

**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF MEDICINE**  
**DEPARTMENT OF NURSING SCIENCES**

**KNOWLEDGE AND UTILIZATION OF STILLBIRTH PREVENTIVE MEASURES  
AMONG WOMEN IN CHILD BEARING AGE (MBALA DISTRICT).**

**BY**

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## TABLE OF CONTENT

<b>CONTENT</b>	<b>PAGE</b>
Acknowledgement	i
Table of contents	ii
List of appendences	viii
List of Tables	viii
List of figures	ix
List of Abbreviation	x
Declaration	xi
Statement	xii
Dedication	xiii
Abstract	xiv
 <b>CHAPTER ONE</b>	
1.0 Introduction	1
1.1 Background	1
1.2 Statement of the Problem	4
1.3 Analysis of influencing factors	6
1.3.1. Knowledge	6
1.3.2 Service related factor	7
1.3.2.1 Quality of service	7

1.3.2.2 Attitude of Health workers	7
1.3.3 Institutional related factors	8
1.3.3.1 Shortage of staff in health facilities	8
1.3.4 Medical conditions / diseases related factors	8
1.3.4.1 Age of the mother and parity	8
1.3.5 Socio-cultural –economic related factor	9
1.3.5.1 Cultural belief	9
1.3.5.2 Level of educational	9
1.3.5.3 Age of the mother and primigravida	9
1.3.5.4 Social economic status	10
1.3.5.5 Distance to the health facility	10
1.3.6.1 Delay in decision making	10
1.3.2 Problem analysis diagram	11
1.4 Theoretical framework	12
1.5 Health belief model description	12
1.6 Justification	13
1.7 Objectives of the study	14
1.7.1 General objective of the study	14
1.7.2 Specific objectives of the study	14
1.8 Hypothesis	14
1.9 Conceptual definition of terms	14
1.9.1 Knowledge	14

1.9.2	Utilization	15
1.9.3	Preventive measures	15
1.8.4	Stillbirth	15
1.10	Variables and cut-off points	15
1.10.1	Variables	15
1.10.2	Dependent variables	15
1.10.3	Independent variables	15
 <b>CHAPTER TWO</b>		
2.0	Literature Review	17
2.1	Introduction	17
2.2	Knowledge	18
2.3	Preventive measures of stillbirths	20
2.4	Utilization of preventive measures of stillbirths	21
2.5	Relationship between knowledge of stillbirth and utilization	24
2.7	Conclusion	25
 <b>3. CHAPTER THREE</b>		
3.0	Research methodology	26
3.1	Research design	26
3.2	Research setting	26
3.3	Study population	27
3.4	Sample selection	27

3.4.1	Inclusion criteria	28
3.4.2	Exclusion criteria	28
3.5	Sample size	28
3.6	Operational definitions	29
3.6.1	Knowledge of stillbirth and preventive measures	29
3.6.2	Utilization of stillbirth preventive measures	29
3.7	Data Collection Tool	29
3.8	Data Collection Technique	30
3.9	Validity	30
3.9.1	Internal validity	31
3.9.2	External validity	31
3.9.3	Construct Validity	32
3.9.4	Reliability	32
3.10	Pilot study	32
3.11	Ethical and cultural consideration	33
3.11.1	Right to self-determination	33
3.11.2	Right to self-determination	33
3.11.3	Beneficence	33
3.11.4	Justice	34
3.11.5	Fidelity	34

Conclusion	34
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## **CHAPTER FOUR**

4.0 Data analysis and presentation of findings	35
4.1 Quantitative data	35
4.2 Presentation of findings using frequency tables	35
4.2.1 Section A; Demographic data	36
4.2.2 Section B: Knowledge on stillbirth and preventive measures	38
4.2.3 Section C: Utilization of stillbirth preventive measures	40
4.2.4 Section D: Relationship between utilization and preventive measures	48

## **CHAPTER FIVE**

### **DISCUSSION OF THE FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM**

5.0 Discussion of Findings	51
5.1 Characteristics of the Sample	51
5.2 Discussion of each variable	51
5.2.1 Knowledge stillbirth	52
5.3 Utilization of stillbirth preventive measures	54
5.4 Relationship between Utilization and Knowledge	55
5.5 Significance to Nursing	57
5.3.1 Practice	57
5.3.2 Nursing Research	58
5.3.3 Administration	58

5.3.4	Nursing Education	59
5.4	Conclusion	59
5.5	Recommendations	59
5.5.1	To Ministry of Health	59
5.5.2	To the District	60
5.5.3	To hospital management	61
5.4	Dissemination of Findings	61
5.5	Limitations of the Study	61
5.8	Reference	62

## APPENDICES

### APPENDIX NUMBER

1. Questionnaire	69
2. Request to undertake the study	75
3. Research work schedule	76
4. Budget	77
5. Budget Justification	78
6. Marking key	80
7. Informed consent	81
8. Ghantt Chart	82

### LIST OF TABLES

<b>Table No</b>	<b>Page No</b>
Table 1: Trend of stillbirth from 2006 – 2009	5
Table 2: Trend of stillbirth for the year 2010	6
Table 3: Variables, indicators and cut-off point	17
Table 4: Demographic data of the sample	36
Table 5: Respondents' knowledge on stillbirth preventive measures	39
Table 6: Distribution of study variables	49
Table 7: Relationship between knowledge and utilization	49
Table 8: Frequency for women suggestions	50

## **LIST OF FIGURES**


Figure 1: problem analysis diagram	11
Figure 2: Respondents level of knowledge on stillbirth	40
Figure 3: Utilization of Fasidar during previous pregnancy	41
Figure 4: Women vaccinated against Tetanus toxiod	41
Figure 5: Using treated mosquito nets during the previous pregnancy	41
Figure 6: Women who used herbal medicine during previous pregnancy	43
Figure 7: Using Vermox during previous pregnancy	44
Figure 8: Using Folic acid in the previous pregnancy	44
Figure 9: Using Ferrous Sulphate in the previous pregnancy	45
Figure 10: Women who went for voluntary counseling	46
Figure 11: Number of times attended ANC	46
Figure 12: What to do if baby in uterus stopped moving	47
Figure 13: Respondents level of utilization of stillbirth preventive measures	48
Figure 14: suggestions of to improve and disseminate information	53

## ABBREVIATIONS

AIDS.....	Acquired Immune Deficiency Syndrome
ANC.....	Antenatal Care
ART.....	Anti Retro Therapy
ARVS.....	Anti Retroviral
CHAZ.....	Church Health Association of Zambia
CHW.....	Community Health Workers
HBM.....	Health Belief Model
HIV.....	Human Immune Deficiency Virus
IEC.....	Information Education Communication
ITNS.....	Insecticide Treated Nets
MCH.....	Maternal and Child Health
MNCH.....	Maternal Neonatal Child Health
MVE.....	Manual Vacuum Extraction
NHC.....	Neighborhood Health committee
NMCC.....	National Malaria Control Center
PMTCT.....	Prevention of Mother to Child Transmission
STI.....	Sexually Transmitted Infection
TBA.....	Traditional Birth Attendant
UNZA.....	University of Zambia
VCT.....	Voluntary Counseling and Testing
WHO.....	World Health Organization
ZDHS.....	Zambia Demographic Health Survey
BMI.....	Body Mass Index
MDHMT.....	Mbala District Health Management Team
IDD.....	Iron Deficiency Disorder
IUFD.....	Intra uterine Fetal Death
CARMMA.....	Campaign for accelerated retardation of Maternal Mortality in Africa

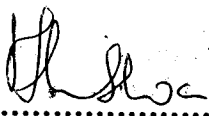
## DECLARATION

I, Sr. Chansa Regina hereby, declare that the work presented in this study for a Bachelor of Science Degree in Nursing has not been presented either wholly or in part, for any other Degree and is not being currently submitted to any other Degree.

Signed:  .....

(Candidate)

Date: 28<sup>th</sup> March 2012 .....


Approved:  .....

(Supervising Lecturer)

Date: 28<sup>th</sup> March, 2012 .....

## STATEMENT

I, Sr. Chansa Regina hereby certify that this study is entirely the result of my own independent investigations. The various sources to which I am indebted are clearly indicated in the text and reference.

Signed:  .....

Date: 28<sup>th</sup> March 2012 .....

## **DEDICATION**

I dedicate this study to my beloved daddy, Mr. Dominic Chansa and my lovely mother Mrs. Elizabeth B. K. Chansa whose encouragements continue to inspire my entire life. Even when they are gone, their presence and inspiration is still felt and have special impact in all my undertakings. My sisters and brothers for the love, encouragement and support that have made it possible for me to accomplish my ambitions.

## ABSTRACT

Millions of pregnancies end up in stillbirths as the estimated figures are approximately 3.4 million globally, 98% of these stillbirths occur in Sub – Saharan Africa which includes Zambia (Mc Clure, 2007). Hence, knowledge and appropriate interventions or preventive measures need to be identified to prevent or curb down stillbirths.

The purpose of this study was to establish knowledge and utilization of stillbirth preventive measures among women of childbearing age in Mbala District. This is because stillbirth rates in the District were steadily increasing from 6.9% in the first quarter to 13% in the fourth quarter of 2010, see Table 1 and 2 (Trends of stillbirth in 2010 and before).

The study noted that various factors influence utilization of stillbirth preventive measures which are knowledge, service related, health behavioral factors, disease related, and social- cultural – economic factors. The hypothesis of the study was that there was a relationship between knowledge and utilization of stillbirth preventive measures; and that the lower the information, education and communication on utilization of preventive measures on stillbirth the lower the utilization of the preventive measures.

A non-interventional descriptive research design was used to establish knowledge and utilization of stillbirth preventive measures in Mbala District. A pilot study was conducted in one of the clinics on five respondents whose characteristics were the same as those of the main study. A structured questionnaire was used to collect data by randomly selecting participants using a simple random sampling procedure. The sample size of fifty (50) respondents was selected from the target population of women in childbearing age in the District excluding school girls who have never been pregnant before and have never attended Anta natal care. The data was later analyzed manually on a data master sheet and by use of a calculator and SPSS version 17.0. Presentation of data was done by use of frequent tables, pie charts and cross tabulations to show the relationships between variables.

Results from the study revealed that 66% of the respondents exhibited low knowledge levels of stillbirth preventive measures but high levels of utilization of preventive measures. On the other hand, 34% had both high knowledge and utilization levels of stillbirth preventive measures. The

study also revealed that 54% of the respondents who attained primary level education had higher levels of utilization of preventive measures.

The study recommendations are that MOH should ensure that each district has a comprehensive emergency obstetric centre with four units equipped with appropriate equipment to prevent stillbirths from a surgical interventional perspective; so that women are informed of the existence of these facilities and how useful they are in preventing still births. Besides, it should train enough skilled health professionals and deploy them in rural areas where most of these services are needed. These health workers should make use of the antenatal clinics as a platform for intensified information, education and communication on stillbirth preventive measures at any contact with the women in childbearing age. These skilled health professionals should be trained in newborn resuscitation program as a measure to prevent stillbirths.

# CHAPTER ONE

## 1.0 INTRODUCTION

Stillbirths are estimated at 3.4 million occurring worldwide each year. More than 98% of these stillbirths take place in developing countries (McClure, 2007). Stillbirth is defined as the death of a foetus at any time after the twentieth week of pregnancy (Lawn, 2009). Stillbirth is also referred to as intrauterine foetal death (IUFD) (Felnady, 2011). Historically, stillbirths and early neonatal deaths were grouped together as perinatal deaths. Kelly et al, 2010 states that perinatal epidemiologists' argues that stillbirths should be reported separately from neonatal deaths. They have said, this is because of the confusion over multiple definitions, whether to include early gestational to seven (7) days after delivery or all the gestational period, twenty eight (28) days. On the other hand, Fenaldy, 2011 said, stillbirths have been understudied, underreported, and have rarely been considered in an attempt to improve adverse pregnancy outcomes in developing countries.

This chapter describes the international, regional and national perspectives on occurrence of stillbirth and utilization of preventive measures among women in child bearing age. It also endeavours to give the causes of stillbirths, risk factors; services offered and interventions taken in line with preventing stillbirth. Therefore, the current investigator wishes to determine whether inadequate knowledge about stillbirth and non utilization of stillbirth preventive measures in child bearing age could be the reason why stillbirth incidences are on the increase in Mbala.

## 1.1 BACKGROUND INFORMATION

Stillbirth rates vary by geographical region and socioeconomic status. According to Lirr (2011) the analysis conducted by Stillbirth Alliance in 2009 indicated that Stillbirths rates are higher in some developed countries. For example, the United Kingdom alone had 2,630 stillbirths in 2009 showing that eleven babies are stillborn every day in the UK (Clifford, 2011); In the united states (US) the rate is at 5 per 1000 or less while stillbirth rates in the range of 30 to 40/1000 births are common in the least developed countries (Clifford, 2011). South Asia has the world's largest stillbirth burden with rates ranging from 25 to 40/1000 births (Clifford, 2011). Within Pakistan, stillbirth rates vary from 36 to 70 or more per 1000 births in some rural areas. In contrast, the World Health Organization (WHO) reported a reduced Pakistani stillbirth rate of 22 / 1000 births (Jehan, 2007; Lawn, 2009). The reduction in stillbirth in the US could have been attributed to

behavioral interventions likely to help in reducing smoking during pregnancy said Neal (2000). The author went on to say, counseling session by a trained provider with appropriate printed materials approximately doubles the typical cessation rates of 5–10% achieved without counseling to about 20%. This increased level in cessation is associated with a reduction in low birth weight which is one factor that may contribute to stillbirth (Neal, 2000).

In sub-Saharan African countries, Pakistan and Nigeria have the highest rates of stillbirth that is, 40 stillbirths for every 1000 births (Lirri, 2011). Lirri further documented that 1.8 million or 66% of 3.4million stillbirth found in the sub-Saharan Africa is concentrated in 10 countries: India, Pakistan, Nigeria, China, Bangladesh, Democratic Republic of Congo, Ethiopia, Indonesia, Afghanistan and Tanzania (Steenhuysen, 2010).

