THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF NURSING SCIENCES

KNOWLEDGE AND ATTITUDE OF ANTENATAL MOTHERS TOWARDS DANGERS SIGNS IN PREGNANCY IN LUSAKA URBAN

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BY

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ABBREVIATIONS

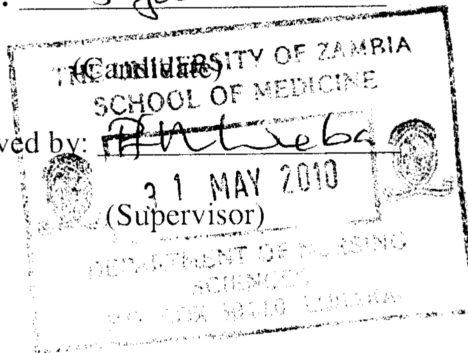
AIDS	-	Acquired Immune Virus
ANC	-	Antenatal Care
CSO	-	Central Statistic Office
FANC	-	Focused Antenatal Care
HIV	-	Human Immune Virus
ICPD	-	International Conference on Population and Development
IEC	-	Information Education and Communication
LDHMT	-	Lusaka District Health Management Team
MOH	-	Ministry of Health
PMTCT	-	Prevention of Mother to Child Transmission
STI	-	Sexually Transmitted Infections
UN	-	United Nation
SPSS	-	Statistical Package for Social Science
ZDHS	-	Zambia Demographic Health Survey

DECLARATION

I, Jeane Ngala Banda hereby declare that the work presented in this dissertation is my own, original work undertaken in partial fulfilment of Bachelor of Science degree in nursing and has not been presented either wholly or in part, for any other degree and is not being currently submitted for any other degree.

Signed: ____________________ Date: 29/05/2010

(Candidate)



Approved by: ____________________ Date: 31/05/10

(Supervisor)

STATEMENT

I hereby, certify that this research proposal is entirely the result of my own independent investigations. The various sources to which I am indebted are clearly indicated in the text and references.

Signed: ____________________ Date: ______________________

(Candidate)

DEDICATION

This research is dedicated to my beloved late husband Dr Joseph Banda who always wanted to see me obtain a degree in nursing. I have always worked hard to let his dream come true.

My beloved sons Dabila and Dalitso for being patient, when you also needed to be comforted during the loss of your dad.

Above all, my dedication is to my Sovereign God, for His mercies, love and provisions.

ABSTRACT

More than 536,000 women in childbearing age die from complications related to pregnancy and child birth each year. Over 99% of these deaths occur in developing countries including Zambia. In Zambia, the maternal mortality rate is estimated at 591 per 100,000 live births .The main causes of these deaths are due to pre-eclampia, eclampia, anemia and abortion complications (WHO, UNICEF and World Bank, 2005).

This research was necessitated by the fact that despite high antenatal coverage of 86% in Lusaka urban, only 29% initiate for their antenatal booking after 20 weeks of gestation, therefore women who initiate for their antenatal booking late may have inadequate knowledge on the danger signs in pregnancy.

The main objective of this study was to determine the knowledge and attitude of antenatal mothers towards danger signs in pregnancy in selected Lusaka Urban clinics.

The major hypothesis for this study was inadequate health education on danger signs in pregnancy may contribute to inadequate knowledge on the danger signs in pregnancy.

The literature review from scholars on knowledge and attitude of pregnant women towards dangers signs in pregnancy during antenatal period was done using the study variables (knowledge, attitude, information, education and communication).

A descriptive, non interventional, cross section study design was used to determine the levels of knowledge and attitude of pregnant women towards danger signs in pregnancy. Data was collected using a structured interview schedule from 50 respondents. The interview schedule consisted of three sections (demographic data, knowledge and attitude on danger signs of pregnancy). The study populations consisted of women attending antenatal clinic at five selected health centers. The sampling procedure involved the use of purposive sampling in choosing the five antenatal clinic and simple random sampling for choosing the 50 respondents.

Data was analyzed using a computer soft ware called SPSS 14.0 and was presented in form of frequency tables ,pie charts and cross tabulations which were used to determine relationships between variables.

The study results revealed that (50) 100% of respondents participated in the health education during antenatal clinics but only 18% were taught on the danger signs in pregnancy .It further revealed that 80% of the respondents who had low educational level had inadequate knowledge on the danger signs. Despite the respondents having inadequate knowledge on the danger signs in pregnancy, the study revealed that 83.3% had positive attitude towards danger signs in pregnancy as they indicated that they would seek help from the clinic if they experienced any danger signs in pregnancy. The study further revealed that out of the 46% who indicated that they got the information from the Community Health Workers 44% had inadequate knowledge on the danger signs and 2% had moderate knowledge. There was a relationship between inadequate IEC given on danger signs in pregnancy contributing to inadequate levels of knowledge on danger signs in pregnancy (the P-value was 0.041). However, there was no relationship between the low educational levels of antenatal mothers and low levels of knowledge on the danger signs in pregnancy (the p-value was 0.995).

In view of the above findings, some of the recommendations have been made: Ministry of Health should ensure that Community Health Workers are trained or offered with refresher courses on the danger signs in pregnancy. Lusaka Health District Management Team should intensify awareness programs on the danger signs in pregnancy with some modification in the presentation of information by use of pictures, also use of language according to the audience background such as parity of women and educational levels as those with low educational level may not understand the messages in english, this will help women to recall easily on the danger signs taught.

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Reproductive health is a state of complete physical, mental and social well -being and not merely the absence of disease or infirmity in all matters relating to the reproductive health system (Ngoma, 2003). Reproductive health addresses the well being of men, women and young people as it is concerned with their reproductive function and has the following component;-Safe Motherhood, Adolescent health, sexually transmitted, diseases, Infertility, Gender based violence, Male involvement, Abortion, Other reproductive health issues such as cancer of the cervix and prostate gland.

Maternal health can be ensured if all women receive the care they need throughout pregnancy and childbirth. This is addressed through Safe mother hood, which is an important aspect of reproductive Health. Safe motherhood means, creating circumstances within which a woman can choose to become pregnant and if she does, ensuring that she receives care for prevention and treatment of pregnancy complications has access to trained birth assistance, also access to essential obstetric care and care after birth including information about family planning (Ngoma, 2003).

In 1987, the World Bank in collaboration with World Health Organization sponsored the launch of Safe motherhood during the first international conference on safe motherhood in Nairobi, Kenya (World Bank Group, 2009). The main goal stated during the conference was to reduce Maternal Mortality by 50% by the year 2000 especially in developing countries. The Inter-Agency Group for safe motherhood was also formed during the conference, which specified clear strategies, and interventions to all events, which make pregnancy unsafe

irrespective of gestation or outcome to help reduce maternal morbidity and mortality (World Bank Group, 2009).

According to World Bank Group (2009), the strategies and interventions put in place to reduce maternal morbidity and mortality are referred to as the "Pillars of Safe Motherhood" which are; - Antenatal Care, Obstetric care, Postnatal Care, Post Abortal Care, Family planning, Sexually transmitted infections and HIV/AIDS control and others which includes; - Communication for behavioral change, Primary Health Care and equity for women.

World wide, over 536,000 women and girls die from complications related to pregnancy and childbirth each year (WHO, UNICEF and World Bank, 2005). Over 99% of these deaths occur in developing countries including Zambia.

According to WHO, UNICEF and World Bank (2005) statistics, shows the following developing countries contributing to about 55% of the global maternal mortality rates.

Table 1: Maternal Mortality Rates

No.	Country	Mortality rates
1	India	117,000
2	Congo Dr	32,000
3	Afhagastan	25,000
4	Ethiopia	22,000
5	Bangladesh	21,000
6	Indonesia	19,000
7	Niger	14,000
8	Tanzania	13,000
9	Angola	11,000

The table shows India having the highest maternal mortality of 117,000 followed by Congo Dr with 32,000 maternal mortality rates.

Some of the causes of the above maternal mortality rates during pregnancy are due to Hemorrhage (Antepaturm 3 %), Hypertensive disorders 10%, unsafe abortion 5%, HIV 3%, and the indirect causes 14%(deaths as a result of pre-existing conditions that aggravate pregnancy or its management e.g. Anemia, Malaria, Heart diseases, HIV/AIDS and Hepatitis). These deaths can be prevented if women are able to recognize the danger signs in pregnancy such as; Vaginal bleeding, abdominal pains, generalized oedema, blurred vision, fever, excessive fatigue, headache, breathlessness, loss of consciousness, convulsions, epigastric pain and no fetal movements which should alert women or their families to seek help with a skilled provider early (Del barco,2004).

According to USAID Maternal and Child Health Report (2009), in Zambia, approximately, 4000 women and girls die due to pregnancy complications, additionally; about 80,000-120,000 will suffer from disabilities caused by complications during pregnancy and child birth (USAID, 2009).

The maternal mortality rate in Zambia is estimated at 591 per 100,000 live births (CSO, 2007). The main causes of these deaths during pregnancy are due to pre-clampsia, eclampsia, Anemia and Abortion complications (Ngoma, 2003). Other causes of maternal mortality deaths during pregnancy in Zambia include HIV/AIDS related conditions and Malaria (MOH, 2006). One of the contributing factors to maternal mortality is delay in accessing healthcare at community and health center levels (MOH, 2006). Pregnant women can receive information on danger signs in pregnancy during Antenatal Care so that they are able to recognize the signs and seek medical aid on time and this will help to reduce mortality rates.

Antenatal care is the care that is given to a pregnant woman from conception until the beginning of labor (Frazer and Copper, 2003). It is one of the components of Safe motherhood which ensures that pregnant women enjoy good health, have a normal delivery and healthy babies (Ngoma, 2003).

Antenatal care period clearly presents opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well being. It provides an opportunity to supply information on danger signs, symptoms and about risks of labor and delivery (WHO, 2003). It also gives a woman an opportunity to be prevented and be treated from malaria, management of anemia and treatment of STIs such as Syphilis. This, significantly, improves fetal outcome and maternal health during pregnancy. Women attending antenatal care have a chance of receiving Tetanus toxoid which is a life saving for both mother and infant. Antenatal care has also an entry point for HIV prevention and care in particular for the prevention of HIV transmission from mother to child. Prevention of diseases that may complicate pregnancy can be achieved by encouraging women to attend antenatal care early so that the diseases which may rise during pregnancy such as pre-eclampsia can be identified and be treated adequately and those chronic conditions that tend to complicate pregnancy such as diabetes mellitus and chronic hypertension are controlled.

Zambia has adopted the newest WHO approach to promoting safe pregnancies which recommends that a woman without complications have at least four (4) antenatal visits instead of the traditional approach which required a woman to have twelve (12) antenatal visits (CSO, 2007). This is an updated approach called Focused Antenatal Care (FANC), which emphasizes quality of care during the visits over the quantity of visits. Focused ANC is based on the premise that every pregnant woman is at risk of developing complications and all women should therefore receive the basic care including monitoring of complications (WHO, 2003). Appropriate Scheduling of visits depends on the gestation age of the pregnancy and also woman's individual needs. For women whose pregnancies are

progressing normally, the following schedule for minimum of four visits is recommended, 1st visit ,around or preferably before 12th week of pregnancy ,2nd visit-20th to 26th weeks ,3rd visit 28th to 32nd weeks ,4th visit 36th to 38th weeks . However, women with common discomforts, special needs, conditions that lie beyond the scope of basic care or other problems require additional visits (WHO, 2003). During the first visit, which lasts for about 30-40 minutes; the provider obtains information on personal, medical, obstetric, surgical histories, perinatal complications and events of the previous pregnancies. Physical examination is performed which act as a base line data during subsequent visits. Laboratory investigations are also ordered to rule out anemia and syphilis. Urine testing also is done to rule out Diabetes if glucose is positive and pre-eclampsia if there is presence of proteins. The provider assesses for referrals depending on the findings. She also implements the following interventions during the first visit; giving of iron and folic acid, treatment of syphilis if the rapid test was positive, administration of Tetanus toxoid injection and giving of Fansidar 3 tabs (Sulfadoxine/pyrimethamine tabs) once in first trimester and repeated in second trimester and third at four weeks intervals.

