G3
3. G4
4. G5
5. G6
Parity
0. P0
1. P1
2. P2
3. P3
4. P4
5. P5
6. Above P5 specify
Number of previous abortions
0. 1
1. 2
2. 3
3. 4
4. 5
5. Above 5 specify
History of prior abortion
0. First trimester
1. Second trimester
2. No history of prior abortion
Were any prior abortions
0. Spontaneous
1. Induced
2. Both
3. None applicable
Current pregnancy
0. Planned
1. unplanned
When you discovered the pregnancy, did you ...
0. Want to be pregnant
1. Wish you were not pregnant
Were you using any form of contraception to avoid getting pregnant?
0. Yes
1. No
Specify form of contraception if yes
0. Mini pill
1. Combined pill
2. IUD (loop or coil)
3. Injection
4. Condom
5. Female sterilization
6. Rhythm/calendar method
7. Withdrawal
8. Herbs
9. LAM (breast feeding)
10. Other (please specify)

REASONS AFFECTING TIMING OF REPORTING OF CARE (PATIENTS SEEKING TERMINATION OF PREGNANCY)

Patient Factors (tick as applies)

You may not have come to seek help for this failed pregnancy for a number of reasons. Which ones below apply in your case? Answer as follows:

- 1 Strongly agree ,**
- 2 agree ,**
- 3 somehow agree,**
- 4 somehow disagree ,**
- 5 disagree ,**
- 6 strongly disagree**
- 7 non applicable.**

Reason for delay	Extent of agreement						
	1	2	3	4	5	6	7
1. Some women do not realize that they are pregnant							
2. I was still denying that I was pregnant							
3. I was uncertain about my monthly period							
4. I had irregular period so I could not know							
5. I do not track my periods so I did not know							
6. I thought that I could not get pregnant							
7. I had been spotting or bleeding in this pregnancy							
8. I faced pressure from family members and this delayed my decision to seek medical help.							
9. I just decided not to continue a wanted pregnancy after facing difficult altered personal circumstances.							
10. I did not have money to pay for the termination of pregnancy.							
11. I just did not have information that the hospital could terminate the pregnancy.							
12. The distance was rather long for me to travel.							
13. I could not have a pregnancy test to confirm my suspicion that I was pregnant.							
14. I delayed in getting a clinic appointment.							
15. I had this stigma associated with abortion so it delayed me.							
16. Feared being arrested/thought it is illegal							
17. Conflict with partner							
18. Turned away from clinic when first went							
19. Feared the effects of abortion on my health							
20. Tried other methods of abortion but failed							

If some one influenced your decision and delayed, who was it? (Tick one)	
0. Partner	
1. Sister	
2. Mother	
3. Father	
4. Brother	
5. Friend	
6. No one	
7. Other	

Would you say the decision to terminate the pregnancy was personal?

0. Yes
1. No
2. Not Sure

From the time you made the decision to terminate pregnancy how much time has elapsed
0. Less than a week
1. 1-3 weeks
2. More than 3 weeks
Health system related (Tick as applies)
Referred from other clinic(s)
0. Yes 1. No
Difficulty finding an abortion provider
0. Yes 1. No
Difficulty arranging transportation to hospital
0. Yes 1. No
Did not know where to go to get abortion care.
0. Yes 1. No

The next questions 26-35 are to be answered by respondents requiring post abortion care after a miscarriage or having arrived at the hospital with inevitable miscarriage.

This current miscarriage is....
0. spontaneous 1. induced
If the answer to this question is induced then respondent must answer questions 18-25.
If induced what methods were used
0. Used herbs
1. Used sticks
2. Used drugs...specify
3. Other methods specify
4. hooks
5. Bent wires.
If spontaneous, is there
0. History of illness
1. History of trauma
2. History of prior mid trimester miscarriage

3. Known medical history causing miscarriage....specify
What time did abortion commence as evidenced by pain, bleeding or draining?
What time did you expel the fetus?
What time did you arrive at the hospital today ?
What time were you attended to?
What time was uterine evacuation done and declared complete?