According to Lawn, (2010) the Millennium Development Goals (MDGs) there is no specific goal on stillbirth. Lirr, 2011 conducted a study to estimate reduction of stillbirth rates worldwide. The results showed that stillbirth's decline rate worldwide was at 1.1 per cent per year because very little is known about stillbirth. In this respect investigation into the matter is absolutely necessary to determine levels of knowledge on stillbirth and positive practices that will prevent stillbirth leading to reduction in the incidence rates.

Some causes associated with stillbirth in developed countries include complications during labour. These include Placental abruptions (partial separation of the placenta before delivery); maternal infections like syphilis which lead to congenital abnormalities and death of fetus in the uterus, malaria leading to anemia and high fever resulting in pre-mature delivery or death of fetus because of malaria parasites found on the placental surface; chronic maternal medical conditions like high blood pressure in pregnancy - pre-eclampsia and eclampsia resulting in constricting of blood vessels especially those leading to the placenta, thereby reducing oxygen and nutrients to the fetus. This causes death or fetal growth restrictions (Clifford, 2011). Birth Defects contribute approximately 20% of stillbirth cases while Umbilical Cord Accidents like cord-prolapse, knot or abnormal placement to placenta account for approximately 2 - 4% of stillbirths. Other causes which are very rare but are causes of stillbirth in these high income countries are, physical trauma like a car accident causing bleeding in the uterus and depriving the fetus of the oxygen. Rhesus disease destroys the fetus' blood causing anaemia and death; clotting factor disorders – reduce oxygen requirements to the fetus or postdate pregnancy (later than 42 weeks gestation which results from oxygen deprivation due to difficulty delivery (Mc Guinness, 2011).

According to some researchers, the causes in developing countries contributing to stillbirth especially in the Sub-Sahara African countries include history of previous stillbirth which could be due to infection resulting from sexually Transmitted diseases for instance, syphilis, which accounts for 70% of all stillbirths; Gonorrhoea and Chlamydia accounts for 50% of all stillbirths; antenatal hemorrhage as in placenta previa (the placenta that is located near the entrance of the womb causing bleeding as the pregnancy grows (Lawn, 2009). Other stillbirths occur in clinical chorioamnionitis and HIV-infected women with decreasing CD4 cell count. In such instances, viruses cross the placenta barrier and cause death to the fetus. Others include childbirth complications like asphyxia - failure to initiate breathing at birth; maternal disorders causing unfavorable condition for the normal growth of the fetus in the uterus consequently leading to death. Fetal growth restrictions and congenital abnormalities like birth defects accounts for one-fourth of all stillborn babies (Hareyan, 2005 and Lirri, 2011) states. The researchers in this study further stated that almost half of the stillbirths -1.2 million happen when the woman is in labour due to non use of monitoring tools like partogram, lack of resuscitation equipment and non availability of skilled attendants. It is a well known fact that use of partogram and resuscitation equipment enhances reduction in stillbirth rates (Abdou, 2010). Besides, availability of skilled attendants and emergency obstetric care help to reduce stillbirth rate.

Maternal medical conditions like Diabetes and chronic hypertension also contribute to stillbirths. Malaria contributes about 20-36% of stillbirth and anaemia contributes significantly 63% to stillbirth in sub-Saharan Africa (Watson, 2007). Smoking increases the risk of stillbirth as a result of placental abruption caused by nicotine (a harmful substance found in cigarettes) Smoking is responsible for about six per cent or 3000 stillbirths each year in high-income countries, that is maternal smoking contributes 4% to 7% to stillbirths (Flenady, 2011, McGuinness, 2011 & Fiore, 2011, Medew, 2011).. Drinking alcohol causes malnutrition as mothers do not eat nutritious foods (Watson 2007). Under fetal causes, congenital abnormalities account for 5% of the stillborn while 13.5% are as a result of low birth weight (Fiore, 2011; Watts & Harris, 2011). Generally stillbirth rate in Zambia is at 34% and the leading cause is intrauterine infection contributing of the 26% of the 34% of all stillbirths (Wiley, 2011).

In Zambia preventive measures to stillbirth are being promoted by the Ministry of Health. These include coverage of comprehensive emergency obstetric care; where operative measures for complicated deliveries are being introduced (this is the care given to pregnant women who have

developed complications that need surgical intervention to serve their lives. The other measures include early detection and treatment of syphilis to prevent stillbirths. In this regard, any woman found with an STI is freely counseled and treated together with the husband. This is done to prevent the adverse effects on the fetus. The other strategy is counseling and commencement of treatment to HIV positive pregnant women on Ante retroviral drugs to prevent intra-uterine fetal death as a result of HIV infection (MOH, 2010). A training policy to sponsor and train Midwives in maternal and child care so that every woman could have access to a skilled birth attendant has been put in place with a view to preventing complications that may lead to stillbirth during labour and delivery. These activities prevent stillbirths (UNFPA, 2009). This correlates with Midwives Programme jointly executed by United Nations populations Fund and the International Confederation of Midwives to train midwives in order to curb on shortage of staff in 15 countries including Zambia.

Other strategies include use of insecticide-treated bed nets and intermittent prophylaxis to prevent malaria (WHO, 2005); folic acid supplementation; and management of diabetes in pregnancy. All these measures help to prevent stillbirth in the country including Mbala District. Focused antenatal care aims at detection and prevention of ailments such as malnutrition and tuberculosis (especially in populations where HIV is common). Conditions such as severe anaemia, vaginal bleeding, pre-eclampsia/eclampsia, fetal distress and abnormal fetal position after 36 weeks may cause or be indicative of a life-threatening complication and may lead to stillbirth. Despite all these efforts, the stillbirth incidence rates in Mbala District health institutions, still remains above the nations' threshold ("0"); despite that Zambia has made progress in Emergency obstetric care.

## **1.2 STATEMENT OF THE PROBLEM**

In Zambia despite the strategies that has been put in place in Maternal and Child Health (MCH) like Prevention of Mother to Child Transmission, screening for sexually transmitted diseases, Antenatal services, routine blood pressure checking at every visit, Intermittent Prophylaxis Treatment; and clean and safe delivery, newborn care program, stillbirth rates remains high at 34% (Wiley, 2011). Other intervention that Government has put in place include Campaign for accelerated of Maternal Mortality in Africa (CARMMA) program, Here women are empowered with knowledge to curb down on factors such as delays in decision making and reaching the health facility as these contribute to increase in stillbirth rates; as well as increase infant

mortality rate of 70 deaths per 1,000 live births and neonatal mortality rate of 34 deaths per 1,000 births (ZHDS, 2007).

Zambia's current figure of stillbirth rates stands at 34 per every 1000 live births Wiley (2011) shows that stillbirth is a public health problem. It has to be stated that the problem could be higher because recording of stillbirth is not accurate due to under reporting. Reductions in infant mortality and the prevalence of high risk pregnancies remain priority areas in the Zambian health system. This is done to promote health and prevent loss of life (ZHDS, 2007). According to MDGs 4 stillbirth rates are not mentioned among the countries priority. Therefore, it is important to do a study and come up with strategies to prevent stillbirth in our country particularly in Mbala district.

**Table 1: Trend of stillbirths in the five years preceding the study and the first quarter of the current year of study**

<b>YEAR</b>	<b>NO. OF DELIVERIES</b>	<b>STILLBIRTH</b>	<b>PERCENTAGE</b>
<b>2011</b> <b>1<sup>ST</sup></b> <b>QUARTER</b>	229	18	6.94%
<b>2010</b>	952	90	9.45%
<b>2009</b>	904	90	9.96%
<b>2008</b>	963	123	12.8%
<b>2007</b>	946	117	12.4%
<b>2006</b>	862	92	10.7%

**Source Mbala General Hospital HIMS A1 2009**

**Table 2: shows the trend of stillbirth in the year 2010**

<b>YEAR 2010</b>	<b>1<sup>ST</sup> QUARTER</b>	<b>2<sup>ND</sup> QUARTER</b>	<b>3<sup>RD</sup> QUARTER</b>	<b>4<sup>TH</sup> QUARTER</b>
<b>NO. OF DELIVERIES</b>	259	222	225	246
<b>STILLBIRTH</b>	18	17	23	32
<b>PERCENTAGE</b>	6.94%	7.66%	10.2%	13%

**Source Mbala General Hospital HIMS A2, 2010**

### **1.3 ANALYSIS OF FACTORS INFLUENCING AND OR CONTRIBUTING TO THE PROBLEM.**

Several factors may influence knowledge and utilization of stillbirth prevention measure among child bearing women in Mbala District. These factors have been categorized into knowledge, service related, health related, disease related, and social-economic.

#### **1.3.1 KNOWLEDGE**

Inadequate knowledge among women of child bearing age on normal progress of labour have a bearing on realizing when labour complications may arise. These include precipitate labour, fetal distress, ruptured uterus and obstructed labour. These conditions may lead to stillbirth if the expecting mothers delay in initiating appropriate action. Appropriate actions include pregnant mothers getting to the institution on time to be attended to in time. Thus, adequate knowledge will lead to reduction in stillbirths because many women would be empowered with knowledge as to why they should seek help from qualified personals. Then they will know the benefits that are in abiding to medical advice.

Besides, lack of knowledge on duration of labour can make a woman use traditional medicine especially when labour is seen to prolong. Some women may consider 4 hours to be a long time in labour and hence may resort to use traditional medicine to precipitate labour. Precipitate labour may lead to fetal distress and thereby fetal death. In this regard, adequate knowledge on

the duration of labour will lead to women being patient and being able to follow the assisting health care provider's advice. Consequently, the expectant mother will be helped to deliver a healthy baby.

### **1.3.2 SERVICE RELATED FACTORS**

#### **1.3.2.1 Quality of service**

The services offered at the health facility may be of low quality in that some health centers are manned by Classified Daily Employees (CDEs). This will discourage the women from utilizing the services as the women may see no difference between the services offered by the CDE and the TBA in the area.

Apart from that, non availability of resuscitating instruments and non use of the partogram to monitor the fetal well-being by some health care providers is as good as being attended to by the TBA. Hence, pregnant women will resort to utilizing the TBAs services that are even more accommodating when it comes to traditions and culture. Sabine & Oona, 2006 said skilled attendance at childbirth is crucial for decreasing maternal and neonatal mortality, yet many women in low and middle –income countries deliver outside of health facilities without skilled attendants. In another study she conducted with her friends, in Peru on ‘Cultural adaptation of birthing services in rural Ayacucho, Peru, it was discovered that maternal mortality is particularly high among poor, indigenous women in rural Peru, and use of facility care is low, partly due to cultural insensitivities of health care systems (Sabine et al,2006).

In other situations, health care providers may not give adequate IEC to women on the progress of labour and other related topics and hence women will depend on information from friends and relatives. Therefore, the quality of service that helps and attracts pregnant women to have positive health behaviors' towards services may be compromised. Hence women will deliver in their homes leading to increase in stillbirth

#### **1.3.2.2 Attitude of health workers**

Health workers' negative attitude towards work is yet another factor that leads to stillbirth. In some cases, they are unable to give proper health education on the dangers, for example, of using Traditional medicine to precipitate labour; or unable to identify women who are at risk while in labour due to non adherence to protocols and guidelines, failing to listen (auscultation) to fetal

heart every 15 minutes to detect decreasing fetal heart and inform the mother. Sometimes health personnel scold women for failing to provide baby clothes. This results in women delivering at home which may lead to complications and fetal death. Nevertheless, other health worker's attitude helps women in labour to be calm and enjoy their time in labour despite the labour pains.

### **1.3.3 INSTITUTIONAL RELATED FACTORS**

#### **1.3.3.1 Shortage of staff in health facilities**

Some women who deliver under the supervision of the non trained personnel in their homes and or at the health facility manned by Classified Daily Employees (CDEs) end up having stillbirths due to lack of skills. Health care providers use their expertise in delivering or assisting the woman in case of complications like asphyxia, pre-term labour, miscarriage, pre eclampsia. This help to reduce stillbirth rates. Therefore having enough staff at health facilities to assist in deliveries will help prevent stillbirths.

### **1.3.4. MEDICAL CONDITIONS / DISEASES RELATED FACTORS**

Diseases and conditions like Anaemia, hypertension, Diabetes, sexually transmitted diseases like syphilis, HIV /AIDs, Pre-term labour, may lead to stillbirth. Some of these conditions affect the placenta (abruption and anaemia) causing placenta insufficiency leading to early separation of the placenta. Prematurity in Diabetes may also lead to stillbirth due to immature lungs causing difficulties in breathing. Others are congenital abnormalities which may result from untreated STI in early pregnancy. This may lead to early death in the first week of life because of birth defects.

#### **1.3.4.1 Age of mother and parity**

From the scientific point of view, research has revealed that both expectant mother carrying a pregnancy and is in the range of 40years and above; and or are below the age of 16years, are likely to have a stillbirth due to complication that arise as a result of the relationship between age and pregnancy induced conditions (hypertension). The effect on the under 16 year are physiological changes that comes with pregnancy and thereby develop raised blood pressure. The above forty may have under laying causes like Diabetes and hypertension, which affect fetal nutrition and may lead to stillbirth.

### **1.3.5 SOCIO-CULTURAL –ECONOMIC RELATED FACTORS**

#### **1.3.5.1 Cultural beliefs**

Cultural beliefs can influence expectant mothers' knowledge and prevent them from seeking health care services. Many women especially in rural areas believe that delaying in labour is an indication of infidelity in marriage and the pregnant woman can be taken to task and so is her spouse. In such situations, a woman will ensure that such speculations do not occur by taking the herbs to precipitate labour. Precipitate labour may consequently lead to stillbirth.