In second, third and forth visits, the provider obtains information to note any changes or events from previous visits perform physical examination and repeats the tests especially if the signs of anemia are detected on examination. Assessment for referral is done and giving of second doses Tetanus toxoid and iron tablets.

During all the visits the provider provides counseling about danger signs in pregnancy and what to do if they recognize them.

Focused ANC promotes preventive measures such as provision of Intermittent Preventive Treatment and Insecticide –treated bed nets for malaria in endemic areas to reduce number of women suffering and dying from malaria and provision of presumptive treatment for hookworms as they cause anemia during pregnancy (WHO, 2003)

According to Wamulume (2005), stated that malaria is one of the leading causes of maternal mortality in Zambia. To reduce the morbidity and mortality rates due to malaria, the country adopted Intermittent Presumptive Treatment (IPT) and use of insect treated mosquitoe nets as a strategy for prevention of Malaria during pregnancy which was implemented in 2003. Under this initiative, pregnant women are expected to take at least three treatment doses of an effective anti malaria drug Sulfadoxine/pyrimethamine (three tabs of fasidar single dose) during routine antenatal visits starting from sixteen weeks of pregnancy at least 4weeks interval during second trimester (4-6 months) and third trimester (7-9 months).

This strategy prevents the woman from having malaria, which may lead to placental malaria causing low birth weight in the unborn baby and also may cause anemia in a pregnant woman. Anemia increases the risk of premature delivery and predisposes the woman to severe bleeding (Wamulume, 2005).

Free mosquito's nets are also given to antenatal mothers to protect them against malaria by killing and repelling a mosquito that carries the disease. This has shown a reduction in the incidence of malaria in pregnancy. The number of women in Zambia who accessed anti malaria drugs during pregnancy increased from 35.8 % in 2001 to 86.5 % in 2007(Dossier, 2008).

In Zambia, although there is a steady reduction of maternal mortality rate from 729 per 100,000 live birth in 2001 to 591 per 100,000 live birth in 2007 (CSO, 2007) the decline is too low to meet the target which calls to reduce the rate to 162 per 100,000 live birth by 2015. Zambia is among countries in the Southern African Sub-Saharan region with high antenatal care coverage of about 93.4% and all pregnant women who attend antenatal care receive at least one antenatal check up (MOH, 2008).

Pregnant women should be encouraged to book early for antenatal care. They will receive interventions such as timely testing, treatment of STIs such as

syphilis and will be screened and treated for anemia. They will also have adequate education regarding danger signs during pregnancy and delivery (E.g. vaginal bleeding during pregnancy, edema of the limbs and severe headache which could be a sign of pre-eclampsia, fever which could be a sign of an infection, less or no fetal movements, dizziness, blurred vision and epigastric pain) and will be able to seek medical attention early hence, reducing complications occurring in pregnancy and the country will reduce on the number of maternal death.

1.2 STATEMENT PROBLEM

Zambia is among countries in the Southern African Sub-Saharan region with high percentage of antenatal care attendance of about 93.4%, however, the median number of months at first visit is estimated at 5.3 months (MOH, 2008). This compromises the quality of ANC women receive as it creates missed opportunities for ANC interventions such as timely testing, treatment of STIs such as syphilis if positive, screening and treatment of women with anemia which is usually done in the first trimester (MOH, 2008). Also, women miss out an opportunity to receive early education regarding birth preparedness and danger signs in pregnancy.

It is more likely that despite high antenatal care coverage women miss an opportunity to receive education on danger signs in pregnancy because they initiate for their antenatal care late.

In Lusaka urban district, although it records high antenatal care coverage of about 86% (LDHMT, 2008), the percentage of pregnant women who initiate their first antenatal visit before twenty (20) weeks of gestation age is estimated at 29% while those who initiate antenatal care first visit after twenty (20) weeks of gestation or later is estimated at 69% of the total number of women at first attendance (LDHMT, 2009). Therefore, women who initiate their antenatal care visit after first trimester may have inadequate knowledge

on recognition of danger signs and may lead to complications, resulting in deaths which could have been prevented early during pregnancy.

In Lusaka urban clinics despite shortage of skilled health attendants, efforts are made to provide Information Education and Communication (IEC) to pregnant women on early antenatal booking through Safe motherhood support groups, also pamphlets are distributed to all pregnant women. The pamphlets include issues on birth preparedness and dangers signs in pregnancy. This is done in order to increase awareness on recognizing of danger signs and seek for corrective measures early. It was observed that posters written in English were displayed on the walls in the antenatal clinics for the mothers and their families to read and comprehend the messages. In Zambia, the estimated percentage of women with secondary education is 3% while those with primary education are estimated at 12% (ZDHS, 2007). The researcher wonder if these women with such literacy levels are able to read the posters circulated to them or pamphlets given to them to read. The education attainment has a strong effect on health behaviors and attitudes.

It is for this reason that the investigator wants to find out how much knowledge do antenatal mothers have on danger signs in pregnancy and their attitude if they recognize the signs, because inadequate knowledge affects the attitude and delay in seeking corrective measures.

1.3 KNOWLEDGE AND ATTITUDE OF ANTENATAL MOTHERS TOWARDS DANGER SIGNS IN PREGNANCY

There are some factors that influence pregnant women's knowledge and attitude towards danger signs in pregnancy such as women's factors, economical and cultural factors and service related factors.

1.3.1 WOMEN'S RELATED FACTORS

1.3.1.1 Education level

Education helps women to make appropriate decisions. An educated mother is likely to understand better the information given during antenatal visits than uneducated women. It is also more likely that an educated woman will not only depend on health workers advice on her health matters, but she would also read and listen to the Radio/TV on health matters. Most women learn well from friends, but if the educational level is low it will affect the ability to interact well with other people. Therefore, a mother's level of education has significant influence on knowledge levels and attitude towards danger sign, hence low levels of education will lead to poor client understanding on danger signs.

1.3.1.2 Age

The age of the mother determines how much knowledge she has acquired on danger signs in pregnancy. A young teenage antenatal mother may feel ashamed to attend antenatal clinic together with older women where she can be educated on recognition of danger signs in pregnancy. Young teens will even delay initiation of antenatal care until after sixth month, missing out the benefits of early antenatal care. On the other hand, older women may also feel ashamed to attend antenatal clinic with the younger ones or may feel they are more knowledgeable on antenatal care and may ignore its importance.

1.3.1.3 Parity

Grand multiparous may have a negative attitude and may feel experience enough to deal with danger sings in pregnancy and its consequences. This may lead to delay in seeking medical advice

and result in complications. It is difficult for them to comprehend and change the attitude especially if they did not experience any problems during previous pregnancies.

1.3.1.4 Marital Status

Some married pregnant women may recognize the danger signs but they would wait for their spouses to give consent for them to go to a health facility. Spouses and significant others who do not have any knowledge on danger signs may not offer support to the antenatal mother in case of danger signs.

1.3.2 SOCIO CULTURAL FACTORS

1.3.2.1 Cultural beliefs

Taboos and beliefs may contribute to the development of negative attitude towards danger signs in pregnancy by pregnant women and their communities.

The cultural believes involves looking at any strong traditional influences and preferences that are surrounding childbirth and particularly strong resistant to change in relation to utilization of ANC. Some practices are bad and harmful and they may lead to complications, unfortunately they are perceived to be normal during pregnancy. Traditional beliefs that talk about seeking health services early in pregnancy are seen to be a sign of weakness and discourage women to seek services early. For example, in some Zambian culture it is a taboo to announce that a woman is pregnant before the pregnancy is visible.

1.3.3 ECONOMICAL FACTORS

1.3.3.1 Low Income

The economical status of some women may influence Knowledge and their attitude towards danger signs and leads to high maternal morbidity rates. Sometimes, women may recognize the danger signs but fail to go to the hospital for specialist care due to lack of transport. A low-income family would rather spend their little money on other things such as food and forget about health issues, as they cannot afford.

1.3.4 SERVICE RELATED FACTORS

The health center and service provision can also have an influence on knowledge and attitude of pregnant women towards danger signs in pregnancy.

1.3.4.1 Staffing levels

Shortage of staff in health facilities may make it impossible for the few staff to adequately give Information, Education and Communication (IEC) on danger signs to women during antenatal visits. This leads to provision of poor quality of services and women will end up having inadequate knowledge on danger signs in pregnancy and its consequences. Inadequate IEC by the members of staff leads to poor client understanding of danger signs in pregnancy. It will also influence pregnant women's attitude in seeking medical care early. The inadequate number of qualified personnel is influenced by staff attrition due to unfavorable conditions of services.

1.3.4.2 Staff attitude

Attitude of staff may influence knowledge of pregnant women. Members of staff may not be willing to explain danger signs in pregnancy in simple terms and clients may not assimilate the IEC given to them. Some mothers do not understand and are afraid to ask, for fear of being shouted at.

1.3.4.3 Distance

Distance to the health facility may affect antenatal mothers' attitude towards danger signs in pregnancy. Distance from the health center makes mothers miss early antenatal visits at the health facility. In addition, even if they want to report to a health facility danger signs early, they may not have transport to take them to the hospital where they could receive special care.

1.3.4.4 Medical supplies

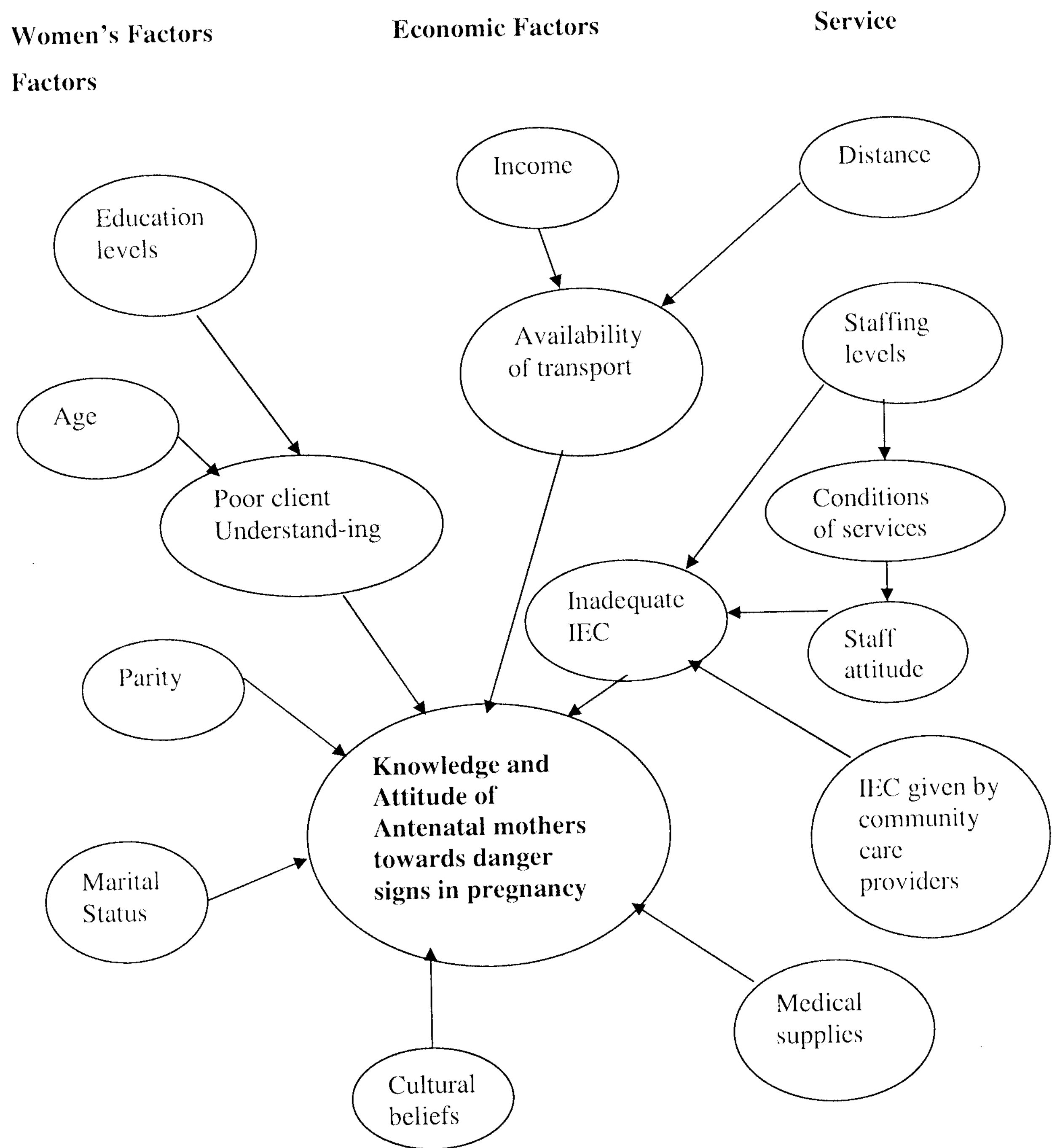
Inadequate of medical supplies such as testing kits for STIs, Urinalysis kits, Blood pressure machines in hospitals may make the antenatal mothers not to be booking early in the health care system. A pregnant woman may not see the importance of booking for antenatal visit early in first trimester because she will not even have adequate quality of antenatal care due to inadequate medical supplies hence missing out an opportunity to receive IEC during antenatal clinic.