Concerning your patient care you received...Tick as applies
0. Information concerning what to expect during procedures
1. Information on return to fertility
2. Information on signs and symptoms of complications
3. Information on post abortion contraception
4. Information on self care after procedure
5. Information when to resume sexual intercourse
6. Informed of review date.
7. Referral to other reproductive health services
What contraceptive method did you choose.....or
Received counselling but will defer contraception.
Were you satisfied with the service you received?(ALL)
0.Yes 1.No
Would you recommend the service to a friend in your situation?(ALL)
0. 0.Yes
1. 1.No
2. 2. Not sure.

**THANK YOU FOR YOUR PARTICIPATION BE ASSURED ONCE MORE THAT
THE INFORMATION YOU HAVE SHARED WILL BE HELD IN THE
STRICTEST CONFIDENCE.**

Appendix 10- Participant Questionnaire Cinyanja
DEMOGRAPHIC INFORMATION (ALL)

Kodi munkala ku malo kuti?(Area)
0. Ku ma yadi yodula kopambana
1. Ku ma yadi yena
2. Mukomboni
Muli na zaka zingati zo badwa?
0. (10-14)
1. (15-19)
2. (20-24)
3. (25-29)
4. (30-34)
5. (35-39)
6. (40-44)
7. (45-49)
Muna punzila kufikila pati?
0. Mu primary
1. Mu Secondary
2. Ku chila naku secondary
3. Si muna punzile
Mu pemphera kuti Religious affiliation.
0. Muli ba chawa
1. Ba katolika
2. Ba kristu ba mpingo wina
3. Kwina, nenani
Mu sebenza nchito bwanji:
0. Mu sebenzela bena kuchosela boma.
1. Mu sebenzela boma.
2. Mu sebenza vo zionela.
3. Simu sebenza.
Muli kuchikwati?
0. Nili neka pa nthawi iyi
1. Ana ni tengha koma siti na kwatilane...
2. Nili ku chikwati
3. Chikwati chikalibe ku sila , koma sitili tonse
4. Chikwati china sila
5. A muna anga ana fa

Pali mmimba iyi
0. Muna samba lithi kotela.....
1. Iyi vumo ili na myezi ingati yopenda.....
2. Ku ikila na vumo iyi , iyi niya chingathi.....
3. Muli na bana bangati bobadwa
4. Muli na ma mimba yanghati ana choka
5. Ngathi ya chila kuli 5 nenani

Pali ma vumo ana choka yenze pa myezi ingathi
0. Kufika mwezi wachi tatu
1. Kuchila mwezi wachitatu
2. Kulye vumo ina chooka
Pali ma vumo ana chooka...
0. Ma vumo yana chooka eka
1. Muna chosesa
2. Vonse va kambidwa pamwamba
3. Ayi
Iyi vumo munazi pekanya kuti mu mite?
0. Inde
1. Ayi
Pamene muna peza kuti muli na vumo mwenze
0. Ku ee funa vumo
1. Simwenze ku ee funa vumo
Mwenze ku sebenzesa munkhwala wachi lezi?
0.inde 1.ayi
Nenani munkhwala wachi lezi wameni mwenze kusebenzesa
0. Ma pilis yo chedwa Mini pill
1. Ma pilis yo chedwa Combined pill
2. Loop yongenesa mu chi balilo
3. Ma nyeleti
4. Ma plasitic yo vala ayi ati ma Condom
5. Ku mangitsa matumbo
6. Ku penda masiku
7. Ku tilila pansu
8. Mizhu
9. Ku nyonsha
10. Njila yina, nenani

ZIFUKWA ZOMWE ZILENGETSA KUCHEDWA KUFUNSA THANDIZO
(ANTHU OFUNA THANDIZO YOCHOSA PATHUPI)

Odwala onse(chongani)
Chulani chomwe chinalengetsa kuti musafunse thandizo pomwe munabvutika ndi pathupipa. Yankho
1. Itanthauza kuti mugwirizana nazo kwambiri;
2. Itanthauza kuti mugwirizana nazo;
3. Itanthauza kuti mugwirizana nazo pag'ono;
4. Itanthauza kuti simugwirizana nazo ndipo
5. Itanthauza kuti simugwirizana nazo
6. Itanthauza kuti simugwirizana nazo konse
7. Palibe zi bvomeleka.