#### **1.3.5.2 Level of education**

Women with little education or no education at all will be more likely to be influenced by culture and traditional beliefs. They may not have access to either written or verbal information on the factors that endangers the life of the fetus by use of traditional medicine in labour, illegal termination of pregnancy, effect of chronic medical conditions like Hypertension and Anaemia. Besides, illiteracy affects the level of understanding issues, either of cultural or of academic nature. Therefore, pregnant women with a low level of education are not likely to grasp most issues in regard to the prevention and well being of the fetus during pregnancy and labour. For example, an expectant mother may fail to get a concept of the negative effect of pushing with every contraction, causes the cervix to become edematous and may fail to dilate thereby delaying progress of labour which eventually leads to fetal death. However, those with high level of education has a better chance to understand issues even the advice given by the health care provider through health education.

#### **1.3.5.3. Age of mother and primigravida**

The very young, especially primigravida may have limited knowledge on physiology of labour and are more likely to be influenced as they may be told on how painful this labour is as well as the consequences of a prolonged labour. They may be tempted to push before time and the cervix will become edematous and delay progress of labour. The very old and grand multiparous women too may have fear concerning subsequent pregnancies because of their "at risk state" communicated to them at the health facility by health care providers. They may have been told

that they are more likely to face complications at delivery and hence will try by all means to avoid such either by going late to the health facility or not to go there at all.

#### **1.3.5.4 Social economic status**

Women of low social economic status may fail to access quality health services and resort to use available resources which may include traditional medicine in home deliveries with the possibilities of being exposed to complications and death of the neonate. In most cases, the pregnant woman may not be well nourished and this may affect her growing fetus which may not survive at birth or in-utero. In some cases, they may not have money to access the health centre which may require some expenditure.

#### **1.3.5.5 Distance to the health facility**

Distance to the health facility is a contributing factor to stillbirth. Long distance to the health facility of more than 12km may lead to women shunning the health services because of long hours of walking to the facility demoralizes the women. They may resort to using available resources like traditional birth attendants who are not skilled risking the baby's life. At times the district office may not have fuel to go for outreach programs thereby, hindering women from accessing information which is provided during antenatal clinics to facilitate behavior change concerning their pregnancies. The positive behavioral change will prevent stillbirth occurrences.

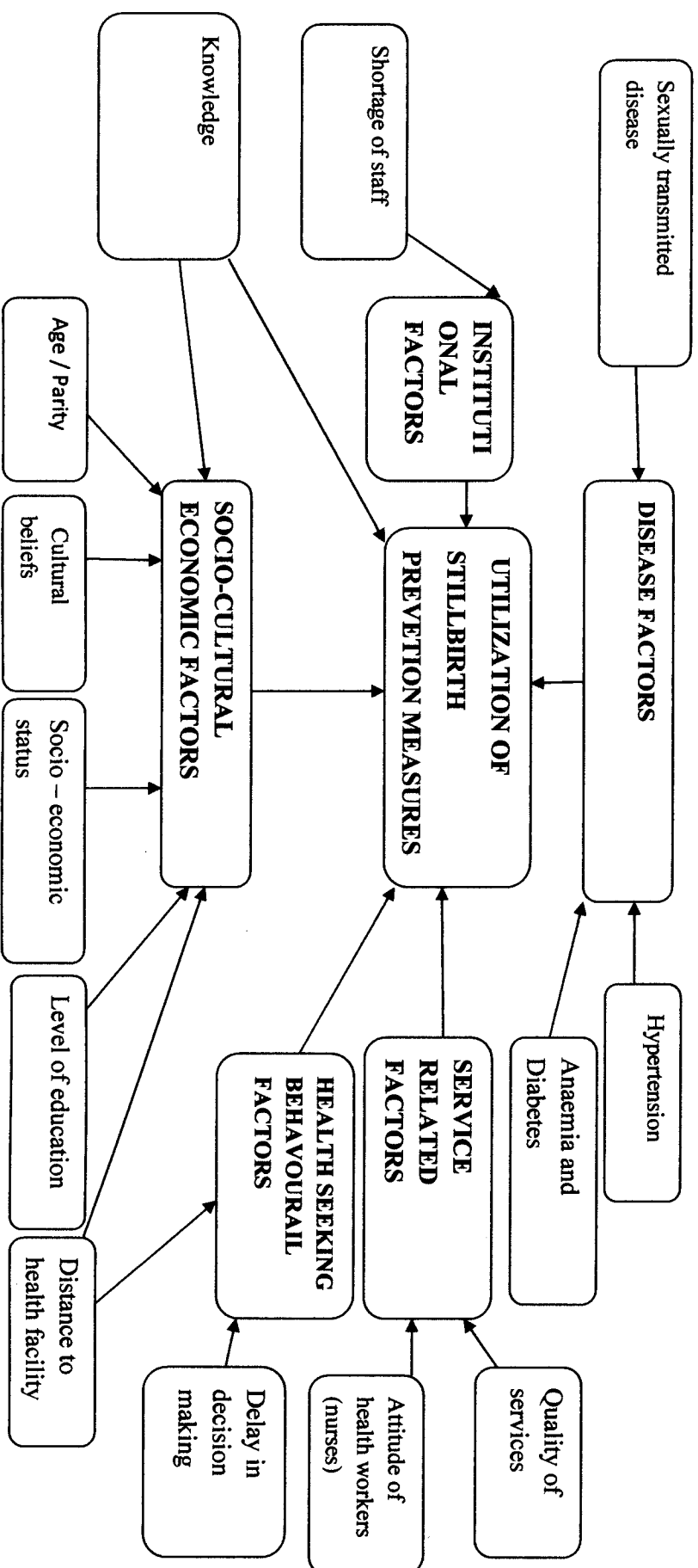
### **1.3.6 HEALTH SEEKING BEHAVIOURIAL FACTORS**

#### **1.3.6.1 Delay in decision making**

Women also have the tendency to stay at home when they are in labour so that when they reach the health institution they do not take long in labour. As a result they delay not only in reporting to the health institution but even when complications arise, they delay to make decisions because the husband or grandmother is not around to decide. These delays coupled with delays in getting to the health facility because of the bad states of roads and delay to be attended to by health providers, result in diminishing fetal heart rate and death of the fetus.

FIGURE: 1

1.4: PROBLEM ANALYSIS TO DETERMINE FACTORS THAT MAY INFLUENCE KNOWLEDGE AND LOW UTILIZATION OF STILL BIRTHS PREVENTION MEASURES AMONG WOMEN IN CHILD BEARING AGE



## **1.4 THEORETICAL FRAMEWORK**

### **1.5 Health belief model theory and its application to the study**

This study was guided by the Health Belief Model (HBM). This model was developed by Becker to provide a framework to explain why some people take specific actions to avoid illness while others fail to protect themselves (Glanz, et al, 2002; Basavanthappa, 2007). The model addresses the relationship between a person's belief and behavior. It provides a way of understanding and predicting how clients will behave in relation to their health how they will comply with health care treatment. The constructs of Health Belief Model provide a useful framework for designing both long and short term behavioral change strategies.

The key variables of the HBM are as follows:

#### **1. Perceived Susceptibility:** people are ready to act if they;

Believe they are susceptible to the condition (One's perception – subjective, of the risk of being a victim of a health condition). In this case mothers in child bearing age can prevent stillbirths if they understand that stillbirth can occur if not prevented by positive behaviors like being screened for syphilis. They have to understand that it causes birth defects which may lead to stillbirths.

#### **2. Perceived Severity**

Believe that the condition or act has serious consequence for instance, Feelings concerning the seriousness of being a victim of losing a baby for untreated condition (including evaluations of both medical and possible social consequences). The pregnant woman can only act if she understands that maternal conditions like hypertension and or STIs like syphilis in pregnancy have a severe negative effect on the growing fetus. Therefore, reducing the threat (potential risks to stillbirth) through seeking health care (free antenatal service) on time, in pregnancy, facilitates having a health bouncing baby and not a stillborn.

#### **3. Perceived Benefits**

Believe taking action would reduce their susceptibility to the condition or its severity (effectiveness of strategies designed to reduce the threat of illness or outcome). This population of women in child bearing age will have to understand how susceptible they are and should feel that stillbirth prevention is possible when they successfully take up recommended health action (i.e. positive health behaviors like going for antenatal services as recommended (four times when one has no problems with that pregnancy or more when there are problems).

#### **4. Perceived Barriers**

Believe the cost of taking action for potential negative consequences are outweighed by benefits. The women should understand that the cost of taking action, for example walking so many kilometers going to wait for delivery and delivering a healthy baby are more rewarding, than stay at home and develop complication that may end up in delivering a stillbirth.

#### **5. Cues to Action**

One is exposed to factors that prompt action i.e. from the environment (e.g., media publicity, remainder from one's physician to get screened); As a result one is motivated to take action. For example, when a woman hears from a fellow woman who has had a stillbirth for having delayed at home, she may be able to take action and seek health care in time (Peer education).

#### **6. Self efficacy**

Here one is confident in one's ability to successfully perform an action. When a woman is empowered with knowledge through health education to have an understanding of the importance of preventing stillbirth; She may have the will power or control to act on her own (a positive behavior) towards preventive measures of exposing herself to risks against stillbirths.

### **1.6 JUSTIFICATION**

Stillbirth is not just a public health problem in Zambia but worldwide with 3.2 million stillbirths occurring each year (Asha et al, 2011). In Zambia stillbirths resulting from STIs alone contribute 42% of all perinatal deaths (Temmerman, 2011). In Mbala stillbirth rate is high from 6.5% to 13% in the 2010 and before (see Table 1 and 2).

Government has integrated Maternal and child health services in Primary health care with the view to improve the health of a mother and her child. Despite the interventions employed like free antenatal services, screening and treatment for STIs, safe clean delivery, comprehensive obstetric care units and many more to improve the lives of the newborn, stillbirth rates remain high. It is hoped that, the results from the study will help the law makers and other health workers in MoH come up with strategies on how to disseminate information on stillbirth and implement the preventive measures of stillbirth.

This study will also provide baseline data on the subject as there is no evidence of any research study conducted in Mbala District on knowledge and utilization of stillbirth preventive measures

among women in child bearing age. In addition, recommendations that will be made to relevant authorities will help improve the strategies to prevent stillbirths; thereby reducing on the mortality rate of the unborn babies.

## **1.7. OBJECTIVES OF THE STUDY**

### **1.7.1 General objective of the study**

To determine knowledge and utilization of stillbirths prevention measures among women in child bearing age in Mbala district

### **1.7.2 Specific objectives of the study**

- To explore knowledge of stillbirths prevention measures among women in child bearing age in Mbala District
- To verify utilization of prevention measures of stillbirths among women in child bearing age in Mbala District
- To examine the relationship between utilization of stillbirths prevention measures and; Knowledge of stillbirths' prevention measures among women in child bearing age in Mbala District.

## **1.8 HYPOTHESES**

A hypothesis is a formal statement of the expected relationships between two or more variables in a specified population. The hypothesis translates the research problem and purpose into a clear explanation or prediction of the expected results or outcomes of the study (Burns & Grove, 2007).

1.7.1 There is a relationship between knowledge and positive practices (utilization) towards the prevention of stillbirth.

1.7.2. The lower the level of information, education and communication on utilization of preventive measures on stillbirth, the lower the level of positive practices (utilization) on prevention of stillbirth.

## **1.9 CONCEPTUAL DEFINITION OF TERMS**

**1.9.1 Knowledge** means the condition of knowing something with familiarity gained through experience or association (Webster dictionary, 2011).

**1.9.2 Utilization** means to put to use, especially to find a profitable or practical use (Mifflin, 2009).

**1.9.3 Preventive measures** – stopping something from occurring.

**1.9.4 Stillbirth** - the birth of an infant that has died in the womb after having survived through at least the first 28 weeks of pregnancy (Webster, 2011).

## **1.10 VARIABLES AND CUT-OFF POINTS**

### **1.10.1 VARIABLES**

A variable is an attribute that varies, that is, takes on different values (for example body temperature, heart rate (Pilot & Beck, 2008).

There are several types of variables; in this study, two will be discussed, the Dependant and Independent Variables

#### **1.10.2 Dependent Variable**

A dependent variable is the response, behavior, or outcome that the researcher wants to predict or explain. Changes in the dependent variable are presumed to be caused by the dependent variable (Burns & Grove, 2005).

The dependent variable for this study is utilization of stillbirth prevention measures.

#### **1.10.3 Independent Variables**

Independent variable is a stimulus or activity that is not manipulated or varied by the researcher to create an effect on the dependent variable. It is also called the cause, stimulus, experimental variable or treatment, the variable that is not manipulated by the researcher, in order to study the effect upon the dependent variable (Burns & Grove, 2005).

The independent variables for this study are;

- (a) Knowledge of stillbirths
- (b) Knowledge of stillbirths' prevention measures

**TABLE 3: VARIABLES, INDICATORS AND CUT-OFF POINT**

<b>VARIABLE</b>	<b>OPERATIONAL VARIABLES</b>	<b>CUT-OFF POINTS</b>	<b>INDICATORS</b>	<b>QUESTION</b>
<b>Dependent</b>	<b>Utilization of still births preventive measures</b>	High level of Utilization	When respondent is able to scores 21- 42 on questions on utilization of preventive measures on stillbirth.	14 - 24.
		Low levels of utilization	When respondent is able to scores 0 - 20 on questions on utilization of preventive measures on stillbirth.	14 - 24.
<b>Independent</b>	<b>Knowledge</b>	High level of knowledge	When respondent is able to scores 11 – 20 out of questions on knowledge of stillbirth and preventive measures on stillbirth	8 - 12.
		Low level of knowledge	When respondent is able to score 0 – 10 on questions knowledge of stillbirth and preventive measures for stillbirth.	8 - 12

## **CHAPTER TWO**

### **2.0. LITERATURE REVIEW**

Literature review is a broad, comprehensive in depth, systematic and critical review of scholarly publications, unpublished scholarly printed materials, audiovisual material and personal communications. It involves critical review of strengths and weakness of scholarly publication / Literature so as to justify a new investigation. It helps in identifying a research problem, concepts of theories; describe methods of inquiry used by earlier researchers and identify study for replication or comparison (Basavanthappa, 2007).