1.4.4.5 Community Based Health Providers

The critical shortage of qualified staff leads to increased reliance on Community Health Workers to give IEC on danger signs. The unqualified staff may not give adequate information on the danger signs in pregnancy.

FIGURE 1

DIAGRAM OF PROBLEM ANALYSIS



1.5 JUSTIFICATION

The study seeks to asses antenatal mothers' knowledge and attitude towards danger signs in pregnancy in Lusaka Urban Clinics with the view of improving the quality of antenatal care and IEC rendered to pregnant women during antenatal clinics.

Despite Zambia to be among the countries in Sub-Saharan Africa with high antenatal care attendance coverage, pregnant women delay in the initiation of antenatal care until after five months of pregnancy, thus missing out on potential benefits of early antenatal care services (CSO, 2007). If pregnant women are well informed about early antenatal booking and about danger signs in pregnancy through use of appropriate IEC materials which can easily be understood, women will have adequate knowledge and be able to recognize the signs and seek for corrective measures. The information from the research will also help identify gaps in the provision of antenatal care which will call for interventions that will encourage women to attend antenatal care in the first trimester of pregnancy which is critical to the health of both mother and child. The information will also help to improve on the ways of providing information to antenatal mothers that will help to increase awareness on dangers signs in pregnancy. If pregnant women's' levels of knowledge are adequate, their attitude will be positive towards the danger signs. This will therefore, help to prevent complications in pregnancy.

1.6 RESEARCH OBJECTIVES

1.6.1 General Objectives

General Objectives are objectives which states what is expected to be achieved by the study in general terms (Polit and Becker, 2008).

- To determine knowledge and attitude of antenatal mothers towards danger signs in pregnancy.

1.6.2 Specific Objectives

Specific objectives are the breakdown of a general objective into smaller and logically connected parts (Polit and Becker, 2008). Specific objectives systematically address the various aspect of the problem as defined under the statement of the problem and the key factors that are assumed to influence or cause the problem.

- To assess women's level of knowledge on danger signs during pregnancy.
- To asses women's attitude towards danger signs in pregnancy and what they do when they recognize the signs.
- To assess factors influencing knowledge and attitude of antenatal mothers towards danger signs in pregnancy.
- To make recommendations to relevant authority from the research finding after identifying the gaps in the provision of antenatal care.

1.7 RESEARCH HYPOTHESIS

A hypothesis is a tentative answer to a research problem or a hypothesis is a prediction of relationships between one or more factors and the problem under study (Treece and Treece, (1986).

- Inadequate IEC on danger signs in pregnancy may contribute to inadequate levels of knowledge on danger signs in pregnancy.

- Antenatal mothers with low education levels are likely to have inadequate knowledge on dangers in pregnancy than the educated women.

1.8 DEFINITIONS OF TERMS

1.8.1 Conceptual definitions

Conceptual definition is much like a dictionary definition conveying the general meaning of a concept. However, the conceptual goes beyond the general language meaning found in the dictionary by defining the concept as it is rooted in the theoretical literature (Wood and Huber, 2006).

Attitude - :"Feeling or opinion about something or someone or way of behaving" (Gillard, 2003).

Antenatal –: Care given to a woman from the time of conception until delivery (Franzer and Cooper, 2003)

Danger signs in pregnancy-Presence of condition that increases the chances of a pregnant woman or her unborn child dying or having poor health (Franzer and Cooper, 2003). These are fever, severe headaches, edema (of the feet, face, and hands), vaginal bleeding, draining liquor, epigastric pain, no fetal movements during pregnancy and getting tired easily.

Infant Mortality-is the number of deaths of infants less than one year of age per 1,000 live births (Del barco R.C, 2004).

Knowledge –.Understanding of information about a subject which has been obtained by experience of study and which is either in a persons mind or possessed by people generally (Burn and Grove,2005).

Maternal death - this is the death of a woman while pregnant or within 42 days of termination of pregnancy, regardless of the site or duration of pregnancy, from any cause related to or aggravated by the pregnancy or its management (Del barco R.C, 2004).

Maternal mortality rate –: is the number of all maternal deaths per 100,000 pregnancies that ended within a specific year (USAID, 2009).

Parity-: Number of children a woman has or has had (Franzer and Cooper, 2003).

1.8.2 Operational definition

Operational definition allows the variable to be measured in the study (Burns and Groove, 2005).

Attitude -: The respondents' way of perceiving danger signs in pregnancy.

Knowledge -: It is what one knows and understands about certain phenomena. Knowledge is when a pregnant woman is able to mention danger signs in pregnancy.

1.9 RESEARCH VARIABLES, INDICATORS AND CUT POINTS

A research variable is a characteristic of a person, object or phenomena that can take on different values (Basavanthapa, 2007).

The two main variables in this study are the dependent and independent variables. An independent variable is a characteristic factor that is selected or manipulated in order to determine its influence on another variable. While a dependent variable is a characteristic that is observed and measured to determine how it responds to variations in an independent variable.

1.9.1 Dependent Variables

- **Knowledge** – Adequate knowledge will be the indicator for an antenatal woman mentioning six or more danger signs in pregnancy, moderate knowledge will be an indicator for an antenatal mother who mentions 3-5 dangers in pregnancy. Inadequate knowledge will be indicator for an antenatal woman who mentions less than two or does not mention any danger sign.

1.9.2 Independent Variables

- **Attitude** –Positive attitude will be the indicator for an antenatal woman who would seek help first from a health centre when she experiences danger signs in pregnancy and negative attitude for one who would not.
- **Age** -Indicator for younger mother will be 15-20 years, middle age will be 21-35 years, and while elderly antenatal mothers will be 36-45 years.
- **Parity**-Nullipara will be the indicator for one who has had no child, low parity will indicate one to two children, and medium parity will be for three to four children while five and above will indicate high parity.
- **Decision making power**-The indicator will be present or absent and the scale of measure will be the woman, husband and relatives or any other.
- **Educational level**-The indicator for educated women will be those women who have been to school. A highly educated woman will be the ones that have been to college and university, no formal education will be an indicator for women who have never been to school.
- Indicator for low education level will be those who have had primary education.
- **Income**-Indicator for a low income will be below K500, 000, medium income will be K600 to K1million, above K1million will be a high income.
- **Distance-**Indicator for a home near a healthy facility will be less than 30 minutes walk or not more than 10 minutes drive from home while far from the health facility will be more than 1hour walk or more than 20 minutes drive.
- **Staff attitude**-The attitude of staff towards pregnant women .The indicator will be rude, avoidance and welcoming.

1.9 VARIABLES, INDICATORS AND CUT OFF POINTS

Table: 2

VARIABLES	INDICATOR	CUT OFF POINT	Question
Dependent			
Knowledge	Adequate	Able to mention six or more major problems in pregnancy.(Score 6-8)	15
	Moderate	Able to mention three to five major problems during pregnancy.(Score 3-5)	
	Inadequate	Able to mention less than two or none major problem during pregnancy (Score 0-2)	
Independent			
Attitude	Positive	Would first seek help from a health center /hospital if experience major problems in pregnancy.	17
	Negative	Would first seek help from a relative, friend or traditional healer if they experience major problems during pregnancy.	

In a study conducted by Hansen et al , (2009) in Uganda on pregnant women's' knowledge on danger signs during pregnancy and actions to be taken when experienced with the signs , the study revealed that majority of women attended their first antenatal care visit late in pregnancy hence women's' general

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is a critical summary on a topic of interest, often prepared to put a research problem in context or as the basis for an implementation project (Polit and Hungler, 2001). The purpose of literature review is to determine what is already known about the topic being studied so that the comprehensive picture of the state of knowledge on the topic can be obtained. It also gives the researcher clues to the methodology and instruments that people used before and therefore provide information on what has been tried in regard to approaches and methods and what type of data collecting instruments exist. It also helps the researcher to refine certain parts of the study.

The literature review for this study will mainly focus on knowledge and attitude of antenatal mothers towards dangers signs in pregnancy.

The literature review is discussed according to variables that were used in the study.

2.2 KNOWLEDGE

WHO (2003), contends that antenatal care period clearly presents opportunities for reaching pregnant women with a number of interventions that may be vital to their health and well being . It also provides an opportunity to supply information on danger signs in pregnancy so that women can have adequate knowledge on the danger signs in pregnancy.

In a study conducted by Hansen et al , (2009) in Uganda on pregnant women's' knowledge on danger signs during pregnancy and actions to be taken when experienced with the signs , the study revealed that majority of women attended their first antenatal care visit late in pregnancy hence women's' general

knowledge on danger signs was low (Hansen et tal,2009). In the same study it was concluded that despite 92% antenatal care coverage where women should have an opportunity to receive information on the danger signs, little or no education was given. This indicates that late booking can lead to missed opportunity to receive education on the danger signs. It also indicated that information on the danger signs in pregnancy during antenatal care increases the level of knowledge.

In a similar study conducted by Pembe et al, (2009) in Tanzania on assessing women's awareness on the danger signs in pregnancy, 98% of women attended ANC at least once but only 26% of the subjects knew one danger sign in pregnancy. The study also revealed that having secondary education or more increased the likelihood of receiving information on the danger signs than no education (Pembe et al, 2009). This indicates that despite a good ANC coverage women do not receive adequate information on the danger signs in pregnancy. The health providers should also consider the educational background when giving health education so that the women with low or no education level receive information on the danger signs in pregnancy.

In another related study conducted by Ondolo (1988), to evaluate the Primary Health Care project in Kabwe District Zambia , the study revealed that although 98 % of the population study attended antenatal clinic ,the majority initiated their booking in their second trimester and their visits were infrequent .Therefore, he concluded that the antenatal care which is said to be beneficial in reducing maternal morbidities can be of little effect to women (Ondolo,1998). This indicates that late antenatal booking and infrequent antenatal care cause women to miss an opportunity of receiving information on the dangers signs. Antenatal care provides an opportunity to inform and educate pregnant women on a variety of issues related to pregnancy so that they are equipped with information to make appropriate choices that will contribute to optimum pregnancy outcome.

A study conducted in China by Songy-xianng-xy ,(2009) on assessing knowledge and attitude of pregnant women on maternal health care and contributing factors to being knowledgeable, the study revealed that high educational level and better family income were associated with better knowledge and it was concluded that ANC was constrained by financial difficulties (Songy-xianng-xy,2009) .This indicates that ,there is need for health education using various educational methods among women with lower educational levels and this will help to increase awareness among the illiterate women on the danger signs in pregnancy.

In another related study conducted by Kazuhiko, (2008) in Nepal on exploring the local understanding of one danger sign, bleeding during pregnancy and delivery and the meaning attached to it. The findings indicated that the community's perception of bleeding was quite different from that of a health professional and perception attached to bleeding vary depending on the actors in the family. This is an indication that significant implications for what should be focused on health education and who should be involved in promoting maternal health care was important. The health care providers should take a leading role in dissemination of information on the danger signs in pregnancy and this will help to increase levels of knowledge among community members.