Chifukwa chochedwera	Momwe mugwirizana						
0. Azimai ena samaziwa kuti ali ndi pathupi	1	2	3	4	5	6	7
1. Ndinali kukana kuti ndi ndi pathupi							
2. Sindinaziwe pomwe ndinali kupita kumwezi							
3. Masiku opita kumwezi anali osiyana							
4. Sindina londole bwino za masiku opita kumwezi							
5. Ndinayesa kuti sindingakhale ndi pathupi							
6. Ndinali kuchoka mwazi pomwe ndili ndi pathupi							
7. Banja langa linanituntha ndipo ndinatenga nthawi kuti ndifune thandizo ya mankhwala.							
8. Ndinangoganiza kuti ndichose pathupi pambuyo popita m'mabvuto yaine nekha							
9. Ndinalibe ndalama yochosera pathupi							
10. Sindinaziwe kuti ndikhoza kuchosa pathupi ku chipatala							
11. Mtunda unali wautali kuti ndiyende							
12. Sindinapimidwe kuwona ngati ndili ndi pathupi							
13. Ndinachedwa kuonana ndi akaswiri ku chipatala							
14. Ndinali ndi chizondi ndi nkhani yochosa pathupi, chifukwa chake ndinachedwa							
15. Ndinaopa kumangidwa/ndinayesa kuti ndi mlandu							
16. Sitinagwirizane ndi bwenzi wanga							
17. Tinathamangisidwa kuchipatala nthawi yoyamba							
18. Ndianaopesa umoyo wanga pambuyo pochosa pathupi							
19. Ndinayesa njira zina zochosa pathupi koma ndinalephera							

Ngati munthu wina anakutunthani ndipo munachedwa, kodi ndani? (chongani zofanana)

0. Okondedwa	
1. Kalongosi	
2. Amai	
3. Atate	
4. Mbale	
5. Bwenzi	
6. Palibe	
7. Ena	

20) Kodi mukhoza kunena kuti chiganizo chotulusa pathupi chinali chamwekha?

0. Inde	
1. Ayi	
2. Sindiziwa bwino	

Kuchokera pomwe munaganiza zotulusa pathupi, kodi papita masiku angati?
0. Kuchepekera sabata limodzi
1. Pakati pa sabata limodzi ndi atatu
2. Kupyola masabata yatatu
Zokhuza zipatala (chongani zomwe zifanana)
Kodi munatumizidwa kuchokera ku zipatala zina
0. Inde 1. Ayi
Kodi ndichobvuta kupeza akaswiri pa nkhani yotulusa pakati?
0. Inde 1. Ayi
Kodi ndichobvuta kupeza mayendedwe ku chipatala?
0. Inde 1. Ayi
Kodi simunaziwe komwe mungapeza nthadizo pa nkhani yochosa pathupi.
0. Inde 1. Ayi
Mafunso olondolapo kuchokera 26 kufika 35 afunika kuyankhidwa ndi anthu omwe afuna uthenga wakasamaridwe pambuyo pochosa pathupi.
Kupita mwachabe kwa pathupi ndi chifukwa chakuti.....
0. Zinangochitika zokha
1. Inachosedwa mokakamiza
Ngati yankho la funso ili ndi 'kuchosa mokakamiza' ndikofunikira kuyankhanso mafunso 18 – 25.
Ngati inatulusidwa mwachikakamizo, kodi munasewenzetsa njira bwanji?
0. Mankhwala yachiboyi
1. Tumitengo
2. Mankhala ya kuchipatala.....monga yotani
3. Njira zina (chulani)
4. Mawaya yopotoza
5. Mawaya yokutwa
Ngathi zinangochitika zokha
0. Mbiri ya matenda

1. Mbiri ya mabvuto ena
2. Mbiri yodwala pomwe ali ndi pathupi
3. Mbiri yodziwika ya matenda yolodza kupita mwachabe kwa pathupi
Kodi pathupi panayamba thawi bwanji kutuluka kulondola pomwe zowawa ndi mwazi unayamba kutuluka?
Kodi kamwana kanatayidwa nthawi bwanji?.....
Kodi mwafika nthawi bwanji ku chipatala lero?
Kodi adotolo akuwonani nthawi bwanji?.....
Kodi anamaliza nthawi bwanji kukukonzani m'mimba ndi chibaliro?
Kodi mwalandira nhandizo lotani.....chongani zomwe zikukhuzani.
0. Uthenga wokhuza zoyembekezera pomwe zonse zichitika.
1. Uthenga wokhuza kukhalanso ndi pathupi
2. Uthenga wokhuza zizindikiro ngati pathupi payamba kubvuta
3. Uthenga wokhuza mankhwala ya chilezi paimbuyo pochosa pathupi.
4. Uthenga wokhuza mo dzi sungila pa pitha izi
5. Uthenga wokhuza pamene muza yamba anso ku kumana nab a muna banu.
6. Uthenga wokhuza pamene mudza ka bwelela ku chipatala anso.
7. Uthenga wokhuza bena banga mu thandize pa ma vuto yanu ena