### **2.1 INTRODUCTION**

This review focus on studies conducted on knowledge on stillbirth and utilization of stillbirth preventive measures in the child bearing age. This literature review is based on documented / published international, regional and national data. Most of the literatures reviewed were from developed countries because they are more advanced in researches. A number of researches has been done to address the problem in developing countries particularly Zambia; in order to assess levels of knowledge on stillbirth and utilization of stillbirths preventive measures. The problem of escalating incidences of stillbirths may be attributed to lack of awareness and prioritizing of problems as few people seem to be aware that stillbirth is a public health problem. The trend has been neglected as a public health problem both in developing and developed countries (Sector and Daga, 2011).

Stillbirth is one of the public health problem challenge world over with approximately 3.2million stillbirth worldwide each year (Asha, 2011). The current figures do not correlate with the actual problem as a result of under reporting and wrong recording of figures of stillbirth (Lirr, 2011). WHO reports revealed that 98% of the 3.2 million of stillbirth is from low-mid-income countries of Sub – Saharan African which includes Zambia. The incidence rate of stillbirths is approximately 32 per 1000 live births in South Asia and sub-Saharan Africa (Lawn, 2009).

## 2.2 Knowledge

Stillbirth is a sensitive indicator of access to quality of health care and services in a society (Reeske, 2007). Gromadecka (2001) in Debrah, 2010 (pg 38) results on health education as a media for imparting knowledge to women in child bearing stated that “health professionals should use antenatal clinics as platform to organize health education programmes to educate mothers and pregnant women on the nature, causes, effects and preventive measures of stillbirth.” According to Gromadecka very little is being done in this direction. He went on to say helping mothers to have in-depth knowledge of stillbirth will help reduce stillbirth rates. White, (2003) revealed that women are not advised or do not know that ANC services were necessary. This shows lack of awareness and inadequate dissemination of information to prevent stillbirths using this media of communication.

A study conducted in migrant camps in comparison to ethnic women in German, the results showed a higher rate of stillbirth in women in the migrant camps who lacked knowledge on the effects of pesticides on fetal development than the German citizen selected group. According to the legislation of 1950 and 1960, it was established that pesticides, herbicides and fungicides have a major impact on developmental toxicity in pregnancy. These cause severe birth defects in fetal development which is one of the risk factors to stillbirths. Women in concentration camps were exposed to these chemicals according to the study. It also revealed that long-term, low dose exposure to these chemicals resulted in immune suppression, hormonal disruption, and diminished intelligence, reproductive and developmental abnormalities in the fetus (Gupta, 1993; Vettorazzi, 1985).

Elsinga et al, 2008 did a study to take preventive action as early as possible, preferably before pregnancy to prevent tubal defects, as organogenesis takes place from days 17 to 56 after conception, a period during which women are often unaware of their pregnancy. She went on to say, women contemplating pregnancy have limited knowledge about risk factors and preventive measures regarding adverse pregnancy outcomes because most adverse pregnancy outcomes occur in women who are unaware of being at risk. During this study, Preconception counseling (PCC) was provided to the women with information on a healthy lifestyle before and during pregnancy and information on risk factors specific to their own medical, reproductive, and family histories. The results were, women who had received PCC had significantly more

knowledge on infection prevention in pregnancy and benefits of folic acid. When compared to women of lower educational level who had attended PCC also had greater knowledge of hazardous substances (+10.4%), folic acid (+17.6%). The knowledge of women who had attended PCC but had never been pregnant was (73.5). In the same vein, Setright Russell (2010) the herbalist conducted a study in Australia between 2001 and 2006. The main purpose was to determine the increase and effect of essential nutrient deficiencies among Australians. Setright in his findings stated that other nutrients like folic acid, omega3 fatty acids, Vitamin D and Zinc just to mention a few also contribute to fetal defects or abnormalities and eventually stillbirth. In this vein, women in child bearing age need to be informed and encouraged through Information Education Communication (IEC) to have good nutrition during pregnancy and in particular micro-nutrient intake to prevent stillbirths. There is also need to encourage the women to take these nutrient supplements, like folic acid to prevent birth defects which lead to stillbirths.

In Denmark psychological stress is said to be a risk factor and contributes about 95% to stillbirth according to the study (Flenady, 2011; McGuinness, 2011 & Fiore, 2011). This shows that, underlying causes of chronic medical conditions, smoking and alcohol predisposes to having a stillborn baby. Therefore, intensive health education to improve women's knowledge on the risky factors of stillbirth is essential in reducing the rate of stillbirths.

Stillbirth is also a health problem in Zambia. In a study carried out at UTH a tertiary Hospital, A total of 266 mothers of stillborn babies and 266 mothers of live-born babies, matched for parity, were studied to define the causes of the stillbirths. 16% of mothers of live-born babies were over 35 years old, compared with 9% in the latter; in addition, 16% of cases had a history of past perinatal death, compared with only 2.4% among preventive measures.

Mothers of stillborn babies had less than 3 attendances at the antenatal clinic and a longer interval between the last visit and delivery, compared with the control group; 8% of the former group had no antenatal care. 47% of mothers had a Venereal Disease Research Laboratory (VDRL) test reported before delivery and out of these, the VDRL test for syphilis was positive in 34% of the cases tested and in 7% of controls.

Of the 266 stillborn infants, 56% were of low birth weight; 12% of the 170 macerated stillbirths were associated with intrapartum problems that may have contributed to death, compared with 46% of the 96 fresh stillbirths. Prolonged labour and prolapsed cord were the commonest

intrapartum factors associated with death. The most common antepartum factors were a positive VDRL test, abruption placenta, and a history of illness during pregnancy. A total of 5% of the stillborn infants had some congenital abnormality. No cause of death was identified in 13.5% of these infants, the majority of whom were of low birth weight (Fiore, 2011; Watts & Harris, 2011). Therefore, women in child bearing are to be given the knowledge on the causes of stillbirth. In this respect, emphasis is made to impart knowledge on the effect of STIs in pregnancy and encourage the women to utilize antenatal services where screening for sexually transmitted is done thereby giving appropriately treatment that reduces stillbirth rates.

### **2.3 Preventive measures of stillbirths**

Darmstadt, (2009) gives an evidence based review of the studies conducted in the developed countries concerning interventions during intrapartum in view of preventing stillbirth. Caesarean section, induction of labour rather than expectant management in post-term pregnancies showed strong evidence of impact in preventing stillbirths. In the same reviews, Magnesium sulphate for pre-eclampsia and eclampsia was said to be effective in preventing eclamptic seizures, but studies have not demonstrated impact on perinatal mortality. Transcervical amnioinfusion for meconium staining is another intervention that is under study

A study by Ssengooba et al, 2003 of Makerere University Institute of Public Health in Uganda, between 1995 and 1999 involved training of Midwives / nurses per each Rural Health centre in ten districts in family planning. The use of continuous information, communication and education saw also intensified. This saw an increase in women receiving delivery care from these mid-wives / nurse for their last birth. The increase was from 36% - 58% for nurses; TBAs from 6% – 18%; Doctors from 3% - 10%. This shows that increasing the number of skilled health providers in reproductive health services will increase access to health care to women.

In a study conducted by Milunsky et al, 1989, in Atlanta America, to prevent stillbirth's occurrence resulting from neural tubal defects, women were given multivitamins every month for three months before pregnancy and for the first three months of pregnancy. These women were compared with mothers not taking vitamins. A 73% reduction in risk was seen associated with periconceptional multivitamin use more especially those taking folic acid. This result shows

that Folate supplement use periconceptual can prevent stillbirth occurrences.

According to McClure, 2007 a multisite population –based study in community settings in the developing world was conducted to determine stillbirth rates. The outcome of all community deliveries in the five resource poor countries selected revealed that increased rates of stillbirth ranged from 34 per 1000 live births in developing countries to 9 per 1000 in mid –income country like Argentina. The increased stillbirth rates were associated significantly with lower skilled providers and low caesarean section rates. This is a good illustration that in prevention of stillbirth women who access the services through effective health care systems like caesarian section and trained personnel as one of the measures especially in developing countries.

In another study (WHO, 2006), reported an association between lower level providers and adverse pregnancy outcomes. The study was done in a Pakistan community to ensure increased access to skilled attendants in an attempt to improve adverse pregnancy outcomes. Since skilled health workers are unavailable in many of the least developed geographic areas, studies examined a strategy of training traditional birth attendants and these were trained (TBAs) in basic delivery skills in Pakistan. Consequently, there was significant reduction in stillbirth rates from 70% to 50 per 1000 live births. Therefore, we can comfortably say, there is a relationship between stillbirth and low skilled attendance.

Carlo, 2010, conducted a study at the first level hospital in Lusaka, Zambia to determine how effective equipping the midwives with skills on resuscitation of the newborn can reduce the fresh stillbirth rates that occur at delivery. In the study they used a “before –and–after” implementation design recommended by World Health Organization (WHO). It was observed that Essential Newborn care course improved midwives’ skills and knowledge and reduced stillbirths and neonatal deaths in the first 7 days after birth among low- risk women who delivered in the first level clinics in Zambia (Carlo, 2010). In this respect, Midwives, Doctors, Clinical officers need to be trained in Essential Newborn care course so that stillbirth rates are reduced and or prevented.

#### **2.4 Utilization of prevention measures of stillbirths**

Kiwuwa, 2008 conducted a study on antenatal care services utilization. His findings were, out of

the 769 participated in the study, antenatal clinic (ANC) attendance was high (94.4%); 417 (57.7%) had the initial visit during the 2<sup>nd</sup> trimester, 242 (33.5%) during the 3<sup>rd</sup> trimester and 266 (37.1%) reported  $\geq 4$  ANC visits. On Intermittent prophylaxis therapy (IPT) about 537 (71%) and 272 (35.8%) received one or  $\geq 2$  IPT doses respectively. Only 85 (15.8%) received the first dose of IPT in the 3<sup>rd</sup> trimester. ITNs were used by 239 (31.3%) of women during pregnancy and 314 (40.8%) delivered their most recent pregnancy outside a health facility. In short, the findings illustrate the need to strengthen capacity to further improve antenatal care and maternity services utilization and IPT uptake. There is also need for effective community health strategies to improve effective ANC, maternity services utilization and IPT uptake in rural communities where Malaria is endemic in order to curd down stillbirth. Malaria is one of the indirect causal condition of stillbirth.

According to McClure et al, 2011, stillbirth is defined as the death of a fetus in the uterus after 28<sup>th</sup> week of conception or of the birth weight of 1000grms as a lower cut-off in developing countries.

In developed countries, stillbirth is defined as fetal loss beyond 20 weeks of gestation. This kind of categorizing of the cut-off point for a fetus to qualify to be designated as a stillbirth may influence the incidences of stillbirth rates in some countries. Stillbirths in most countries go unrecorded. This means that the current figures of 2.6 million or 45% recorded worldwide between 2005 and 2009 is quite high if at all stillbirth cases were recorded (Maugh, 2011). It also means chances of under estimation or over exaggeration of figures may not be ruled out because health workers are not sure what the cut-off is. Therefore, accuracy in collecting, documenting of records and reporting system need to be put in place. In this vein there is need to standardize the cut-off point for stillbirth worldwide. This may positively have an impact on the prevention of stillbirth as the right figures will be known and appropriate measure / interventions may be applied.

According to the study published in the lancet and in Uganda Sunday Monitor (Lirr, 2011) on maternal infection in pregnancies, child health complication, maternal disorders, fetal growth restrictions and congenital abnormalities were identified as key factors contributing to high stillbirth rates. Almost half of the stillbirths 1.2 million out of 2.6 million stillbirths for the year

2009 worldwide happened during labour as a result of maternal infection. These deaths are directly related to lack of skilled care for mothers and babies who are able to offer the services that are utilized by women in child bearing age. To address the problem, the study revealed that the key focus should be put on strengthening existing maternal, newborn and child health programs, which have huge cost-effective benefits for mothers and newborns. In relation to the results, there is need to apply strong political will for governments in developing countries to come up with strategies to fund programs in maternal and child health to prevent stillbirths.

Furthermore, the study showed that as many as 1.1 million stillbirths could be averted with universal coverage of comprehensive emergency obstetrics care. Early detection and management of fetal growth restriction and hypertension; reducing the numbers of unintended pregnancies, especially among high-risk women help preventing recurrence of stillbirths. Dr Carole Presern, went on to say, “if every woman had access to a skilled birth attendant, a midwife, and if necessary a physician for both essential care and for procedures such as emergency caesarean section, we would see a dramatic decrease in the number of stillbirths” (Lirr, 2011). Therefore, strengthening of Maternal and Child health programs, Application of strong political will in funding health programs and implementing emergency obstetric care, will serve as a measure / remedy for prevention of stillbirth.

Stringer et al, 2011 conducted a study, on women selected in Lusaka, Zambia from a public health sector between February 2006 and March 2009, to estimate the rates and determinants of stillbirth in an urban African obstetric population who received antenatal care, delivery care and or both. The study revealed that increasing maternal age, baseline body mass index greater than 26, history of stillbirth, placental abruption, maternal untreated syphilis, caesarean delivery, operational vaginal delivery, assisted breech delivery, and extremes of neonatal birth weight were all significantly associated with stillbirth. Therefore, knowledge of this nature will encourage women in the child bearing age to treasure antenatal services offered by the nearby health facilities. In this case deaths arising from such calamities can be avoided through investment in antenatal screening and better labour monitoring by use of the partogram as an essential tool for preventing stillbirths. Furthermore, stillbirth should be adopted as a routine health indicator for better antenatal care by the world health organization. This would help governments and health workers to strive to remain within the threshold of the national

indicators thereby preventing stillbirths in the country and the world over.