In a similar study done by Okolocha, (1998) on importance of knowledge about pregnancy complications in southern Nigeria, the study revealed that majority of the pregnant women were aware of the symptom of bleeding during pregnancy but unfortunately they did not realize that they needed medical treatment due to wrong understanding that bleeding is caused by evil spirits or disobedient husbands or a will from God (Okolocha, 1998). This indicates that traditional beliefs can influence knowledge of pregnant women and prevent them from seeking medical advice. The health care providers needs to encourage pregnant women during antenatal care on customs that will promote health and this will help to reduce maternal mortalities due complications of pregnancy.

2.3 INFORMATION EDUCATION AND COMMUNICATION

In a study done by Anya et al (2008) , in Gambia on Antenatal care in Gambia ,Missed Opportunity for Information Education and Communication. The results revealed that 90% of women attended ANC more than four times. However, 70.5% said that they spent 3 minutes or less with the care provider during ANC clinic, less than 40% could recall being informed or educated on the danger signs and 19.3% could not recall being educated on what to do when faced with complications of pregnancy. It was concluded that although a large proportion of women attended antenatal clinic they were not benefiting from IEC which is one of the primary purpose of ANC (Anya el tal 2008). This is an indication that there is reduced interaction between the health care providers and the pregnant women and this leads to ineffective IEC given to pregnant women. The new antenatal care model recommends 30–40 minutes for the first visit and 20 minutes for subsequent visits to carry out all activities including individual IEC (WHO, 2003).

In another related study by (Anya et al, 2008) on providing information on pregnancy complications during antenatal visits in Sub Saharan Africa, revealed that care provided during prenatal visits in 49 developing countries, including 21 from Sub-Saharan African was not adequate and it was concluded that advice on the danger signs of pregnancy complications was given the fourth lowest rank among six items which were evaluated (Anya et al, 2008). This indicates that the way the services are offered during ANC need to be revised in order to allow providers give more information on the danger signs in pregnancy.

2.4 ATTITUDE

A study done by Marco, (2003) on Knowledge and Practice of maternal health care in Indonesia. The study revealed that among the pregnant women who attended ANC, 36.6% of the respondents gave correct answers to a question on *common knowledge such as, is it necessary to go the hospital when severe* headache or vision problems happens in pregnancy (Marco, 2003).This indicates

that when women are taught on the danger signs they develop a positive attitude towards their own health.

Chongo, (1995), in a related study done on knowledge, attitude and practice of Child bearing women towards danger signs in pregnancy in Lusaka. The study revealed that the hindrances to positive attitude were low income and non involvement of other relatives in the decision making when danger signs are observed. This indicates that adequate income levels allow pregnant women to seek medical services early when faced with danger signs in pregnancy.

2.5 CONCLUSION

The literature has revealed that knowledge is considered as one of the key factors that enable women to be aware of their health status in order to seek appropriate health services. The literature has also revealed that health seeking behavior in the event of experiencing danger signs of pregnancy may be influenced by several factors.

Therefore, safe motherhood programs can effectively increase knowledge of pregnant women on danger signs through clinic and community based educational strategies. Educational interventions have been cited to be critical to safe motherhood iniatives and health providers must fully use the educational opportunity during antenatal clinic.

This study aims at assessing the knowledge and attitude of antenatal mothers towards dangers signs in pregnant and finding better solutions to improve on education sessions on danger signs during antenatal clinic.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology refers to the steps, procedures and strategies for gathering and analyzing the data in a research investigation (Polit et al, 2004). The scientist use research methodology to collect data to use statistical manipulation and arrive at logical conclusion. The methodology therefore, refers to the development of a research investigation (Polit et al, 2004). The aim is to ensure reliability and validity in the data collection tool. It includes the research design and setting, study manipulation, sample selection, data collection tools and technique, pilot study, validity, reliability, ethical and cultural considerations (Polit et al ,2004).

3.2 RESEARCH DESIGN

The research design is the plan, structured and strategy of investigations for answering the question. It is the overall plan or blue print the researchers select to carry out their study (Basavathappa, 2007). It is the plan of activities, which guides an investigator in collecting, analyzing and interpreting data.

In this study, the researcher conducted a cross sectional, non-interventional, descriptive study. Cross sectional survey involves collecting data directly from the study subjects at one point in time (Polit et al, 2004). The reason of choosing cross sectional survey is to collect data from a large group of antenatal mothers which helped the researcher to describe in details the knowledge and attitude of pregnant women towards danger signs in pregnancy.

A descriptive study involves the collection of data with the aim of describing things as they are (Cormack, 1984). The researcher describes and analyses the research objects or situations without taking any interventions on the situation at hand.

3.3 RESEACH SETTING

The research setting is the physical location and conditions in which data collection takes place in a study (Polit and Hungler 2001). The study was done in Lusaka Urban District of Lusaka province.

Lusaka District has an estimated population of 1,329038 (CSO, 2000). Lusaka urban has twenty seven (27) health centers of which three (3) are health posts. The number of health centers offering maternity services is ten (10).

The study was done in five (5) selected health centers namely; Chilenje, Chipata, Kalingalinga , Mtendere and Ngombe respectively. The five selected health centers are allocated in different Zones of Lusaka Urban. These centers offer both preventive and curative services. Among the preventive health services offered are maternal and neonatal health services, which include antenatal, intra-natal and postnatal services. The centers have antenatal examination rooms, delivery rooms and bed capacity ranging from 15 to 20 beds. These health centers are within the radius of 5 to 10 kilometers from the University Teaching Hospital.

The location selected gave a researcher access to a cross section of antenatal mothers with different social and economical background. The setting also was easy to be accessed by the researcher taking into consideration of the limited resources.

3.4 STUDY POPULATION

The study population is an aggregate or totality of all subjects, objects or members that conform to a designated set of specifications (Polit and Hungler, 2001). Where as the target population is the entire group of people or objects to which the researcher wishes to generalize the finding of a study (Dempsey and Dempsey, 2000).

In this study, the population was antenatal mothers who were attending antenatal clinic in the above named selected health centers.

3.4.1 **Target population**

Target population is the entire set of individuals who met the sampling criteria (Dempsey and Dempsey, 2000). My target populations were all antenatal mothers, in the five catchment areas who were attending antenatal clinic.

3.4.2 **Accessible population**

Accessible population is the population to which the researcher has reasonable access (Dempsey

and Dempsey 2002). My accessible populations were pregnant women gravidae two and above who were attending antenatal care.

3.5 SAMPLE SELECTION

Sampling is the process of selecting representative units of a population for a study in a research (Basavantappa, 2007). It is the process of selecting a subset of a population in order to obtain information regarding phenomena.

Simple random sampling is the most basic probability sampling in which a sampling frame is created by enumerating all members of the population of interest and then selecting a sample from a sampling frame through completely random procedures (Polit and Hungler, 2001). The researcher selected an antenatal clinic in the selected health centers for a day. List of names of all antenatal mothers who met the criteria was made.

3.5.1 **Inclusion criteria**

Inclusion criterion is defined as the criterion that specifies the characteristics of the population (Dempsey and Dempsey, 2000).

The inclusion criteria were antenatal mothers who were Gravidae two and above.

3.5.2 Exclusion criteria

An exclusion criterion is defined as a population that does not possess the required characteristics of the population (Dempsey and Dempsey, 2000).

In this study the investigator excluded primigravidas because they were experiencing pregnancy for the first time, pregnant health workers because they may know already the signs and the referred cases from other health centers because they may be experiencing the signs.

In this study the researcher used simple random sampling to select the respondents. This type of sampling gave every member of the population an equal chance of being selected into the sample. The numbers were allocated against each name from the list written on a piece of paper and put in a small box. The papers were mixed by shaking the box. Five names were picked per day at random from the box during antenatal clinic. The antenatal mothers who made up the sample size were those whose numbers were identical to the ones extracted from the list.

The sampling method helped the researcher to get information from a cross section of women from different backgrounds.

3.6 SAMPLE SIZE

A sample is a subset of a population selected to participate in a study (Polit and Hungler, 2001). The sample size comprised of fifty (50) antenatal mothers. This sample size was considered due to limitation of time and finances.

3.7 DATA COLLECTION TOOL

An instrument in research refers to a tool or equipment used to collect data. It may be in the form of a questionnaire, an interview schedule, a projective device or some other type of tool for eliciting information (Burn and Grove, 2005).

Collection of data was carried out between November and December, 2009. A structured interview schedule was used as a tool for collecting data (See appendix I).

3.7.1 Structured interview schedule

An interview schedule is a questionnaire that is read to the respondents (Polit and Hungler, 2004). The interview schedule had both open and closed ended questions. The schedule comprised of demographic data, knowledge on danger signs in pregnancy and the last section was on attitude of pregnant women towards danger signs in pregnancy. The structured interview schedule was used to collect information directly from respondents. Respondents included both literate and illiterate antenatal women. Clarification of questions that were not clear was made. Non verbal behavior and mannerisms were observed during the interview. After each interview the researcher ensured that the questionnaires were completed by checking every after each interview.

3.8 DATA COLLECTION TECHNIQUE

Data collection technique is the use of data collection tools to gather information needed to address a research problem (Polit and Hungler, 2001).

Data was collected through face-face interview, which was an interaction between the interviewer and the respondent. This took place in a private room at the health center, ensuring anonymity and confidentiality in order to get honest responses after explanation and consent was taken. Each mother was interviewed in a quite private room to ensure confidentiality. Their names were not written on the schedule. A comfortable bed or chair was provided for the mother to ensure comfort. All the responses were immediately noted down on the schedule to avoid missing out any information.

After collecting data from the 50 respondents by the use of interview schedules, the schedules were checked for accuracy and completeness in preparation for data

analysis. The data from the close and open-ended questions were sorted out by categories and coded before entering on a soft ware Scientific Package for Social Sciences (SPSS) program. Interviewed respondents were thanked for their participation in the study.

3.9 VALIDITY

Validity is the degree to which an instrument measures what it is intended to measure (Polit and Hungler, 2001). There is internal and external validity.

3.9.1 Internal validity

Internal validity refers to interpretation of findings within the study, experiment or data collected. It is the degree to which the researcher is able to accomplish the study. It seeks to find out if the effect of the dependent variable observed was actually due to the action of the independent variable. Therefore, to ensure internal validity the same questions were asked to all respondents so as to prevent biasness.

3.9.2 External validity

External validity is the extent to which the findings of the research can be generalized to a larger population or to a different social, economical and political setting (Polit and Hungler, 2001). In this study the researcher ensured external validity by employing strategies that deal with threats to validity like appropriate selection of study design, convenient selection of study participants and use of a pilot study to pre-test the research subject under study and research experts evaluated the contents of the instrument. The investigator measured the instrument that was used to see if it was able to bring out the desired information.

3.10 RELIABILITY

Reliability is the degree of consistency or dependability with which an instrument measures the attributes (Polit and Hungler, 2001). The instruments should be able to bring out accurate information whereby if the same instruments were to be used after some time, they will produce the same responses.

In this study, same instruments were used to collect data from all respondents and it helped to collect similar data. Reliability of this study was held by ensuring a good interpretation of questions so that the women could understand. It was also done by testing the research tools before the main study, during a pilot study, which was done in a similar environment with similar characteristics of respondents.

3.11 PILOT STUDY

A pilot study is defined as a scale version or trial run of a major study whose main function is to obtain information for project or for assessing its feasibility (Polit and Hungler, 2001). A pilot study enables the investigator to make necessary adjustments on the interview schedule before the major study is carried out. For this study, a pilot study was conducted at Civics health center in Lusaka urban District. This catchment area has similar conditions with the areas were the main study was conducted as it has a representation of low, medium and high class of people. The interviews were conducted on five (5) randomly selected (10% of 50 actual respondents in the main study = 5 Mothers) antenatal mothers. The pilot study finding were used to make changes to the methodology, some questions were modified in the questionnaire as information collected was shallow. This helped the investigator to test the validity, reliability and practicability of the data collection tools and techniques to be used in the actual study.