Mwa sankha munkhwala bwanji wachi lezi
Ba ni udza uthenga ya mankhwala wa chi lezi coma pa nthawi iyi siniza tenga ayi
Muna kondwela mwamene muna sungiwa muchipatala pali kudwala kwanu pochosa pathupi
0. inde 1 . ayi
Ku konka mwamene muna sungiwa muchipatala pali kudwala kwanu pochosa pathupi , nghati anzanu a pezeka ndi vuto monga yanu munga ba udze kubwela ku chipatala chino?
0. Inde
1. Ayi
2. Sini ziwa.

Dzikomo ndi Zamene mwa kamba kuno ziza sala kuno kulibe bena baza udziwa

Appendix 11- Questionnaire Bemba

Bushe Mwikala kwisa?
0. Ku ma yadi kwa basunga po sana
1. Ku ma yadi kwa ya basungapo e filya
2. Mukomboni
Muli ne myaka inga?
0. (10-14)
1. (15-19)
2. (20-24)
3. (30-34)
4. (35-39)
5. (40-44)
6. (45-49)
Mwapelele pi ku masambililo yenu?
0. Mu primary
1. Mu secondary
2. Amasambililo aya chila pa secondary
3. Mwa sambilile
Mupepela kwi?
0. Ndi mu chawa
1. Ndi mu katolika
2. Ndi mu christu ushili katolika
3. Mule pepa fye kumbi landeni po
Mubombela kwisa?
0. Mbombela bambi
1. Mbombela buteko
2. Nde ibombela
3. Nshibomba
Bushe muli ku chupo?
0. Nshili ku chupo
1. Nshili ku chupo njikala fye no mutemwikwa wandi
2. Nali upwa
3. Nali upwa nomba pali ino nshita nshikala na bena twali pusana
4. Chali pwa chupo
5. Abena mwandi bali fwa
Mwaile lilali Ku mweshi?.....
Iyi fumo ili ne myeshi inga?.....
Ku bikila po ne fumo iyi ama fumo yenu ya kwana yanga?.....
Mwa papile bana banga?.....
Mwa poneshe ama fumo yanga?.....
Pali ama fumo aya ponene , yali pa myeshi inga?
0. Ku fuka pali myeshi yitatu
1. Ku chila myeshi yitatu
Aya ma fumo ya ponene yali fuma yeka nangu mwali fumishe?
0. Ya fumine fye yeka
1. Nali fumishe

2.Yambi yaku fumisha yambi ya fumine yeka
3.Nshya poneshepo fumo
Pali iyi fumo mwali ipekanya kuti mwaimita?
0. Nali Ipekanya
1. Nshai Pekanya
Elo mwasangile kuti mwaimita, mwa le ifwaya fumo nangu eyo?
0. Mwale ifwaya fumo
1. Tamwale ifwaya fumo
Bushe mwale bomfya umuti waku kanya fumo?
0. Eee
1. Eyo
Nga mwa le bomfya, finshi mwa le bomfya?
0. Ama pilis ba tila mini pill
1. Ama pilis ba tila combined pill
2. Ichakwingisha loop
3. Inyeleti
4. Ama plastic batila condom
5. Uku kakisha ku chisa
6. Uku penda nshiku
7. Uku tilila panshi
8. Ku bomfya imiti
9. Uku onshya
10. Nshila shimbi

**IMILANDU ILENGA UKUPOSA INSHITA YAKUYA POKA UBWAFWILISHO
(ABALWELE BALEFWAYA UKUPONYA AMAFUMO)**

Kuti nalimo tamulefwaya ubwafwilisho pali ili fumo lyafilikwa pamilandu iying. Bushe milandu isa pali aya panshi iyimikumine? Ubwasuko:
1. Ukusumina umupwilapo,
2. Ukusumina,
3. Ukusuminako panono,
4. Ukukana umupwilapo,
5. Ukukana.
6. Ukukana sana
7. Fyonse eyo