## **2.5 Relationship between knowledge of stillbirth and utilization of stillbirths prevention measures**

White in 2003 conducted a study in Karachi urban settlement on women in childbearing on the utilization of Antenatal care services. The social demographic data variables revealed that of the 295 women 51% received care while 49% did not. It was found that older women used maternal health care services than younger women, with effects being observed at particular levels of education and birth order of children. Among those who did not receive antenatal care, 28% reported that they did not know it was required, 10% were not advised by anyone, 8% said that they did not have permission from home, 10% found the facility to be far away, 7% reported that transport was not available and 37% did not have any reason. Therefore, from the scenario the interpretation can be knowledge is a drive for positive health behavioral change. Thus, it can be used to prevent stillbirth through intensified and effective Information education and communication. In Pakistan, in the same year, the study revealed that education was significantly associated with utilization of maternal health services in that from the study sample, 22% of mothers with no education received antenatal care while 85% of mothers with at least secondary education did received antenatal care. A review of studies reported that education of women is positively associated with utilization of antenatal care. Education enhances autonomy: women develop greater confidence and capabilities to make decisions regarding their own health, as well as their children's health. Education is the key to success, says the (proverb). This means knowledge is power and can drive someone to higher levels in life, in terms of comprehending issues of both academic and cultural nature. This idea correlates to the study that was conducted in Spain to show the relationship between stillbirth and level of education (Fernandez, 2011).

In another study conducted between 2007 and 2008, to compare the impact of socio- economic factors and to show the relationship on the risk of stillbirth and socio economic status at national level. The study included 970 740 live births and out of this number 2,464 were stillbirths. The results showed that stillbirth rates ranged from 1.0 to 4.7 deaths per 1000 births (Fernandez, 2011). The stillbirth risk among mothers having secondary or lower education was double from 1.0 to 2.0; 4.7 to 9.4 deaths per 1000 births than that of mothers with a tertiary education.

Therefore, this study confirmed the differences of stillbirth risk by maternal socio-economic status, regardless of socio-economic status, though with African mothers, the risk was high.

## **CONCLUSION**

Literature review has shown that studies have been done on stillbirth on women in child bearing age globally, regionally and locally. However, not many studies have been conducted on this topic locally considering that the problem of stillbirth is not seen as a public health challenge because it is invisible as fetus losses go unrecorded. Most of these stillbirths occur in low and middle – income countries and are associated with absent, inadequate, or delay obstetric care and economic constraints in these parts of the world. Since stillbirth data in the Millennium Development Goals is not included, the attempt to capture a true picture of the problem of stillbirth will only be made possible by accurately collecting and recording of data through a standardized system.

Therefore, this study aims at determining knowledge and utilization of stillbirth preventive measure undertaken by mothers in child bearing age to help prevent stillbirths. In this respect the results will help planners of health care to come up with solutions that will have a positive impact on the women of childbearing age and consequently prevent mortality of unborn babies.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

Research Methodology is designed to develop or refine methods of obtaining, organizing, or analyzing data (Polite & Beck, 2006). Research methodology is the entire strategy from identification of the problem to the final plans for data collection (Burns & Grove: 2011). The purpose of the study was to assess knowledge and utilization of stillbirth prevention measures among women in childbearing age in Mbala District.

### **3.1 RESEARCH DESIGN**

This is the overall plan, structure, and strategy of investigating and answering the research question of the overall plan or blue-print the researchers select to carry out their study (Bassvanthappa, 2007).

A non-interventional descriptive study design was used. This involved describing and analyzing of researchable objects or situations and no intervention was applied. The researcher used this type of design to describe the relationship between the variables (dependent and independent). The design gave a clear picture of women's knowledge on stillbirth (definition, causes, risk factors, measures to prevent stillbirths and utilization of stillbirth prevention measures among child bearing women in Mbala District.

Quantitative research is where the investigation of phenomena that lends to precise measurement and quantification, often involving a rigorous and controlled designs (Polit & Beck 2006). It was appropriate to use this kind of study because the results of the finding were given in numerical and statistical form. It showed the relationship between variables and predicted the outcome of the problem.

### **3.2 RESEARCH SETTING**

Research setting is the location in which a study is conducted (Burns & Grove, 2007). Polit & Beck 2006 defines research settings as a more specific place where data collection occurs and that it ranges from naturalistic settings (in the field) to formal Laboratories.

The research was conducted in Mbala District of Northern Province of Zambia. It is one of the twelve districts in the Northern Province. Mbala lies in the far north of the country and is the third largest district in the province. It is approximately 1,067 kilometers away from the capital city of Zambia, Lusaka and about 167km from the provincial capital (Kasama). Its surface area covers about 10,832 km<sup>2</sup>. (MDHMT, 2011-2013 Action Plan). The District has 24 health facilities. According to CSO (2000) Mbala District has a total catchment population of 227,407 with the growth rate of 3.9%. The women within child bearing age total up to 50,030 (22%); Expected pregnancies – 12,280 (5.4%); Expected deliveries – 11,825 (5.2%) and Expected Live births – 11,143 (4.9%).

The research setting comprised of five health facilities which were Mbala Urban clinic, Mutwizi West and East health posts, Mambwe Mission Rural Health Centre and Lunzua centre for farming institute health post. These centres were selected by simple random sampling. Mbala urban clinic and Mambwe Mission RHC offer maternal and child health services (Antenatal and underfive clinic) in addition to curative, promotive and preventive health services while the three health post offer mobile antenatal and underfive services.

### **3.3 STUDY POPULATION**

The Research population is the total group of individual people or things or objects meeting the designated interest to the researcher from which sample is selected (Basavanthappa, 2007). The study population is all individuals or subjects with common; defining characteristics (Polite & Beck 2006). The study population for this study were women in child bearing age. The target population is the entire population in which the researcher is interested in and to which he /she would like to generalize the results of the study (Polit and Hungler, 2007). In this study the targets were women in child bearing age (15 – 45 years).

### **3.4 SAMPLE SELECTION**

Sample selection is the process of obtaining information about an entire population by examining only a part of it (Basavanthappa, 2007). In this study, probability sampling method called simple random sampling using the lottery technique was used to select the sample. Simple random sampling is a probability sampling procedure in which the required number of sampling units was selected at random from the population in such a way that each population

element had an equal chance of being selected for the sample and was used in the study because it was simple and involved one stage selection process (Basavanthappa, 2007).

On each session of the interview women in child bearing age (non pregnant, pregnant and lactating) were given numbers written on pieces of paper from 1-50 and then these numbers on pieces of paper were put in a box and shaken. Then five pieces of paper were picked at random from the box to give chance for each individual study unit to participate in the study. The women whose numbers were picked are the ones who were included in the study population. Five (5) women were selected per session per day and a total of 25 women were interviewed per week (Monday to Friday) and by the end of the second week, 50 women were interviewed. 10 women were picked from each two clinics and three health posts.

### **3.4.1 Inclusion Criteria**

Women in child bearing age (15 to 45 years) living in Mbala District were included in the study. All the women who were pregnant, lactating and non pregnant or lactating but were in the age group of 15 to 45 years were part of the study. Those who had given birth 3 years ago were also included.

### **3.4.2 Exclusion Criteria**

All women in child bearing age from outside the catchment area were excluded from the study. Others who were excluded were school going girls who were fifteen years and above because they were not found at the scene of the interviews. Mothers who had not delivered in three (3) years and above were also exclude.

## **3.5 SAMPLE SIZE**

This is a Number of subjects, events, behaviors, or situations that are examined in the study (Burns & Grove, 2007). In this study a sample size of 50 participants from the five centres were selected. The School of Medicine at the University of Zambia limits the sample size to 50 respondents as minimum due to time in which the study was conducted and submitted to the Department of Nursing Sciences.

### **3.6 OPERATIONAL DEFINITIONS OF TERMS**

**3.6.1. Knowledge on stillbirth and Preventive measures-** refers to the woman being able to state what stillbirth is; causes and risk factors of stillbirth and identify the common measures used to prevent stillbirth.

**3.6.2. Utilization of stillbirth preventive measures** – refers to making use of the Antenatal services offered at the health institutions such as testing for syphilis and HIV, taking Fansidar, being empowered with information through health talks pertaining to preventing stillbirths.

### **3.7 DATA COLLECTION TOOL**

A data collection tool is an instrument used to measure variables and gather information. It is the formal written document used to collect and record information for analysis. The example of such tools is a questionnaire (Pilot & Hungler, 2007) an interview schedule was used for data collection (see appendix I). An interview schedule is an instrument of gathering self report information, which is formally written (Pilot & Hungler, 2007). The interview schedule was used because it was easy to administer, it was used on both the illiterate and literate women who basically composed the target population for this study; the other reason is that, non verbal communication was easily observed and clarity was sort from the respondent if the question was misunderstood as well as in-depths responses were obtained when need arose.

In this study, the interview schedule was divided into 4 sections. Section A was on demographic data and had six questions. Section B was on knowledge on stillbirth, it had four questions; Section C had three questions on knowledge of stillbirth preventive measures. Section D had five questions on utilization of stillbirth preventive measures, and one on suggestions made by the women.

Some of the disadvantages are as follows; it is costly considering time involved in having an interview than if the self administered questionnaire was used. The interviews also took long and required assistance of specially trained staff. This factor adds to the cost of the project. On the other hand, the interviewee has little or no choice in the date or place of interview

while the investigator has little time in which to complete the research project. It is also expensive if much travelling is required, the transportation could be exorbitant.

### **3.8 DATA COLLECTION TECHNIQUE**

Data collection technique is the actual method on how the data is going to be collected (Polit and Beck, 2008). It allows for systematic collection of information from respondents. In this study, data was collected between October and November 2011 using the interview schedule. To get the needed information from the study units or respondents, the researcher introduced herself to the health worker who were on duty and asked for a private room where respondents were interviewed from. The researcher then introduced herself to the respondents and she explained to them the purpose of the study she was undertaking to the respondents. The researcher reassured the respondents of confidentiality by explaining to them that anonymity (no name was to appear on the questionnaire) will be maintained and codes were used to label interview schedule. The researcher further assured the respondents that all the used interview schedules were to be properly secured by the interviewer and no one got access to them. A written consent was obtained from each respondent. In the interview room, the interviewer repeated to the respondent the self introduction, purpose of the study and written consent was obtained. Instructions were read and the questions of which the respondent were asked to answer sincerely and truthfully. After the questions were answered, the interviewer finally thanked the respondent for the participation, and then the next respondent was invited in.

### **3.9 VALIDITY**

Validity is the ability of a data gathering instrument to measure what it purports to measure. That is in quantitative study while in qualitative study, it is the “extent to which research findings represent reality” (Morse & Field 1995, p. 244 cited in Basanvthappa, 2007).

The content and face validity of the research instrument was established by having the contents of the questionnaire reviewed by the supervisor so that the instrument does not produce distorted data. The design study was carefully selected and the pre-testing of the research instrument for data collection was done to ensure validity. Knowledge on the environment, for example, being sensitive to external events was taken care of, no activities

of research took place on public holiday and weekends to avoid biases and thereby maintain validity. Confounding variables were taken care of, for example, in the study, women were drawn from both areas – rural and urban setting of the district to avoid biases in selection of the area for the study. A pilot study to pre-test the research instrument was done to ensure that validity was maintained. Finally, the same questions which were clearly constructed and reviewed by the supervisor to avoid ambiguity were asked to each respondent in the same sequence. The researcher also took into consideration internal and external validity.

### **3.9.1 Internal Validity**

Internal validity is the extent to which the effects detected in the study are a true reflection of reality rather than the result of extraneous variables (Burns & Grove 2005:215). 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 action of the independent variable. Therefore, in this study to ensure internal validity of the data collection tool the same questions were asked to all participants in order to avoid biasness and five participants per session were interviewed. It was ensured that data is collected in the morning or at the same time of day for all subjects; before both the interviewer and respondents get tired, hungrier as such unrecognized and unplanned changes may affect the study results.

### **3.9.2 External Validity**

External validity is concerned with the extent to which study findings can be generalized beyond the sample used in the study (Burns & Grove 2005:218). Validity was ensured by covering all the important variables under study in the questionnaires. The current sources of literature were also consulted on the subject under study and evaluation of the content of the instrument was done. The instrument was pre- tested to determine if desired information would be collected. This was to assist in eliminating unnecessary questions, and amendments were done accordingly. Questions in the study questionnaire were clearly constructed, simplified, concise, and brief; and the sample constituted of respondents from different social, cultural, economic, political and religious backgrounds.

### **3.9.3 Construct Validity**

Construct validity examines the link between the conceptual and operational definitions of variables. Theoretical constructs are defined within the framework (conceptual definitions) while the conceptual definition provides the basis for the development of operational definitions of the variables. Operational definitions which are methods of measurements must validly reflect the theoretical constructs. Examination of construct validity determines whether the instrument actually measures the theoretical construct it purports to measure (Burns & Grove 2005). In this study, the researcher had developed both the conceptual and operational definitions.

### **3.9.4 RELIABILITY**

Reliability is the accuracy and consistence of information obtained in the study. It is a measure that denotes the consistency of measures obtained in the use of a particular instrument and is an indication of the extent of random error in the measurement method (Burns & Grove 2005:374). It means the instrument should be able to bring out the information whereby, the same instrument after sometime would yield the same response. In this study, the research supervisor reviewed the instrument before it was administered. The questions were arranged in sequence and in a simple, concise, brief and the same questions were asked to all respondents for reliability to be ensured. This helped to eliminate biases.

### **3.10 PILOT STUDY**

The pilot study is a small scale version or trail run, done in preparation for a major study (Pilote & Beck 2006:506). It explains the purpose of the study, to test the visibility, reliability, and validity, estimate how much time it would take to complete a questionnaire of proposed study and detect possible flaws in the data collecting instruments. This study was done at Tulemane clinic in Mbala District to pre-test and assess the validity of the data collection tool. A simple random sampling method was used in the pilot study in order to select the required number of subjects for the pilot study. The total number of research participants was 50 out of which, 5 participants that is 10% of the total sample was selected to be participants in the pilot study. The purpose of the pilot study was to assess the feasibility of the sampling method as well as the format of the questionnaire. The main objective of the pilot study was to test as many elements of the research proposal as possible in order to

correct any part that does not work properly, such as unforeseen events, problems and difficulties which may arise in the course of the research project (Basavanthappa, 2007).