3.12 ETHICAL AND CULTURAL CONSIDERATIONS

Ethics are systems of normal values concerned with the degree to which research procedures adhere to professional, legal and social obligations to the study participants (Polit and Hungler, 2001). The researcher will obtain written permission to collect data for the pilot and actual study from the District Director of Health (DDH) for Lusaka District and sister in charges from the Health Centers. Letters were sent to all the above mentioned officers such as request for permission to conduct a research, permission to conduct a pilot study. Written permission or thumbprint was obtained from the respondents (check appendix VI).The purpose of the study was explained to the respondents and they were able to make an informed decision. No names were used, only serial numbers were used on the interview schedules.

CHAPTER FOUR

4.0 DATA ANALYSIS

4.1 INTRODUCTION

This chapter describes the data analysis done on 50 respondents. Data analysis is the systematic organization and synthesis of research data and testing of the research hypotheses using those data (Basavanthappa, 2007). Data was collected from respondents using a structured interview schedule with 26 question items. Consent was obtained from (50) respondents who participated in the study. A pilot study was conducted at Civic center clinic in Lusaka Urban District, and followed by the main study at Mtendere, Ngombe, Chipata, Chilenje and Kalingalinga health centers. The study was undertaken from the month of November to December, 2009.

The data was checked for completeness and edited if there were any omissions. The questionnaire comprised of both closed and open ended questions. The closed –ended question were assigned numerals which were entered in the Social Science Data Analysis Package (SPSS). The open ended data were categorized and coded then analyzed by computer using SPSS program.

4.2 DATA PRESENTATION

The data is presented using frequency tables, pie charts and cross tabulations used for easy interpretations and for the purpose of drawing meaningful inferences or conclusion.

SECTION A: DEMOGRAPHIC DATA OF THE RESPONDENTS

Table 3: Shows the demographic characteristics of the respondents, which includes age, marital status, education, occupation ,parity, religion, distance and mode of transport used .

Variable	Frequency	Percentage %
Age		
15-20	11	22
21-25	13	26
26-30	14	28
31-35	9	18
36 and above	3	6
Total	**50**	**100**
Marital status		
Married	44	88
Single	5	10
Divorced	1	2
Total	**50**	**100**
Number of children		
None	1	2
1-2	32	64
3-4	17	34
Total	**50**	**100**
Occupation		
Un employed	40	80
Self employed	2	4
Formally employed	8	16
Total	**50**	**100**
Income		
Below K500	29	58
K600-K1000,000	11	22
K1,000,000	10	20
Total	**50**	**100**
Tribe		
Bemba	11	22
Kaonde	9	18
Tonga	3	6
Lozi	2	4
Nyanja	24	48
Ndebele	1	2

Total	**50**	**100**
School		
Yes	45	90
No	5	10
Total	**50**	**100**
Education		
No education	5	10
Grade 1-7	19	38
Grade 8-9	12	24
Grade 10-12	10	20
College	4	8
Total	**50**	**100**
Religion		
Catholic	4	8
Protestants	42	84
Jehovah's witness	4	8
Total	**50**	**100**
Transport		
Car	6	12
Bus	16	32
Bicycle	1	2
Walking	27	54
Total	50	100
Distance		
Less 30 minutes walk / 10 minutes drive	27	54
30 minutes to one hour walk/20 minutes drive	15	30
More than one hour walk/more than 20 minutes drive	8	16
Total	**50**	**100**

Majority of the respondents 14 (28%) were aged 26-30 years while 3 (6%) of the respondents were aged 36 years and above. The respondents who were married presented 44 (88%) while 1(2%) was a divorcee. There were 32 (64%) of the respondents who had 1-2 children while 1(2%) respondent had no child. Three quarters 40 (80%) of the respondents were unemployed while only 2(4%) of the respondents were self employed. Majority 24 (48%) of the respondents were Nyanja speaking while 1(2%) was Ndebele. Majority 45(90%) of the respondents have been to school

while 5 (10%) had never been to school. There were 19 (38%) respondents who reached Grade 1-7 while only 4(8%) reached college level. 42 (84%) of the respondents were protestants while 4(8%) were Jehovah's witnesses and Catholics 4(8%) respectively .Majority 16 (32%) of the respondents walked to the health center for antenatal services while 32% used buses to reach the health centers . Majority of the respondents 27 (54%) spent less than 30 minutes walk or 10 minutes drive to reach the health center while 8 (16%) spent more than one hour walk or more than 20 minutes drive to the health center.

SECTION B: KNOWLEDGE ON DANGER SIGNS IN PREGNANCY

This section sought to determine knowledge of antenatal mothers on danger signs in pregnancy.

Table 4: Participated in health education at any health center during pregnancy.

n=50

Health education participation	Frequency	Percentage %
Yes	50	100
Total	**50**	**100**

Table 4 shows that all the respondents 50 (100%) had participated in the health education during pregnancy at the clinic given by health providers.

Table 5: Topics covered during health education at Antenatal clinic

Topic covered	Frequency	Percentage %
Prevention of Mother to Child(PMTC)	44	88
Birth preparedness	21	42
Nutrition in pregnancy	3	6
Signs of Labor	7	16
Cancer of the cervix	3	6
Care of the baby	6	12
Danger signs in Pregnancy	9	18
Importance of Antenatal	3	6
Family Planning	4	8
Prevention of Malaria, Syphilis and Tetanus	10	20

Multiple Responses

Table 5, the total is not summing up to 100% due to multiple responses. It shows the topics cited by respondents covered during health education at antenatal clinic. Majority 44 (88%) of the respondents cited PMTC as being the topic mostly taught during ANC while danger signs in pregnancy was cited by 9(18%) of the respondents and it was ranked 4th among the topics taught.

Table 6: Response on whether they knew of any problems that may occur in pregnancy.

n=50

Knowledge on danger Signs	Frequency	Percentage %
Yes	50	100
Total	**50**	**100**

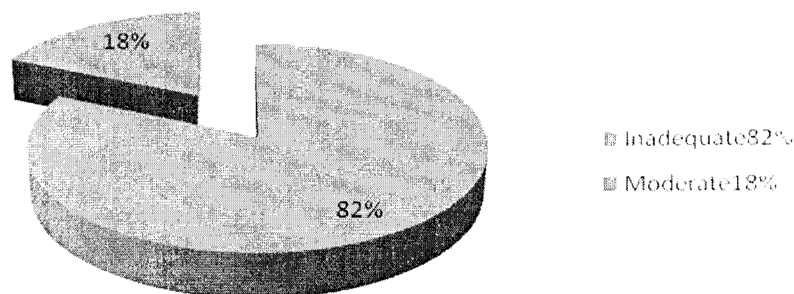
Table 6 shows that 50(100%) of the respondents indicated that they knew some of the danger signs that may occur in pregnancy.

Table 7: **Danger signs in pregnancy mentioned by the respondents**

Dangers signs	**Frequency**	**Percentage**
What are the problems in pregnancy that may put a woman's life in danger?	**n=50**	%
Bleeding		
Incorrect	28	56
correct	22	44
Total	**50**	**100**
Swelling of the body		
incorrect	31	62
Correct	19	38
Total	**50**	**100**
High fever		
Incorrect	43	86
Correct	7	14
Total	**50**	**100**
Pallor		
Incorrect	43	86
Correct	7	14
Total	**50**	**100**
Severe Headache		
Incorrect	38	76
Correct	12	24
Total	**50**	**50**
Draining		
Incorrect	44	88
Correct	6	12
Total	**50**	**100**
Fitting		
Incorrect	46	72
Correct	4	8
Total	**50**	**100**
Dizziness		
Incorrect	36	72
Correct	14	28
Total	**50**	**100**

The table shows that majority 22(44%) of the respondents cited bleeding as a danger sign while fitting was cited by only 4(8 %) of the respondents.

Figure 2: Level of knowledge on danger signs in pregnancy



Among the 50 respondents who indicated that they had knowledge on the danger signs during pregnancy, 41(82%) had inadequate knowledge as they mention less than two danger signs while 9 (18%) had moderate knowledge on the danger signs in pregnancy as they also mentioned three danger signs in pregnancy.

Table 8: Source of information on the danger signs during pregnancy

Source of information	**Frequency**	**Percentage**
Reading books	1	2
Friend	5	10
Health Worker	21	42
Community Health Volunteers	23	46
Total	**50**	**100**

Out of the 50 respondents who knew about the danger signs during pregnancy 23(46%) indicated that they obtained the information from Community Health Volunteers while 1(2%) obtained information from reading books.

SECTION C: ATTITUDE TOWARDS DANGER SIGNS IN PREGNANCY

This section is on antenatal mothers' attitude towards danger signs in pregnancy. The cut points were categorized as; Negative attitude for those respondents who would seek help from relative/friend or traditional healer if they were to experience any danger signs in pregnancy and Positive attitude for those who would seek help from the health center first.

Table 9: Response on what they would do if they had to experience any problems during pregnancy.

What respondent would do	Frequency	Percentage %
Would cal a friend or relative	7	14
Would go to the health center	43	86
Total	**50**	**100**

The table shows that 43 (86%) of the respondent would go to the health center first if they experienced any of the danger signs in pregnancy, while 7(14%) would first seek help from friend or a relative.

Figure 3: Level of Attitude towards danger signs in pregnancy

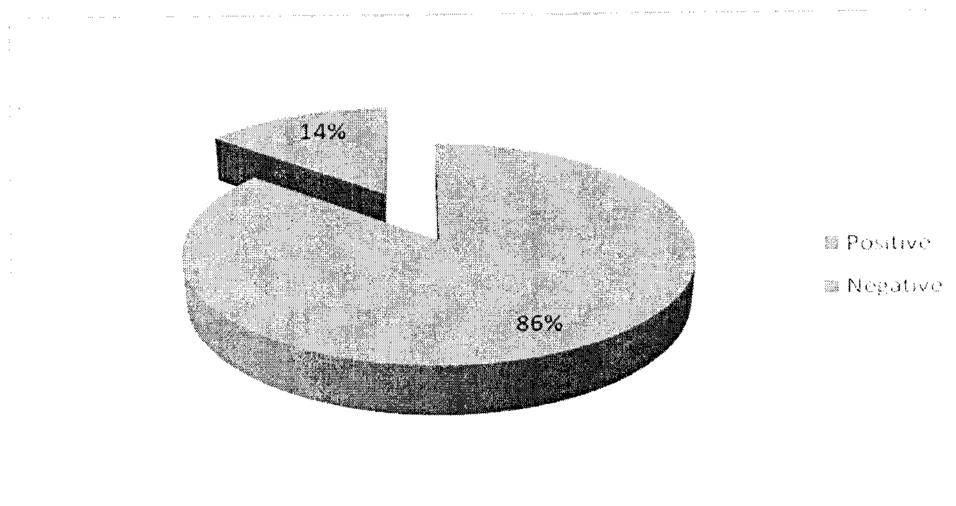


Figure 3 shows that majority of the respondents 43 (86%) had a positive attitude towards danger signs in pregnancy because they would go to the health center if experienced with

the danger signs while 7(14%) had a negative attitude because they would first call a friend or go to a traditional healer if they experience any danger signs in pregnancy.

Table 10: Reason for their action in an event of experiencing danger signs

Reasons for action to be taken	Frequency	Percentage
A friend will help me	7	14
At the clinic would be examined and given drugs	4	8
A t the clinic would get medical advice from health professionals	39	78
Total	**50**	**100**

About 7 (14%) of the respondents stated that their friends would help them if they had to experience danger signs in pregnancy, 4 (8%) stated that at the clinic they will be examined and be given medicine and three quarters 39(78%) stated that at the clinic they would get medical advice from the health professionals.

Table 11: Who would decide on what to do if they were to experience any danger signs?

Who would decide	Frequency	Percentage
My self	22	44
My partner	20	40
My relative/friend	8	16
Total	**50**	**100**

Table 11 shows that 22 (44%) would decide on their own if they had to experience any danger signs in pregnancy, 20(40%) would let their partners decide and 8(16%) would let their relatives decide for them.

Table 12: **Decision making experience danger signs**

Reasons for citing	Frequency	Percentage
I feel the sickness	23	46
Husband is the Head	7	14
Partner /relative has money for transport	17	34
My relative knows about me	3	6
Total	**50**	**100**

About 23(46%) of the respondents indicated that they would decide on their own because it was them that feel the sickness, 17(34%) indicated that their partners /relatives would decide because they had money for transport and other assistance, 7(14%) indicated that their partners would decide because they were the heads of their house holds and 3(6%) indicated that their relatives who knew them better would decide.