Imilandu yakukokwela	Umusango wakusumina						
	1	2	3	4	5	6	7
1. Bambi banamayo tabeshiba ukuti bali pabukulu							
2. Nali ncili ndekana ukuti nail pabukulu							
3. Nshaishibe pakuya kwapa mweshi kwandi							
4. Nalepusanya inshiku shakuya ku mweshi eico nshaishibe							
5. Nshikonka inshiku shakuya ku mweshi eico nshaishibe							
6. Nalemona kwati teti nkwide ifumo							
7. Nalesumako umulopa pali ili ifumo							
8. Nalishingwene nokukankambwa kuli balupwa kanshi ici calilengele nakokola ukuya poka ubwafwilisho ku cipatala.							
9. Nasalilefyeukukana konkanyapo ukuba pabukulu panuma yakupita mufintu ifya shupa.							
10. Nshakwete indala sha kufumisha ifumo.							
11. Nshaishibefye ukuti icipatala kuti cafumya ifumo.							
12. Intamfu yalilepele nganshi iyakuti ningaya.							
13. Nshapimine ukuti ninga shininkisha ubutunganyo bwandi ukuti nail pabukulu.							
14. Nalokokwele ukupoka ubushiku bwakuya ku cipatala.							
15. Nalikwete icintinya caba pakuponya ifumo kanshi calinkokweshe.							
16. Naletina ukunjikata/nalemona ukuti tecefunde							
17. Kwali ukupusana nabena mwandi.							
18. Nalibweleleko kucipatala ilyo naile umuku wakubalilapo.							
19. Naletina ifitumbuka mukuponya ifumo pa bumi bwandi.							
20. Nalyeseshe inshila shimbi ishakufumishamo ifumo lelo nalifililwe.							

19. Nga cakitila paliko umo uwamitunkile, elyo mwakokola bushe nani? (congeni pali umo)

0. Umudemwikwa	
1. Bankashi	
2. Ba mayo	
3. Ba tata	
4. Ba ndume	
5. Umunenu	
6. Tapali nangu umo	
7. Bambi	

20. Bushe kuti mwatila ukufwaya kwenu ukwakuponya ifumo kwalifye kwenufye mweka?

0. Eee
1. Iyo
2. Nshishibe

Ukufuma panshita mwafwaile ukufumya ifumo, bushe papitile inshinku shinga?
0. Ukucepa pamulungu umo
1. Ukufuma pamulungu umo nokushinta pali itatu
2. Ukupitilila pa milungu itatu

INSHILA SHABUMI ISHIPALILEKO (congeni ifyo cili)

Ukutumwa ukufuma kufipatala fimbi
0. Eee 1. Iyo
Ukushupikwa mukusanga uwakwafwilisha mukuponya ifumo
0. Eee 1. Iyo
Ubwafya mukupekanya imyendele iya kuchipatala
0. Eee 1. Iyo
Nshaishibe ukwakuya tangatwa mukuponya ifumo
0. Eee 1. Iyo

Ampusho ayalekonkapo 26-35 yafwile yayasukwa kuli abo abalekabila ukutangatwa panuma yakuponya ifumo, panuma ifumo yaonaika nangu ilyo bafika pacipatala nefumo ilyaonaika.

Uku konaika kwefumo.....
0. Kwaicitikilefye
1. kuli ifyo mwabomfeshe
Ngacakuti ubwasuka kuli pusho lya nambala 1 kasuka afwile ukwasuka ifipusho 18-25
Ngacakuti kwali efyo mwacitile nifinshi mwabomfeshe
0. Imiti yacisenshi
1. Utumiti
2. Mwabomfeshe imiti....miti nshi
3. Inshila shimbi ulande
4. Indobo
5. Waya iyaongama
Nga kwaicitikilefye bushe
0. Pali ubulwele ubo mwalwelepo kale
1. Paliba icimucusha kumutima
2. Pali icaleshupa mumala icalelenga ukupona kwefumo ukufuma pamyeshi itatu ukufika kuli mutanda
3. Palibako ifyo bashinganga baishiba pakupona kwefumo ulande
Busheninshita nshi ukupona kwefumo kwatendeke ukukonka nokukalipa kwamumala, umulopa nangu ukusuma?
Bushe ninshita nshi akapopo kafumine?
Buhe ninshita nshi mwacifika pa cipatla lelo?
Ninshita nshi bamumwene?