### **3.11 ETHICAL AND CULTURAL CONSIDERATION**

Ethical considerations involve a system of moral values that is concerned with the degree to which research adheres to professional, legal, and social obligations to the study participants (Polite and Beck, 2008). Before conducting the study, the researcher got permission in writing from Mbala District Health Office; the Executive Director and sister in charge for urban clinic and Tulemane clinic to conduct a pilot study and all the respondents were requested to sign a consent form before they could be included in the study. The respondent's opinions were respected and they were not forced to participate in the study if they had not wanted or if they had to change their mind.

#### **3.11.1 Right to self-determination**

This right says that humans should be treated as autonomous agents, capable of controlling their own activities (Polit & Beck 2008:171). The principle of self-determination means that prospective participants had the right to decide voluntarily whether to participate in the study, without risking any penalty or prejudicial treatment. The respondents who participated in the study were informed that they were free to withdraw from the study at any time without any penalty. The respondents had the freedom of choice to participate or not and had the right to ask questions, or to withdraw from the study as it is their right to withdraw if they did not want. The respondents who participated in the study were left to practice this right. Fortunately, none of the participants was forced to be part of this study and a written informed consent was obtained to those who wanted to be part of the study.

#### **3.11.2 Beneficence**

Beneficence principle encourages the researcher to do good and "above all, not to do any harm," to the participants (Burns & Grove 2007:531). It involves protecting the subjects from discomfort and physical, emotional, spiritual, economical, and social harm. This was upheld in this study by ensuring that respondents answered the questionnaire in their own appropriate time. They were given time to think and respond to the questions and were not hurried. No

use of abusive or offensive language was used in order to prevent emotional harm. The investigator also ensured that only good and no harm was done on the participants.

### **3.11.3 Justice**

Justice is a principle that states that human subjects should be treated fairly (Burns & Grove 2007:544). After giving the respondents enough Information about the study, they were given opportunity to make decision whether to take part in the study or not. Therefore the values, beliefs, and choices of the respondents were respected. The respondents were treated fairly and had the right to choose to either participate in the study or not to / to withdraw at any time they felt like without any charges.

### **3.11.4 Fidelity**

The principal of fidelity and veracity was upheld by ensuring that the promise made such as confidentiality and the use of the results were upheld. No names of the respondents were written on the data collecting instrument, instead serial numbers were used. This was done to uphold the principle of anonymity. In addition, before this study was conducted, a written permission from the school (DNS) and Mbala DHMT and the in charges for the centers was obtained to facilitate cooperation from authorities and respondents for smooth data collection. To ensure confidentiality, study participants were interviewed in a private room and one participant at a time.

## **CONCLUSION**

Research methodology sets a tone for systematic collection of data. A non-interventional descriptive study design was used. The investigator ensured that the whole process was systematically done taking into consideration the sample size, research settings, population study and all ethical consideration. This process gives credit and meaning to the study results.

## **CHAPTER FOUR**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 Data analysis**

Data Analysis is the systematic organization and synthesis of research data and the testing of research hypothesis using data (Polit and Beck 2008). Data was collected using a structured interview schedule. The questionnaires used had serial numbers and were counted to ensure that the correct number was obtained (50). The questionnaires were checked for accuracy, completeness and internal consistency. The data was then categorized, coded and entered on the manual data master sheet and later entered on a data spread sheet created on SPSS version 17.0 for analysis. All the responses of the 50 respondents were entered on the spread sheet in order to calculate the totals and percentages for each variable using a calculator.

##### **4.1.1 Quantitative data**

Quantitative is defined as information collected in the course of a study that is quantified or put in numeric form (Polit and Beck (2008). The quantitative data included the social demographic variables and closed ended questions on knowledge of stillbirth and utilization of stillbirth preventive measures. Quantitative data were checked for completeness, coded and entered on the data master sheet and then entered on data spread sheet created on SPSS version 17.0 for analysis.

### **4.2 PRESENTATIONS OF FINDINGS USING FREQUENCY TABLES**

Presentation of findings involves display of the results of the data collected (Polit and Beck, 2008). The findings of the study are presented using seven (14) frequency tables, four (2) bar charts and two pie charts. Frequency tables give summary of the study results thus ensuring understanding of the findings by the reader. Bar charts and pie charts are used for easy interpretation of findings by the reader. A total of 50 respondents were interviewed and the findings of the study were presented in five sections. Section “A” contained seven questions on demographic data; section “B” contained questions on knowledge of stillbirth and stillbirth preventive measures and Section “C” on utilization of stillbirth preventive measures. Then section “D” contains data on the relationship between knowledge and utilization of stillbirth

preventive measures and section “E” contains cross tabulation figures between knowledge levels and utilization levels

#### 4.2.1 SECTION A: Demographic data

This section consists of one table on the demographic characteristics of the respondents included in the study. The findings have been presented in a sequence of questions covering age, marital status, level of education, occupation, number of pregnancies, pregnancies which reached term and number of children for each respondent.

**TABLE 4: DEMOGRAPHIC DATA OF THE SAMPLE (n=50)**

<b>AGE (YEARS)</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
15-20	2	4
21-25	5	10
26-30	11	22
31-35	13	28
36-40	14	26
41-45	5	10
<b>TOTAL</b>	<b>50</b>	<b>100</b>

**Table 4 of demographic data continues on the next page**

**Table 4: Demographic data of the sample continues (n=50)**

<b>Marital status</b>	<b>Frequency</b>	<b>Percentage</b>
Married	46	92
Single	2	4
Divorced	2	4
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Education level</b>	<b>Frequency</b>	<b>Percent</b>
Never been to school	1	2
Primary	27	54
Secondary	9	18
College	12	24
University	1	2
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Occupational</b>	<b>Frequency</b>	<b>Percent</b>
Self employed	6	12
Formal employment	15	30
Farmer	10	20
Full time housewife	19	38
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Number of pregnancies</b>	<b>Frequency</b>	<b>Percent</b>
0-5	42	84
6-11	8	16
<b>Totals</b>	<b>50</b>	<b>100</b>
<b>Term pregnancies</b>	<b>Frequency</b>	<b>Percent</b>
0-6	42	84
7-11	8	16
<b>Totals</b>	<b>50</b>	<b>100</b>
<b>Number of children</b>	<b>Frequency</b>	<b>Percent</b>
< 6	45	90
7-11	5	10
<b>Totals</b>	<b>50</b>	<b>100</b>

Table 4 shows that majority (14) 28% of the respondents were between 31-35 years old. Under the variable of marital status, (46) 92% who were the majority were married. Regarding educational levels; (27) 54% stated they went up to primary level; on occupation majority (19) 38% were full time house wives. Regarding number of pregnancies (42) 84% out of 50 respondents had less than six pregnancies. Out of 50 respondents (42) 84% pregnancies reached term. Then majority (45) 90% of the respondents stated having children between one and six.

#### **4.2.2 SECTION B: Knowledge on Stillbirth and preventive measures**

This section presents the findings on knowledge on stillbirth and preventive measures. The knowledge questions covered questions on definition, causes, predisposing factors of stillbirth and months at which the baby born dead can be called a stillbirth; while preventive measures questions covered questions with alternative answers on antenatal activities utilized in the previous pregnancy to prevent stillbirth. Each correct response was assigned 1 mark. The total possible score was 20 while the lowest was 0. The scores were divided into two categories; low for 0-10 scores and high for 11-20 scores. It should be noted that some figures were not totaling up to 100%. This is because some questions had alternative (multiple) answers. There are four tables in this section showing responses to questions on knowledge on stillbirth. The graphs are presented in the following figures (**Figure 2, 3, 4 and 5**). Cross tabulations between knowledge and demographic variables were not done due to lack of variability in demographic variables.

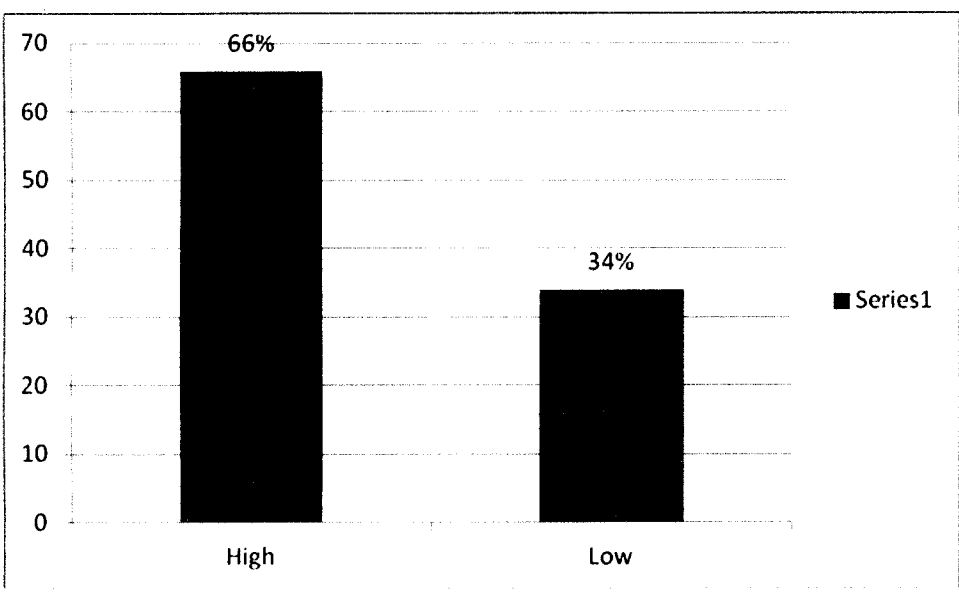
**Table 5: Respondents' Knowledge on stillbirth and preventive measures (n=50)**

Variables	Frequencies		
	Correct	Incorrect	Totals
<b>Definition of stillbirth</b>			
Giving birth to a dead baby	16 (32%)	34 (67%)	50 (100%)
Death of a baby	7 (14%)	43 (86%)	50 (100%)
I don't know	13 (26%)	37 (74%)	50 (100%)
<b>Months a fetus can be called stillbirth</b>			
0-4 months	3 (6%)	54(94%)	50(100%)
5-6 months	17 (34%)	33 (66%)	50 (100%)
7-8 months	17 (34%)	33 (66%)	50 (100%)
9 months and above	13 (26%)	37 (74%)	50 (100%)
<b>Causes of stillbirth</b>			
Bleeding during pregnancy	26 (56%)	24 (48%)	50 (100%)
Cord around the neck	40 (80%)	10 (20%)	50 (100%)
Sexually transmitted disease	45 (90%)	5 (10%)	50 (100%)
Poor maternal effort	47 (94%)	3 (6%)	50 (100%)
<b>Risk factors of stillbirth</b>			
Being obese	19 (38%)	31 (62%)	50 (100%)
Alcohol	34 (68%)	16 (32%)	50 (100%)
Smoking	34 (68%)	16 (32%)	50 (100%)
<b>Antenatal services utilized</b>			
Family Planning	30 (60%)	20 (40%)	50 (100%)
Testing for syphilis	47 (97%)	3 (6%)	50 (100%)
Health Education	43 (86%)	7 (14%)	50 (100%)
Physical examination	42 (84%)	8 (16%)	50 (100%)

Table 5 shows that more than half the respondents 16 (32%) stated giving birth to a dead baby; While 13 (26%) said they did not know. About the number of months a fetus born dead can be called stillbirth, the figures are 17 (34%) respondents stated 5-6 months; 17 (34%) of the respondents stated 7-8 months. On the causes of stillbirth the figures shows that 26 (52%) respondents stated bleeding during pregnancy; 40 (80%) out of 50 respondents stated cord around the neck; 45 (90%) out of 50 respondents stated sexually transmitted disease to be the cause of stillbirth, and 47 (94%) out of 50 respondents stated poor maternal effort as the cause of stillbirth. About knowledge of respondents on risk factors of stillbirth for both alcohol and smoking were at 34 (68%) respectively. According to services utilized in the previous pregnancy 30 (60%) out of 50 respondents stated having utilized family planning services; 47 (97%) out of 50 stated testing for syphilis; 43 (86%) out of 50 respondents stated having

utilized health education services and 42 (84%) out of 50 respondents stated they were physically examined to rule out any ailments. These were multiple answer questions.

**Figure 2: Respondents' level of knowledge on stillbirth**



**Knowledge levels on stillbirth**

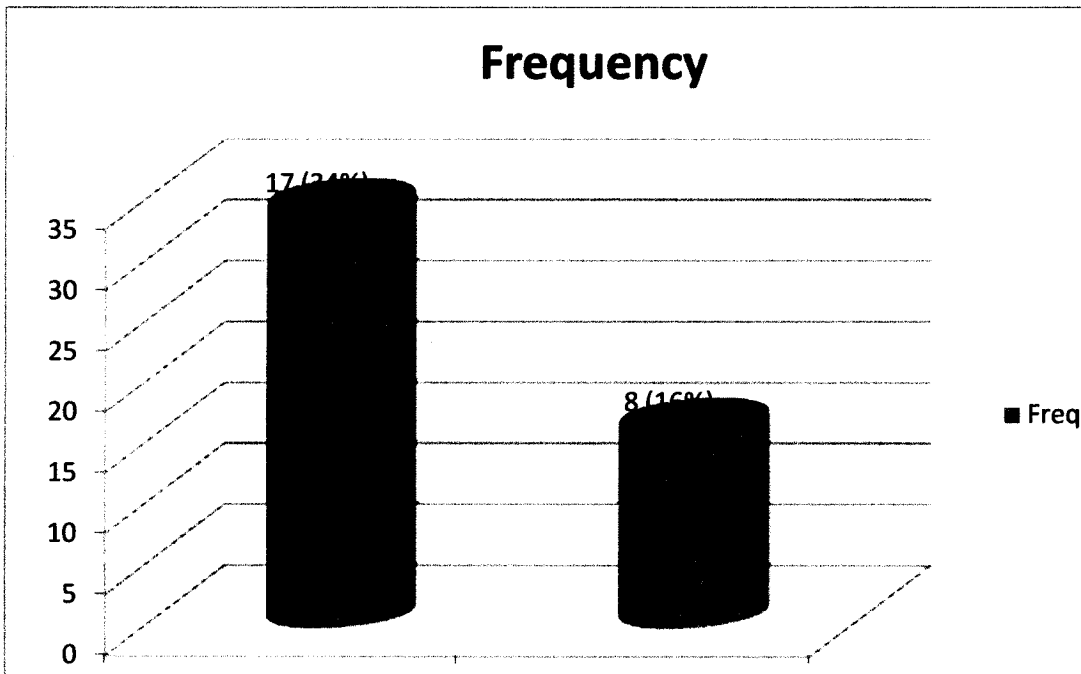
Figure 2 on the respondents' level of knowledge on stillbirth shows that 66% had high level of knowledge while 34% had low knowledge.