Table 13: **Reception of health workers at the health centers**

Reception of health workers	Frequency	Percentage
Rude	5	10
Avoidant	2	4
Welcoming	43	86
Total	**50**	**100**

About 43(86%) of the respondents stated that the reception of health workers at the health center was welcoming while 2(4%) stated that the health workers were avoidant.

Table 14: ***Tradition teachings on what action to take when experience any problems during pregnancy.***

Tradition teaching on what action to take	**Frequency**	**Percentage**
Yes	39	78
I don't know	11	22
Total	**50**	**100**

About three quarters (39 or78%) of the respondents knew traditional action to take when experiencing danger signs while 11(22%) didn't know whether they had tradition teachings.

Table 15: **Response on tradition teaching on what action to take in an event of danger signs in pregnancy**

Traditional teaching	**Frequency**	**Percentage**
Go to the hospital	35	70
Use herbs	4	8
Total	39	78

35 (70%) of the 39(78%) respondents mentioned that in their tradition they are told to go to the hospital in an event of danger signs in pregnancy while 4 (8%) use herbs in an event of experiencing danger signs in pregnancy.

Table 16: **Suggestions to the health center staff in relation to complications in pregnancy.**

Suggestions	**Frequency**	**Percentage**
Would like to learn more on complications	11	22
Nurses should teach more on the subject	26	52
No comments	13	26
Total	**50**	**100**

About half (26 or 52%) of the respondents commended that nurses should teach more on the subject while 11(22%) mention that they would like to learn more on complications in pregnancy.

Table 17: **Advice given by pregnant women to others in relation to complications during pregnancy.**

Comments given	**Frequency**	**Percentage**
Should seek medical advice first	45	90
No comments	5	10
Total	**50**	**100**

Majority of the respondents 45(90%) would advice other pregnant women to be seeking medical aid first when they experience complications in pregnancy and 5 (10%) had no comments.

CROSS TABULATIONS

Table 18: **Relationship between level of Knowledge and Age**

Knowledge	**Age of respondents**						
	15-20	21-25	26-30	31-35	36- above	Total	P value
Inadequate	9 81.8 %	8 61.1%	13 92.9%	9 100%	2 66.7%	41 82.0	
Moderate	2 18.8 %	5 38.5%	1 7.1%	0	1 33.3%	9 18.0	
Total	**11** **100**	**13** **100**	**14** **100**	**9** **100**	**3** **100**	**50** **100**	**0.300**

About 9 (100%) of the respondents aged between 31-35 years had inadequate knowledge on the danger signs in pregnancy while 5 (38.5%) of those aged 21-25 years had moderate knowledge on the danger signs in pregnancy. However, there was no statistical significance (p value=0.300).

Table 19: **Relationship between level of Knowledge and Marital Status**

Level of knowledge	**Marital status**				
	Married	Single	Divorce	Total	P value
Inadequate	36 81.8%	4 80.0%	1 100%	41 82%	
Moderate	8 18.2%	1 20%	0	9 18%	
Total	**44** **100%**	**5** **100%**	**1** **100%**	**50** **100%**	**0.816**

Among the 44 (100%) respondents who were married 36 (81.8%) had inadequate knowledge while 8(18.8%) in the same group had moderate knowledge on the danger signs in pregnancy. However, there is no statistical significance p-value 0.816.

Table 20: **Relationship between level of Knowledge and Parity**

Knowledge	Parity				
	None	1-2	3-4	Total	P value
Inadequate	1 100%	27 84.4%	13 76.5%	41 82.0%	
Moderate	0	5 15.6%	4 23.5%	9 18%	
Total	**1 100%**	**32 100%**	**17 100%**	**50 100%**	**0.427**

Among the 32(100%) who had 1-2 children, 27(84.4%) had inadequate knowledge on the danger signs in pregnancy while 4(23.5%) of those who had 3-4 children had moderate knowledge on the danger signs in pregnancy. However there is no statistical significance, p-value 0.427.

Table 21: **Relationship between level of Knowledge and Occupation.**

Knowledge	Occupation				
	Unemployed	Self employed	Formally employed	Total	P value
Inadequate	33 82.5%	1 50%	7 87.5%	41 82%	
Moderate	7 17.5%	1 50%	1 12.5%	9 18%	
Total	**40 100%**	**2 100%**	**8 100%**	**50 100%**	**0.908**

Among the 40 (100%) unemployed respondents, 33(82.5%) had inadequate knowledge on the danger signs in pregnancy while 1(50%) of the self employed respondents had moderate knowledge. There is no statistical significance, p-value is 0.908.

Table 22: **Relationships between level of Knowledge and Income**

Knowledge	Income				
	Below K500,000	K600,000-K1000,000	Above K1000,000	Total	P value
Inadequate	22 77.9%	10 90.9%	9 90.0%	41 82.%	
Moderate	7 24.1%	1 9.1%	1 10%	9 18%	
Total	**29 100%**	**11 100%**	**10 100%**	**50 100%**	**0.242**

Among the 29(100%) respondents who had a family income of below K500, 000, 22(77.9%) indicated that they had inadequate knowledge on the danger signs in pregnancy 7(24.1%) in the same group had moderate knowledge. 1(10%) of those who had an income of above K1000, 000 indicated that they had moderate knowledge on the danger signs in pregnancy .However, there is no statistical significance (p=0.242%).

Table 23: **Relationships between level of Knowledge and Education**

Knowledge	Education					
	No education	1-7	8-9	10-12	College	Total
Inadequate	4 80%	14 73.7%	12 100%	9 90%	2 50%	41 82%
Moderate	1 20%	5 26%	0	1 10%	2 50%	9 18%
Total	**5 100%**	**19 100%**	**12 100%**	**10 100%**	**4 100%**	**50 100%**

The table shows that among 4(100%) of the respondents who had reached college level 2(50%) had moderate knowledge while 5(100%) who had no education 4(80%) had inadequate knowledge on the danger signs in pregnancy. However, there is no statistical significance (p-value =0.995).

Table 24: **Relationships between level of Knowledge and Distance**

Knowledge	Distance				
	Less than 30minutes walk or 10 minutes drive	30minutes to one hour walk or 20 minutes drive	More than one hour walk or more than 20 minutes drive.	**Total**	**P value**
Inadequate	24 88.9%	10 66.7%	7 87.5%	41 82%	
Moderate	3 11.1%	5 33.3%	1 12.5%	9 18%	
Total	**27** **100%**	**15** **100%**	**8** **100%**	**50** **100%**	**0.493**

Among the respondents whose home distance to the health center was less than 30 minutes walk or 10 minutes drive. 24(88.9%) had inadequate knowledge on the danger signs in pregnancy while those who took 30 minutes walk to 1 hour or 20 minutes drive 5(33.3%) had moderate knowledge on the danger signs in pregnancy. However there is no statistical significance, P-Value 0.493.

Table 25: **Relationship between level of Knowledge and Attitude**

	Level of Knowledge			
Level of knowledge	**Negative**	**Positive**	**Total**	**P value**
Inadequate	1 50%	40 83.3%	41 82%	
Moderate	1 50%	8 16.7%	9 18%	
Total	**2** **100%**	**48** **100**	**50** **100**	**0.238**

Table 25 shows that 48(100%) respondents who had a positive attitude towards danger signs in pregnancy had inadequate level of knowledge. While out of the 2(100%) respondents who had negative attitude towards danger signs in pregnancy, 1(50%) respondent had moderate level of knowledge. P –value 0.238 statistically no significance.

Table 26: **Relationship between level of Knowledge and source of Information**

Knowledge	Source of Information					
	Relative /Friend	**Community Health workers**	**Reading books**	**Health Worker**	**Total**	**P-value**
Inadequate	4 8%	22 44%	1 2%	14 28%	41 82%	
Moderate	1 2%	1 2%	0	7 14%	9 18%	
Total	**5 10%**	**23 46%**	**1 2%**	**21 42%**	**50 100%**	**0.041**

Among the 23(46%) respondents who indicated that they got the information from the Community Health Worker, 22(44%) had inadequate knowledge while out of the 21(42%) of the respondents who indicated that they got the information from a health worker, 7(14%) had moderate knowledge. There is a statistical significance p-value is **0.041.** Therefore, the null hypothesis is rejected.

Table: 27 **Relationships between level of Knowledge and Decision making.**

Knowledge	**Decision making**				
	Myself	My partner	My relative/Friend	**Total**	**P-Value**
Inadequate	19 38%	15 30%	7 14%	41 82%	
Moderate	3 6%	5 10%	1 2%	9 18%	
Total	**22 44%**	**20 40%**	**8 16%**	**50 100%**	**0.574**

Among the 22 (44%) respondents who indicated that they would decide on their own if they were to be faced with the danger signs in pregnancy 19(38%) had inadequate knowledge while 3(6%) those who indicated that their partners would decide for them 5(10%) had moderate knowledge. The p-value is 0.574 therefore, there is no statistical significance.

Table 28: **Relationship between level of Knowledge and reception of Health Workers at the clinic**

Knowledge	Reception of Health workers				
	Rude	Avoidance	Welcoming	Total	P-Value
Inadequate	3 60%	2 100%	36 83.7%	41 82%	
Moderate	2 40%	0	7 16.3%	9 18%	
Total	**6** **100%**	**2** **100%**	**43** **100%**	**50** **100%**	**0.399**

Table 28 shows that 36(83.7%) of the respondents who indicated that the health workers were welcoming at the clinic, had inadequate knowledge while 9(18%) in the same group had moderate knowledge.3 (60%) of those who indicated that the health workers were rude had inadequate knowledge while 2(40%) in the same group had moderate knowledge. However, there is no statistical significance p-value is 0.399.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

5.1 Introduction

The discussion is based on findings derived from a sample of 50 antenatal mothers who were selected using simple random sampling method at the time of the study. The main purpose of the study was to determine knowledge and attitude of antenatal mothers towards danger signs in pregnancy. A structured interview schedule was used to collect data (appendix 1). The discussion will be centered on the following; Demographic data which looked at sex, age, marital status, education attainment, occupation, distance of the respondents from the health facility, knowledge and attitude of respondents.

5.2 Characteristics of the sample

The sample size consisted of 50 respondents from Lusaka Urban District. The majority of the respondents were aged between 26-30 years (Table 3). Women in this age group are in their reproductive age (CSO, 2007). Therefore, they need to get information on complications of pregnancy. They were few elderly mothers who were aged 36 years and above. This could be attributed to the fact that women above the age of 35 years are more likely to develop complications of child birth therefore, most women decide to stop having children at this age (Sellers, 2004). Majority of the respondents were married (Table 3) which could be attributed to the fact that marriage is universal and a norm in Zambia (CSO, 2007).

The results of the study showed that 32 (64%) of the respondents had 1-2 children (Table 3), this could be due to the fact that 43% of the urban women would like to limit child bearing than 32% of the rural women (CSO,2007) . Similarly, the desire to limit child bearing increases with wealth quintile. Most of the respondents were Nyanja speaking (Table 3), which could be attributed to the fact that Nyanja is the tribe most commonly used in Lusaka followed by Bemba

speaking. Majority of the respondents had formal education and 19 (38%) of the respondents reached grade seven level (Primary level). This could be attributed to the fact that mostly women's' educational level is low as revealed by the Demographic Health Survey , indicates that majority of the women only reach grade seven (CSO,2007).

Majority of the respondents were unemployed while only a quarter of the respondents were formally employed (Table 3). This could be mostly be due to having lower educational background therefore they cannot access formal employment. This is in line with data from the Central Statistic Office which states that the likely hood of women's participation in professionals, technical or managerial jobs, sales and clerical increases with the like hood of education (CSO, 2007).

The research finding from this study showed that most respondents 27(54%) lived near their health facility and took less than 30 minutes walk or 10 minutes drive thus they attended the antenatal clinic but could not remember being taught on the danger signs in pregnancy. According to the MOH, if an individual takes 1 hour or more walking to access a health facility, that distance is regarded as being far (CBOH, 2002). Mostly those who stay very far they miss out on the antenatal services but this is contrary to the research findings.