Bushe ninshita nshi bamiwamisha mucisa nokutila fyonse fyapwa
Ukukonka nobutangato bwapabulwele bwenu mwapokelele.....congeni ifimikumine
0. Ilyashi likumine ififwile ukucetekelwa ilyo umulimo ulebombwa
1. Ilyashi lyakubwelela kubufyashi
2. Ilyashi pafyakumwenako kufyakulubana
3. Ilyashi pamuti wakutalukanya abana panuma yakuponya ifumo
4. ilyashi pali mwakuisunga
5. ilyashi elo mwinga tampa ku kumana na balume benu
6. Ilyashi lya bushiku elo mukesa nakabili ki chipatala
7. ilyashi lwa ku yaku ya kuli bambi mu chipatala a benga afwa na ma lwele yenu yambi
Mwa sala po umuti wisa waku kanya fumo?
Ni ngumfwa pali umuti waku kanya fumo , kano pali ino nshita nsha pokeko.
Mwali temwa efyo bamusungile ku chipatala chino pa bulwele bwenu.
0. Eee. 1.Iyo
Ku konka efyo ba musungile mu chipatala bushe nga abanenu ba kwata ubwafya bwapalan na bwenu kuti mwabeba kuti bese ku chipatala chino?
0. Eee 1. Iyo 2. Nshishibe

**MAYO TWA TOTELA FYONSE TULANDILE PANO FYA LA SHALA KUNO.
TAKULI UMBI UWALA UMFWA PO EYO.**

Appendix 12- Standards of service provision from the Standards and Guidelines for reducing Unsafe Abortion Morbidity and Mortality in Zambia, 2009.

Who should provide services?

Standard: According to the TOP act pregnancy termination must be performed by trained registered medical providers in the provision of abortion care.

Where can services be provided?

Standard: Pregnancy termination for pregnancies up to 14 weeks from the last menstrual period may be performed as an out-patient procedure and those above this must be performed in a facility with hospitalization amenities with access to blood transfusion services.

Standard: Pregnancy termination for pregnancies due to a pathology that poses a major risk for the patient and where the pregnancy is desired should be performed only in the OBGYN section of the hospital units with ease of access to the neonatal unit.

Standard: All institutions performing elective terminations of pregnancy should be guided by protocols based on the current standards.

2.5 Counselling and Informed Choice

Standard: All women undergoing pregnancy termination must be appropriately and accurately informed in order to be able to make a decision.

Standard: Accurate information on the risks and benefits of abortion must be given to all women undergoing termination of pregnancy

Standard: Contraceptive counselling and methods for those who chose it must be provided to all women undergoing termination of pregnancy.

2.6 Pre-Procedure Care

Standard: For all patients, a pertinent medical history and physical examination must be obtained and documented

Standard: Confirmation of pregnancy must be documented.

Standard: Anti D Immunoglobulin should be offered to non immune RH negative women especially after the first trimester

Standard: All patients must be provided with pain management.

Standard: Routine prophylactic use of antibiotics is recommended for abortion procedures.

2.7 Uterine Evacuation Procedures

After 13 weeks gestation, all cases should only be managed in a unit staffed by a specialist or trained medical officer in consultation with a gynaecologist as it requires special training and experience.

Standard: Dilatation and evacuation is the preferred method for evacuating the uterus in the second trimester after cervical preparation or priming.

Standard: Either Mifepristone and Misoprostol combined or Misoprostol alone can be used according to the local protocols

Standard: the patient must be informed about the efficacy, side effects and risks with medication to be used.

2.8 Post Procedural Care

Standard: Until medically stable all patients must be observed during the recovery period by a health provider trained in post procedural care.

Standard: Prior to discharge the patient must be ambulatory with a stable blood pressure and a pulse well controlled and vaginal bleeding.

Standard: the patient must be given instructions outlining the danger signs and symptoms of post procedural complications (Standards and Guidelines for reducing unsafe abortion morbidity and mortality in Zambia, 2009).