**SECTION C**

**4.2.3 UTILIZATION OF STILLBIRTH PREVENTIVE MEASURES**

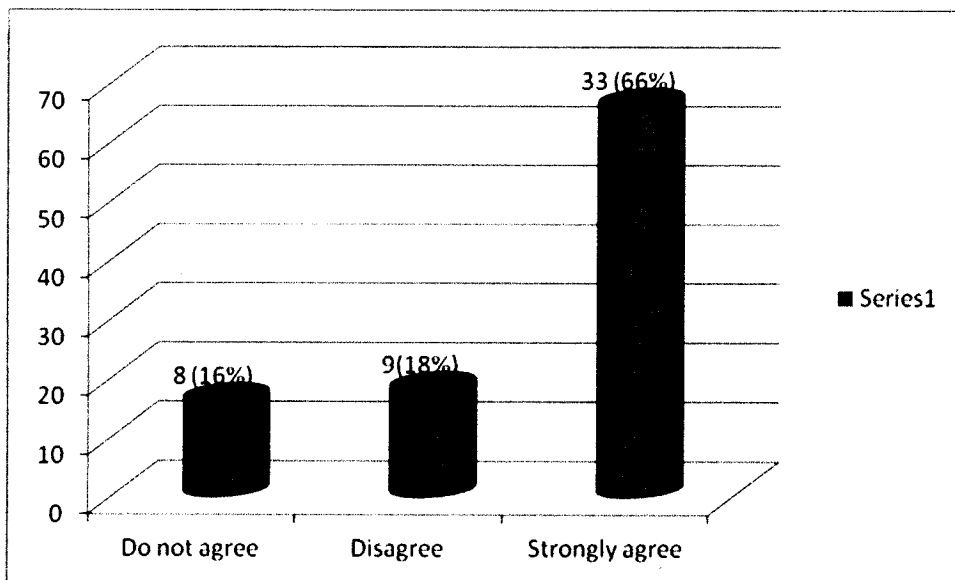
This section presents findings on utilization of stillbirth preventive measures. These are taking Fansidar as prophylaxis and sleeping under the mosquito net to prevent malaria; attending ANCs, vaccinations against Tetanus toxiod to prevent Tetanus, going for VCT to detect HIV virus to take precautions. Others are taking Vermox to kill worms, Ferrous sulphate and Folic acid in order to prevent anaemia, and not taking African cytocinon to prevent unnecessary complications. Each correct response was assigned 1 mark. The total possible score was 42 and were divided into two categories; low for 0 - 20 scores; high level for 21 – 42 scores. The level of utilization of stillbirth preventive measures is presented in the following graphs (Figures 4 to 13).

**Figure 3: Utilization of Fansidar during previous pregnancy (n=50)**



This shows respondents who took Fansidar in the previous pregnancy as a preventive measure for stillbirth. That is 34 (68%) out of 50 respondent stated having taken Fasidar during the previous pregnancy, while 16 (32%) out of 50 respondents did not agreed having (did not complete the three courses recommended) Fasidar as a preventive measure for stillbirth

**Figure 4: Women vaccinated against Tetanus Toxoid in the previous pregnancy (n=50)**



The figure shows that 33 (66%) women were vaccinated against Tetanus Toxoid while 8 (16%) were not.

**Figure 5: Using treated mosquito net during the previous pregnancy (n=50)**

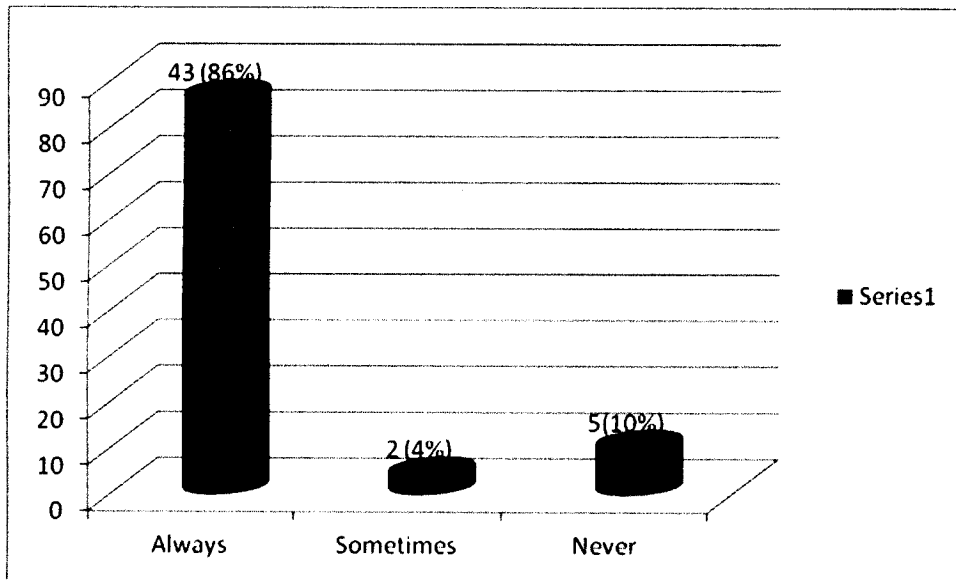


Figure 5 illustrates respondents who slept under treated mosquito net as a preventive measure to prevent malaria that has the potential to lead to stillbirth. Out of 50 respondents, 43 (86%) stated that they always slept under the insecticide treated mosquito net as a preventive measure for malaria which can lead to delivering a stillbirth; 2 (4%) out of 50 stated that they utilized the service at times, while 5 (10%) out of 50 respondents never utilized this service.

**Figure 6: Women who used herbal medicine during the previous pregnancy (n = 50)**

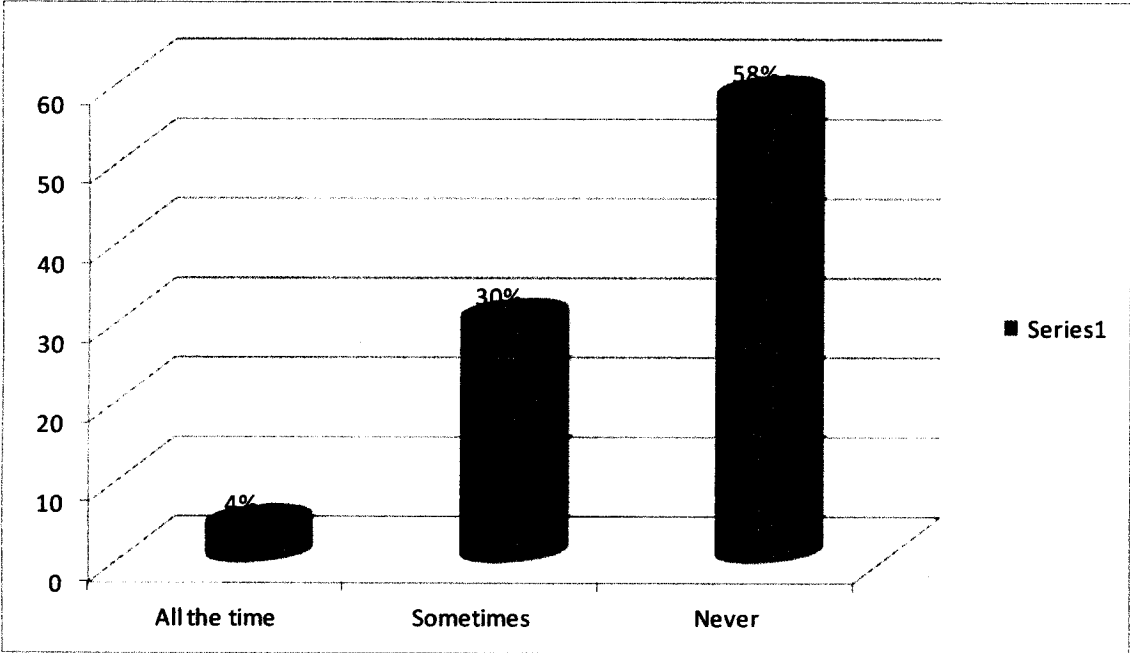
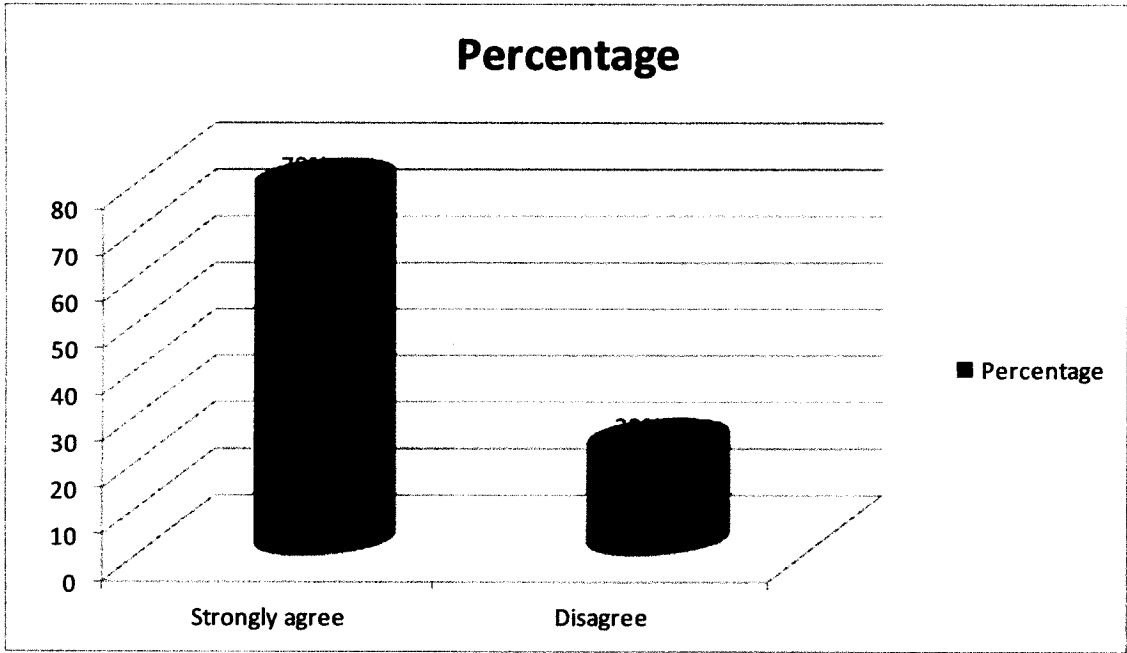


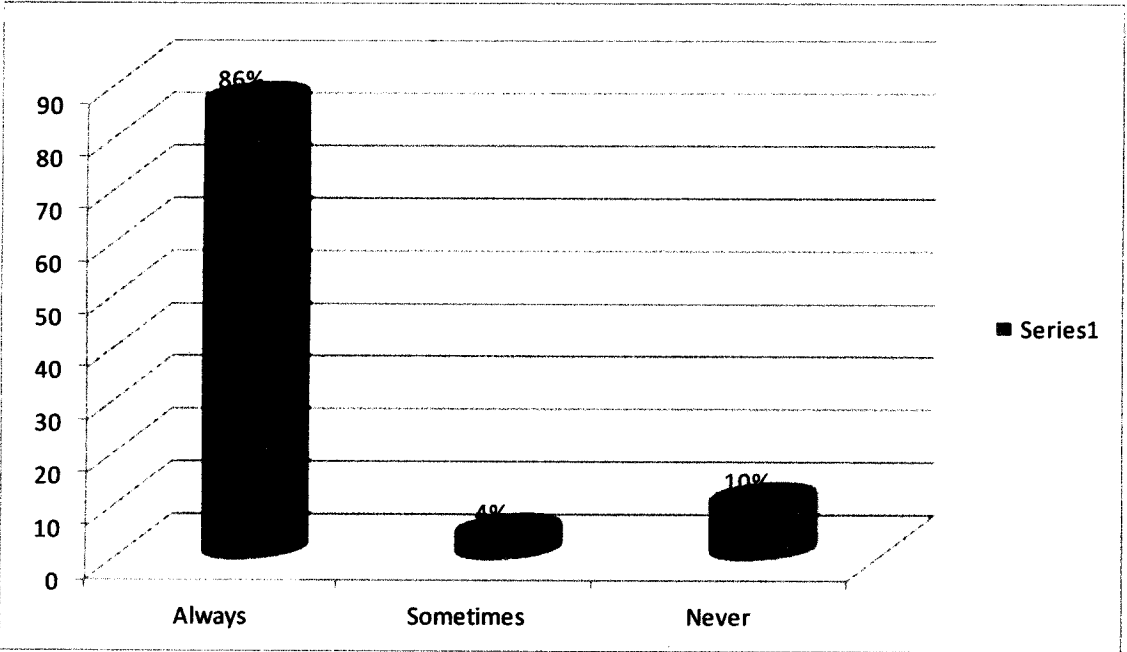
Figure 6 contains figures of respondents who used herbal medicines during the previous pregnancy. The practice can lead to stillbirth as some herbs can be toxic to the fetus. 2 (4%) out of 50 respondents stated that they ‘strongly agree’; 5 (10%) out of 50 respondents stated ‘do not agree’; 14 (28%) out of 50 respondents disagreed and 29 (58%) out of 50 respondents stated strongly disagree to having taken herbal medicine during the previous pregnancy.

**Figure 7: Using vermix during the previous pregnancy (n=50)**



Out of 50 respondents, 39 (78%) stated strongly agree to taking Vermox as an antenatal Service. They utilized a measure for the prevention of anemia that leads to stillbirth, while 11 (22%) out of 50 respondents stated “disagree” to utilizing the service as a preventive measure for stillbirth.