5.3 DISCUSSION OF VARIABLES

5. 3 .1 Knowledge

Knowledge on danger signs during antenatal period is very important to antenatal mothers. If they are well informed about the danger signs during antenatal period, they will be able to take care of themselves and seek medical attention early (Frazer and Cooper 2003).

Despite the 50 respondents participating in the health education at their local clinics where health workers give health education on the danger signs in pregnancy, majority 41 (82%) had inadequate knowledge and

got the information on danger signs from Community Health Workers (Table 26). The high figures of inadequate knowledge could be attributed to illiteracy, inadequate IEC materials which could help to present the information in way the respondents can understand. Shortage of Midwives in health centers to give effective health education could be another contributing factor increasing reliance on Community Health Workers to give health education on danger signs. The unqualified staff may have inadequate knowledge on the danger signs in pregnancy and this may lead to inadequate Information Education and Communication (IEC) to clients. The CHW may not get adequate information due to their low levels of education. Also, among the three quarters 21(42%) of respondents who got the information from the health professional had inadequate knowledge, this also could be attributed to shortage of staff in health facilities which may inhibit the few staff to adequately give IEC on the danger signs in pregnancy or no education given at all on the danger signs in pregnancy. This is in line with a related study done by Hansen et al (2009) in India, in a research article entitled pregnant women's' knowledge on danger signs during pregnancy and child birth, which revealed that despite ANC coverage of 92% in India which creates an opportunity for women to be informed on the danger signs, it was observed that little or no health education concerning danger signs was given and this led to women having low knowledge on the danger signs in pregnancy.

Among the respondents who knew some of the danger signs in pregnancy, severe bleeding was the most cited danger sign. This could be due to that fact that bleeding during pregnancy is believed to be taboo in Zambian custom so, women easily seek medical attention if they experience bleeding. Swelling of the body was the second to be cited while fitting during pregnancy was the least to be cited. Women associate these danger signs with conditions that cause drastic change in their ability to carry out their daily activities.

The findings are similar to the results obtained during the 2002-2003 Indonesian Demographic and Health survey ,where bleeding was cited by almost 51.4% of women who knew the danger signs in pregnancy, followed by swelling of the body 14.9% while other health problems such as fitting was cited by less than 5% of women (IDHS, 2002).

The study also sought to find out the relationship between the respondents educational level and knowledge on the danger signs in pregnancy (Table 23). Majority of the respondents attained primary level between grade 1-7 and had inadequate level of knowledge on the danger signs in pregnancy and those who had college education had moderate level of education. This could be attributed to the fact that women with higher educational levels have a better understanding of issues than those with lower or no education.

The findings are in line with the study done by Pembe et al, (2009) in Tanzania, a research article entitled Rural Tanzania Women's awareness on danger signs in pregnancy. The study revealed that women with higher education level were more likely to have received information on the danger signs and advice about pregnancy complications than women with no education or with low education. It was concluded that better education was associated with enlightenment and awareness of different health conditions although exposure to information was crucial (Pemba et-tal, 2009).

This study showed that the respondents who had 3-4 children had moderate knowledge (Table 20). This may be due to the fact that the bigger the number of children the mother has the more information they have on the danger signs in pregnancy because of their experience. This is in line with the study done by the MOH of the people of China (2002) in a research article entitled statistical communiqué on health enterprise development. The study revealed that increased awareness on the danger signs in pregnancy among the multiparous women may be related to their

own experience of pregnancy or events in the community (Qian and Yue, 2002).

The research shows that all the three categories of employment status had more respondents with inadequate knowledge on the dangers signs in pregnancy (Table 21). This shows that the employment status of a woman does not increase the levels of knowledge on danger signs in pregnancy unless they are exposed to the information on the danger signs in pregnancy.

The study revealed that all age groups including the elderly mothers aged 36 years and above had inadequate knowledge on the danger signs in pregnancy (Table 18). This means that the IEC which was given to the pregnant women in these different age groups was not adequate or health education on the danger signs was not given accordingly. This is in line with the related study done by Bulatao and Ross (2002) in the Sub-Saharan countries in a research article titled Rating Maternal and Neonatal Health services in developing countries. They reported that in the 15 -19 countries studied, more than 15% of women with different ages groups and parity reported receiving no information on the danger signs during antenatal visits and it was concluded that health providers do not routinely provide women with information and advice on pregnancy complications as part of antenatal care or information on danger signs is not conveyed in a way that a woman can remember having received it (Bulatao and Ross, 2002).

Anya etal, (2008), also reached the same conclusion in Gambia after surveying 457 pregnant women who *attended six rural and six urban* antenatal clinics. In another related study by Anya et al, (2008) in the research article titled providing information on pregnancy complications during antenatal visits, the study revealed that care provided during prenatal visits in 49 developing countries, including 21 from Sub Saharan Africa was not adequate, they concluded that advice on the danger signs of

pregnancy complications was given the forth lowest rank among six items which were evaluated (Anya et al, 2008).

In relation to marital status and knowledge, the study revealed that the married, singles and divorced had inadequate knowledge on the danger signs in pregnancy (Table 19). This shows that there is no association between marital status of women and level of knowledge on the danger signs in pregnancy.

Majority of the respondents who had a low income of below K500, 000 had inadequate knowledge (Table 22). This may be due to the fact that women with low income have reduced access to health services so they may have missed opportunity to receive health education during antenatal period hence having inadequate knowledge on the danger signs in pregnancy. This is in line with the study done by Anya et al, (2008) in Gambia in a research article tilted missed opportunity for IEC during antenatal care . The study revealed that low family income was shown as one of the important factors influencing maternal health knowledge.

The results for this study also revealed that the majority of respondents among those that lived near the health facilities had inadequate knowledge on the danger signs in pregnancy (Table 24). This shows that even when the health facilities are easily accessible, women receive inadequate information on danger signs during pregnancy this could be due to reduced health professional and client interaction, inadequate IEC materials used, language used during education which may not be understood by some respondents during antenatal clinic. Health professionals are affected with work load and this affect the IEC given to clients. This is in line with the results obtained by Anya et al, (2008) who revealed that staff shortages are a major constraint in the delivery of health services in Gambia but midwives are particularly affected since each midwife must attend to relatively large number of women in a defined period, provision of IEC may be given less priority (Anya et al, 2008).

In conclusion on knowledge of pregnant women towards danger signs in pregnancy , objective number one was met which was meant to assess pregnant women's level of knowledge on the danger signs in pregnancy and the findings showed that 82% of respondents had inadequate knowledge on the danger signs in pregnancy. Also objective number three which was meant to asses' factors influencing knowledge was met.

5.3.2 Attitude

Generally, the respondent's attitude was positive. The study revealed that almost all the respondents who indicated that they would first go to the hospital when they experience danger signs in pregnancy had a positive attitude towards danger signs in pregnancy (Figure 3).

The results of the study revealed that all the respondents who had inadequate level of knowledge on the danger signs had a positive attitude towards danger signs in pregnancy as they reported that if they had to experience danger signs they would seek advice from the health center first (Table 25). This could be due to the fact that all respondents who received the information on the danger signs where told were to go when they experience danger signs in pregnancy. This is in contrary to the study done by Marco (2003) in a research titled Knowledge and Practice of maternal healthcare in Indonesia (Marco, 2002). The results revealed that antenatal mothers had knowledge on the danger signs but were not told where to go if they experience any danger signs in pregnancy. Qian and Yue (2002), states that one of the main factors shaping behavior is knowledge, information about women's awareness of danger signs of pregnancy complications and the need for treatment is because it indicates the existence of knowledge which can be transferred into action.

Objective number two which was meant to asses the attitude of antenatal mothers towards danger signs in pregnancy was met. The research

findings revealed that 86% of respondents had a positive attitude towards danger signs in pregnancy because they would first go to the health center when experience with danger signs in pregnancy.

5.4 IMPLICATIONS

The health care system has an important and leading role in the dissemination of information on danger signs in pregnancy. Information on danger signs has been found to have the most powerful influence on the maternal health knowledge score and can reduce morbidity and mortality rates.

5.4.1 Nursing Practice

In this study most of the respondents had inadequate knowledge on the danger signs in pregnancy but had a positive attitude. It has been revealed that majority of the respondents got the information on danger signs from the Community Health Workers. This implies that the Health Workers should take a leading role in educating the antenatal mothers and also the community about danger signs in pregnancy. The findings may imply that the IEC on the dangers signs is not effectively given or not given. There is need for health care professional to assess the level of mother's education before giving health education. Information given to mothers about dangers in pregnancy must be accurate, attractively given so that mothers can easily remember. Health providers should also consider the language used which should be relevant to the group.

5.4.2 Nursing Administration

The study has also revealed that among the respondents who received the information on the danger signs from the health workers most of them had inadequate knowledge on the danger signs in pregnancy this could be due shortage of midwives at the antenatal clinic. IEC is adequately given on information on the danger signs in pregnancy. Therefore, there is need to

administratively increase staffing levels and ensure that mothers are given optimal antenatal care.

5.4.3 Nursing Education

Since most of the respondents relied on getting information from the Community Health Workers, involvement of the community should be advocated as encouraged in primary health care. Community Health Workers should be educated so that they also have a full package. If the Community Health Workers are well informed they will provide effective information to mothers during antenatal clinics and mothers will be knowledgeable on the danger signs in pregnancy. There is need also to intensify and modify health education programmes towards danger signs in pregnancy as this may increase awareness in antenatal mothers.

Strengthening health education component in the midwifery curriculum will also help to equip midwives with information.

5.4.4 Nursing Research

The study reveals that nearly half of the respondents commended that they would like to learn more on the danger signs in pregnancy. This entails that more studies need to be conducted to further explore other means of or new strategies that can be used to give information on danger signs in order to increase awareness. Research is also needed to explore socio-economic and service related factors that disadvantage pregnant women increasing knowledge on the danger signs in pregnancy.

5.5 Recommendations

In view of the findings to the study, the researcher would like to make the following recommendations:

5.5.1 **Ministry of Health**

- The Ministry of Health through the education unit should increase the dissemination of information through media like Radio and Television to sensitize the community on the importance of knowing the danger signs in pregnancy. The program can be extended in primary schools then secondary schools because some pupils fall pregnant while at school and this will help to create awareness on the danger sings in pregnancy.
- Community health workers should be trained or offered refresher courses on the danger signs in pregnancy.
- Ministry of health should provide pictorial books to be used when teaching women on the danger signs in pregnancy.
- Review and up date pre-service training curricula for nurses , midwives and all other medical /health personnel to strengthen the component of IEC tools regarding issues of increasing awareness on the danger signs in pregnancy.
- Ministry should consider employing more Midwives to attend to antenatal mothers and give them adequate IEC to increase awareness on the danger signs in pregnancy.

5.5.2 **To Lusaka Health District Management Team**

- LHDMT should intensify awareness programs on the danger signs in pregnancy with some modification in the presentation of information by using pictures which will help women to recall easily.
- The awareness program should be done throughout the year through use of mass media (pamphlets interpreted in other languages, posters, radios and television).

5.5.3 **To the health care providers at the clinic**

Health workers should not only concentrate on teaching mothers on PMTC but should also teach them on danger signs in pregnancy.

- The communities (Friends, relatives and partners) should also be educated on the importance of recognsing danger signs in pregnancy and early referral and treatment.
- Midwives should consider every antenatal clinic an opportunity to give health education on the danger signs in pregnancy.
- Health workers should interact with antenatal mothers adequately so that mothers have an opportunity to ask questions concerning their health.
- When giving health education on the danger signs in pregnancy should take into consideration of the audience back ground such as parity of a woman and educational levels, as those with low educational level may not understand the messages in English.

5.6 DISSEMINATION OF FINDINGS

Dissemination of findings is a systematic plan of how the research findings will be communicated .The researcher intends to disseminate the study findings by making copies of the report and give to the following:

- Department of Nursing Sciences, the other copies will be sent to Lusaka District Health Management Team, where the study was undertaken.
- The researcher also intends to conduct a briefing during inter -labor ward and MCH meetings held every month at DHMT to bring to light the findings of the study especially those who are directly involved in antenatal activities.

5. 7 LIMITATIONS OF THE STUDY

It was not possible to conduct the study on a large scale with a large sample size due to limited resources and time in which the study was to be completed and submitted to the University of Zambia; Department of Nursing Sciences .This means that the study can not be generalized to the larger population.

There are few studies that have been done on the study in Zambia .This makes it difficult to make adequate comparisons with other local researchers and to determine the differences in the findings.

5.8 CONCLUSION

The study sought to determine the knowledge and attitude of pregnant women towards danger signs in pregnancy in Lusaka Urban District.

The findings demonstrated that even though all the women participated in the health education given during antenatal clinic, only 18 % of the respondents had received health education on the danger signs in pregnancy. Health education on the danger signs in pregnancy seems to be the least among the health talks given during antenatal care being ranked forth among the topics given during antenatal care. The first ranked topics were Prevention of Mother to Child Transmission (PMCT) of HIV followed by signs of labour.

The study also revealed that majority of the respondents who had inadequate knowledge got the information on danger signs from the Community Health Workers .There is need to orient the Community Health Workers on the dangers signs in pregnancy so as to deliver adequate information. The results of the study could contribute to the development of maternal health programs as it showed that knowledge among antenatal mothers was lacking.

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APPENDIX 1

STRUCTURED INTERVIEW SCHEDULE

SERIAL NO ....DATE.....................

RESDENTIAL AREA..

INSTRUCTIONS

1. Introduce yourself to the interviewee.
2. Explain the purpose of the interview.
3. Get written consent from the interviewee.
4. Assure the interviewee of confidentiality and anonymity.
5. Do not write names of the respondent on the schedule .
6. Tick the appropriate responses in the appropriate boxes provided.
7. Write the responses in the space provided for open ended questions.

DEMOGRAPHIC DATA

1. What is your age?

    a. 15-20 years ☐

    b. 21-25 years ☐

    c. 26-30 years ☐

    d. 31-35 years ☐

    e. 36 and above ☐

2. What is your marital status?

    a. Married ☐

    b. Single ☐

    c. Divorced ☐

    d. Widowed ☐

3. How many children do you have?

    a. 0 ☐

    b. 1-2 ☐

    c. 3-4 ☐

    d. 5-7 ☐

4. What is your occupation status?

    a. Unemployment ☐

    b. Self employed ☐

    c. Formally employed ☐

5. What is your tribe?

a. Bemba

b. Nyanja

c. Tonga

d. Lozi

e. Others specify........................

6. What is your family income?

a. Below 500.000 Kwacha

b. K600, 000- 1000,000 kwacha

c. Above 1,000,000 kwacha

7. Have you been to school?

a. Yes

b. No

8. If your answer is yes to question 7.a, what is the level of your education?

a. Grade 1-7.

b. Grade 8-9

c. Grade 10-12

d. College / University

9. What is your religion........?

a. None

b. Catholic

c. Protestants

d. Jehovah Witness

e. Others Specify……………..

10. How far is your home from the health center?

a. 30 minutes walk /10 minutes drive

b. Less than 1 hour walk /20minutes drive.

c. More than 1/more hours /more than

20 minutes drive.

11. What is your mode of transport?

a. Car

b. Bus

c. Bicycle

d. Walking

KNOWLEDGE ON DANGER SIGNS IN PREGNANCY

12. Have you participated in any health education?

at any clinic?

a. Yes ☐

b. No ☐

13. If yes, to question 12a, what topics were covered during the health education session?

....

14. Do you know of any problems that may occur to a woman who is pregnant?

a. Yes ☐

b. No ☐

15. If yes, to question 14a, what are the problems in pregnancy that may put a woman's 'life in danger? (Tick all the appropriate).

a. Bleeding from the birth canal with or without pain ☐

b. Swelling of the body (Face, hands, feet) ☐

c. High fever ☐

d. Pallor ☐

e. Severe headache

f. Draining liquor

g. Fitting

h. Dizziness

Others; Specify......................................

16. From whom did you first learn about the major problems of pregnancy that can put a Woman's life in danger.

a. Relative /Friend

b. Community Health Volunteer

c. Media/reading pamphlets

d. Health Worker at the clinic or hospital

ATTITUDE OF ANTENATAL MOTHERS TOWARDS DANGER SIGNS IN PREGNANCY

17. If you had to experience any problems, what would you do?

a. Nothing

b. Go to the traditional healer

c. Call a friend/relative

d. Go to the nearest health center

18. Why would you react as in response

to question 17?

....

19. Who will decide on what to do if you were to experience

any child birth problems mentioned?

a. My relatives/Friend ☐

b. My partner ☐

c. Myself ☐

d. Others, specify.....................

20. Give reasons for your answer in question 19.

....

21. What have you observed in the way health providers?

receive clients at the Clinic?

a. Rude ☐

b. Avoidance ☐

c. Wel coming ☐

22. Does your custom teach you on what action to

take when major problems occur in pregnancy?

a. No ☐

b. Yes ☐

c. I don't know ☐

23. According to your custom, what would you do,

if you experienced the following?

a. Severe bleeding during pregnancy.......................

....

b. Severe headache...

c .High fever...

d. Swelling of the body...

e. Fitting...

f. Dizziness...

25. What suggestions can you give to the health center staff in relation

to complications during pregnancy...

....

26. What suggestions can you give to the pregnant women in relation?

to complications during pregnancy...

....

END OF QUESTIONAIRE

THANK YOU.

APPENDIX II

INFORMED CONSENT FORM

Declaration

I understand that my participation in this study is voluntary, that I may withdraw my consent at any time without penalty.

I..here freely consent to take part in this research study .

(Participants' name)

Signature/Thumbprint..Date................

INVESTIGATOR

I have discussed the above points with the participants understand the risks, benefits and obligations involved in participating in this study.

Signature of investigator ....
Date...

APPENDIX III: RESEARCH WORK SCHEDULE

NO	TASK TO BE PERFORMED	DATES	WEEKS	PERSONNEL	DAYS REQUIRED
1.	Literature review	Continuous		Researcher	
2.	Finalize research proposal	1st July to 3rd September , 2009	1 – 9	Researcher	64 days
3.	Clearance from relevant authorities	4th to 24th September ,2009	10-12	Researcher, PBN, Supervisor, Lusaka, DHMT	20 days
4.	Pilot study	20th Nov to 24th Nov, 2009.	13th	Researcher,	5 days
5.	Data collection	25th Nov to 23rd Dec, 2009	16 - 19th	Researcher	22 days
6.	Data analysis	26th Dec to 14 January,2009	20-23rd	Researcher	24 days
7.	Report writing	16th Jan to 16th Feb, 2010	24-28th	Researcher	31days
8.	Submission of draft research report to PBN	3rd March,2010	29th	Researcher	6days
9.	Finalizing research report and binding	16th March to 15th April, 2010.	30-34th	Researcher	32 days
10.	Dissemination of findings	16th-22nd April, 2010.	35th	Researcher	7 days
11.	Monitoring and evaluation	Continuous		Researcher	

APPENDIX IV

THE GANTT CHART SHOWING VARIOUS TASKS TO BE UNDERTAKEN AND THE TIME REQUIRED FOR EACH TASK TO BE PERFORMED FROM JULY 2009 TO FEBRUARY, 2010

MONTHS		JUN				JULY				AUG				JULY				SEPT				OCT				NOV				DEC				JAN				FEB			
No. of weeks per month		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Task to be performed	Person responsible																																								
Literature review	Research & Supervisor																																								
Compiling research proposal	Researcher																																								
Clearance from school	Researcher																																								
Pilot study	Researcher																																								
Data collection	Researcher																																								
Data Analysis	Researcher																																								
Report Writing	Researcher																																								
Draft	Researcher																																								

Report to PBN	
Finalization of Report	Researcher
Monitoring &evaluation	Research & Supervisor
Dissemination of Results	Researcher

APPENDIX V

BUDGET

No.	ITEM	UNIT COST (ZMK)	QUANTITY	TOTAL (ZMK)
	STATIONARY			
1	Ream of paper	35, 000	4 Reams	140, 000
	Ball pens	20, 000	1 packet	20, 000
	Pencils	500	5	2, 500
	Tippex	30, 000	1 Packet	30, 000
	Note books	5, 000	2	10, 000
	Flash disk (USB)	180, 000	1	180, 000
	Stapler	20, 000	1	20, 000
	Staples	15, 000	1 Box	15, 000
	Scientific calculator	120, 000	1	120, 000
	Perforator	40, 000	1	40, 000
	Spiral binders	20, 000	1	20, 000
	Front and back hard covers	25,	2	50, 000
	Subtotal			**647, 500**
2	**SECRETARIAL SERVICES**			
	Typing research proposal			
	Typing research questionnaire	3, 000		210, 000
	Photocopying questionnaire	3, 000	70 pages	24, 000
	Typing of research Report		8 pages	
	Photocopying of research report	200		88,000
		3000	8x55copies	360,000

	Binding research proposal	200 50,000	120pages 120 x4 4 copies	880,000 200,000
	Subtotal			**1,762**
3	**PERSONNEL** Research bags Snacks	1 10, 000	150, 000 30 days	150, 000 300, 000
	Subtotal			**450,000**
	Sub grand total			**2,859,500**
	Contingency fund 10%			**285,900**
	GRAND TOTAL			**3,145,400**

BUDGET JUSTIFICATION

In order to conduct this study effectively and professionally, funds for operational, administrative and secretarial services are required as outlined below.

STATIONERY

Stationery is required for typing the research proposal, writing the final research report as well as typing and printing the report. Interview schedules will be produced using the same stationary. The notebooks will be needed for record keeping during data collection and analysis. The scientific calculator will be required for data analysis. Tipex will used to erase errors. Files and bags will be used for storage. A research bag will required for carrying questionnaires during data collection.

SECRETARIAL SERVICES

Funds for typing work will be required to pay a hired secretary. Photocopies will be also required at times in order to reduce costs on printing the questionnaires. Money will be required for binding the research proposal and report.

PERSONNEL

The investigator will need money for lunch and any other unforeseen circumstances during the study.

CONTIGENCY

Contingency fund will be required in case of any un foreseen circumstances like inflation and unstable currency. The contingency fund will be 10% of the total budget

University of Zambia,
Department of Nursing Sciences,
P.O. Box 50110,
LUSAKA.

2nd November 2009

The District Director of Health,
Lusaka DHMT,
LUSAKA.

UFS: The Head, Department of Nursing Sciences.

Dear Sir/Madam,

RE: PERMISSION TO COLLECT RESEARCH DATA; KNOWLEDGE AND ATTITUDE OF ANTENATAL WOMEN TOWARDS DANGER SIGNS IN PREGNANCY

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing. In partial fulfilment for the award of this Degree, I am required to carry out a Research Project.

The purpose of this Research is to determine the knowledge and attitude of Antenatal Women towards danger signs in pregnancy. I hoped that the results of this study would help health care providers institute ways of increasing awareness on danger signs in pregnancy during antenatal care.

I am therefore requesting for permission to conduct my pilot study and main study in Lusaka Urban District Clinics. I hope to conduct my data collection between 4th November and 4th December 2009.

Your favourable consideration of this request will be highly appreciated. Thanking you in advance.

Approved Draft letter
Kalingalinga
Mtendere
Chipata
Ngombe
Chelenje

Yours faithfully,

Ngala Banda Jeane
4th Year BSc NRS student.

P.O. Box 50827
Lusaka
Tel: +260 - 211 - 235554
Fax: +260 - 211 - 236429

In reply please quote
No........................

Republic of Zambia

MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH MANAGEMENT TEAM

1ST August 2009

The In-Charges
Kalingalinga, Mtendere, Chipata, Ngombe, Chilenje and Civic Centre

Dear Madam,

RE: NGALA BANDA JEANE - PERMISSION TO COLLECT RESEARCH DATA

Be informed that permission has been granted for the above mentioned student to be attached to your Health Centre for Research.

However this should be done with minimal disruption to the day to day activities at the Health Center and at no cost to DHMT until 4th December, 2009.

Your usual cooperation will be highly appreciated.

Yours faithfully,

DR. M. KABASO
CLINICAL CARE MANAGER
DISTRICT DIRECTOR OF HEALTH