**Figure 8: Using folic acid during the previous pregnancy (n = 50)**



This figure shows that 37 (78%) out of 50 respondents stated “strongly agree”; 12 (24%) out of 50 respondents stated “ Agree” while 1 (2%) out of 50 respondents stated “disagree” to utilizing the antenatal service of taking Folic Acid as a preventive measures for stillbirth.

**Figure 9: Using ferrous sulphate in the previous pregnancy (N=50)**

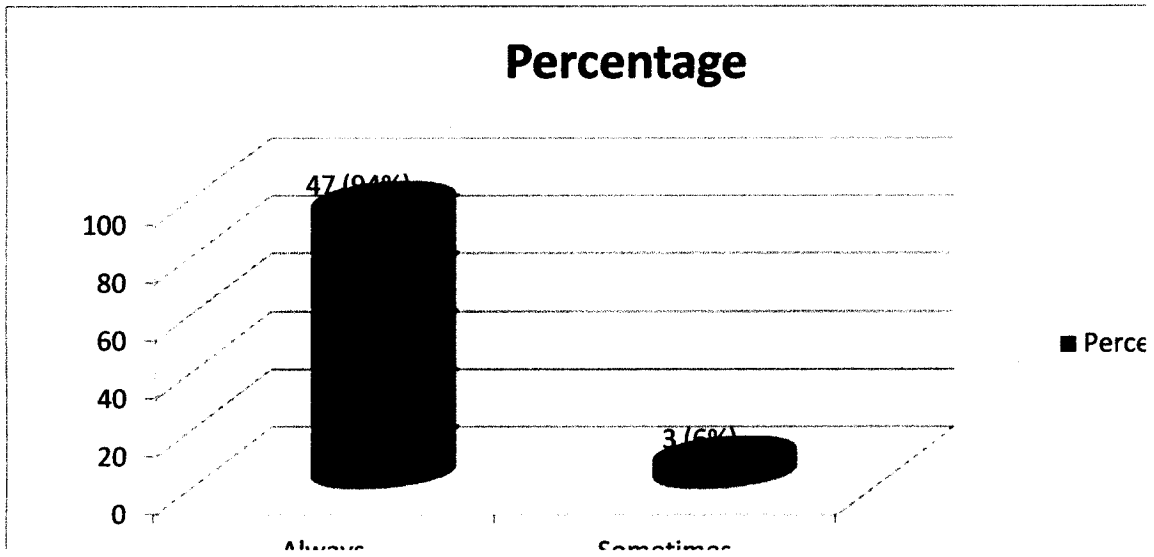
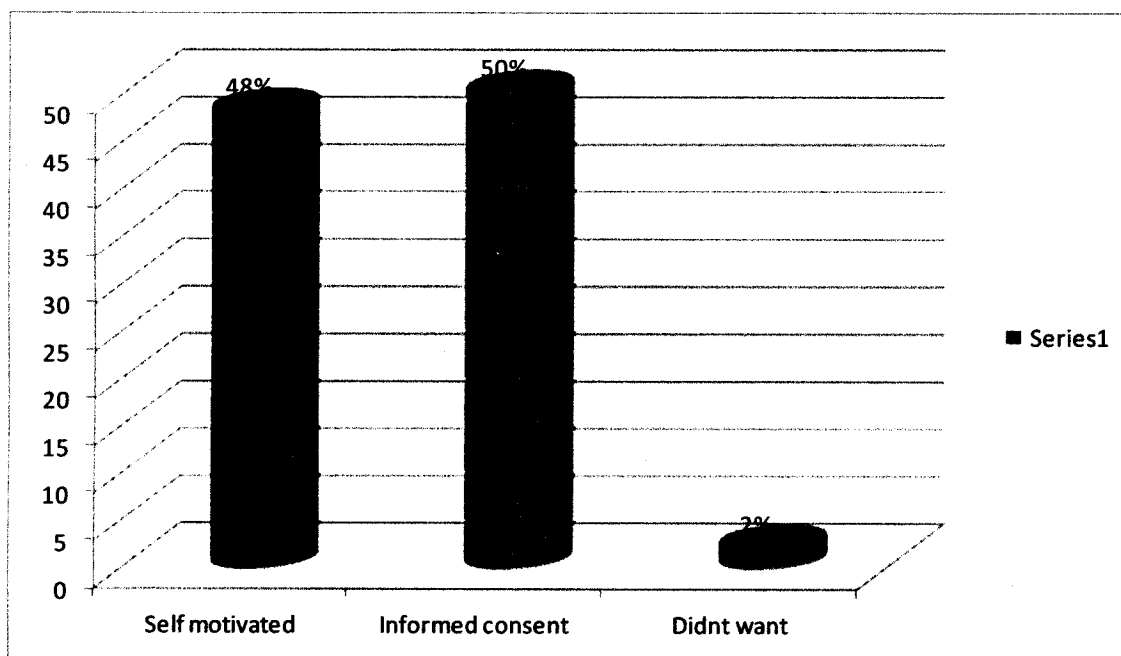


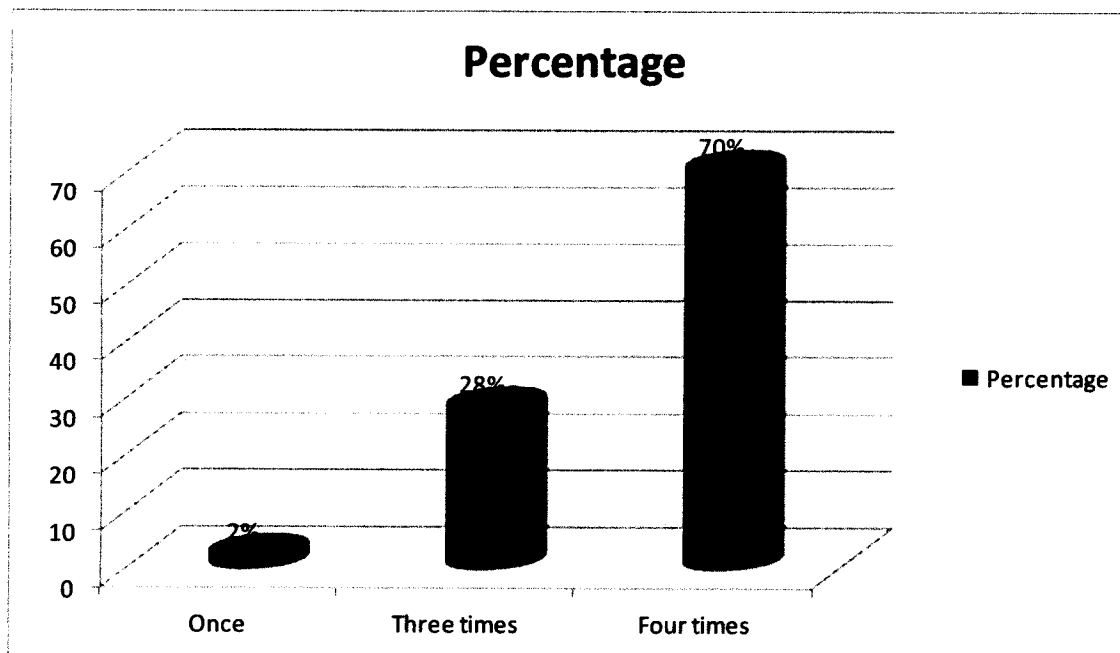
Figure 9 shows that 47 (94%) respondents out of 50 stated always while 3 (6%) out of the 50 respondents stated “Sometimes” in the use of Ferrous sulphate as a measure to preventing stillbirth.

**Figure 10: Women who went for voluntary counseling in previous pregnancy (n=50)**



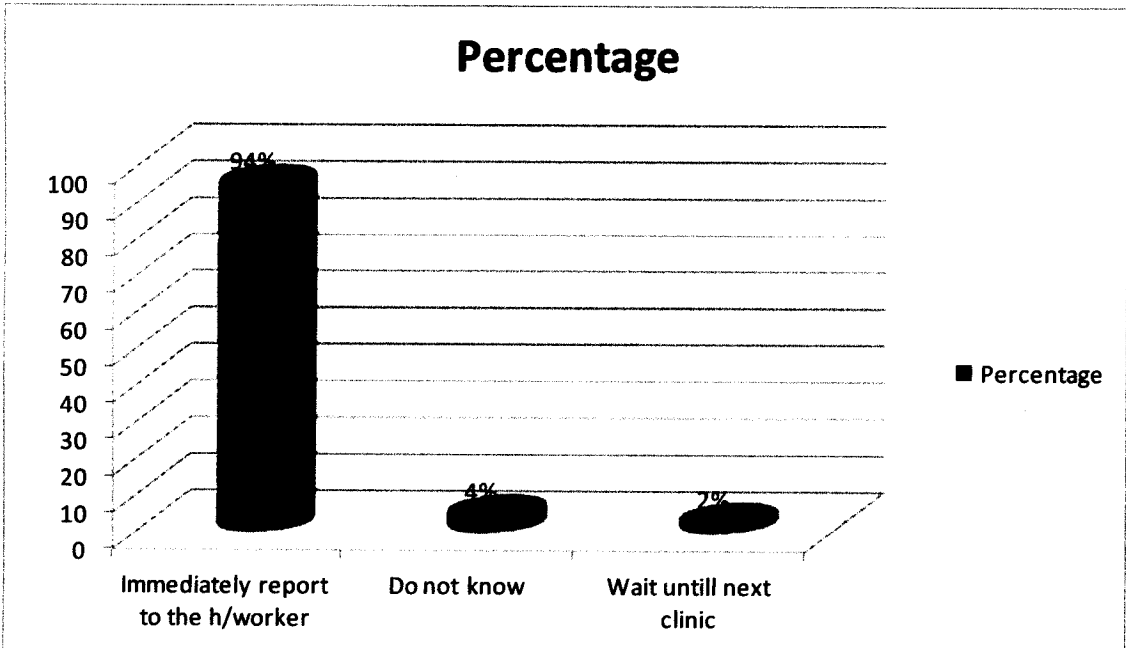
This shows that 24 (48%) respondents out of 50 stated strongly agree, 25 (50%) out of 50 respondents stated “Agree” while 1 (2%) stated “do not agree” to having been for VCT in the previous pregnancy.

**Figure 11: Number of times they attended ANC in the previous pregnancy (n=50)**



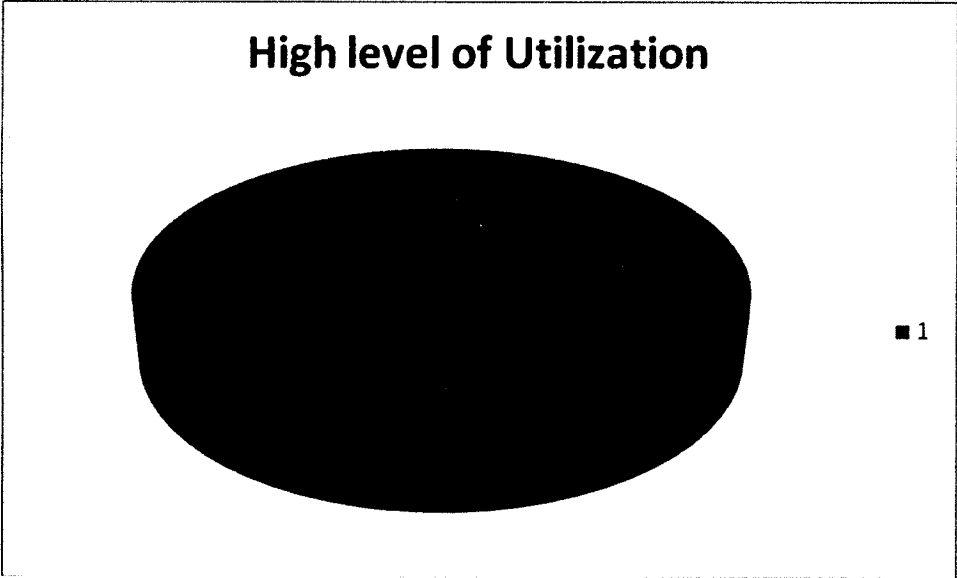
This shows that 1 (2%) out of 50 respondents stated having gone for ANC once; 14 (28%) stated three times and 35 (70%) four times.

**Figure 12: What to do if the baby in the uterus stopped moving (n-50)**



The figure shows that 47 (94%) of the respondents stated they would immediately report to the health worker; 2 (4%) of the respondents stated Do not know and 1 (2%) out of 50 respondents stated wait until the next antenatal clinic.

**Figure 13: Respondents' level of utilization of stillbirth preventive measures**



All the respondents had high level of utilization of stillbirth preventive measures. The cross Tabulations between utilization and demographic variables were not done due to variations In demographic variables.

**SECTION D**

**4.2.3 RELATIONSHIP BETWEEN UTILIZATION OF STILLBIRTH PREVENTIVE MEASURES AND DEMOGRAPHIC DATA**

This section presents results of the relationship between utilization of stillbirth preventive measures and demographic data. There is one table in this section showing the distribution of knowledge and utilization as continuous variables. It is wealthy noting that Cross tabulations between utilization of stillbirth preventive measures and demographic variables were not done due to lack of variability in demographic variables.

**TABLE: 6. DISTRIBUTION OF STUDY VARIABLES**

<b>VARIABLE</b>	<b>MEAN</b>	<b>STANDARD DEVIATION</b>	<b>RANGE</b>	<b>MINIMUM</b>	<b>MAXMUM</b>
<b>KNOWLEDGE</b>	1.340	0.478	1.00	1.00	2.00
<b>UTILIZATION</b>	3.000	0.000	0.00	3.00	3.00

Knowledge levels range was 1.00 (Mean = 1.340; SD = 0.478). Utilization level of stillbirth preventive measures range was 3.00 (Mean = 3.000; SD = 0.000). These statistical results were derived from SSPS data analysis tool version 17.0.

**Table 7: SECTION D: RELATIONSHIP BETWEEN KNOWLEDGE AND UTILIZATION VARIABLES**

<b>Knowledge</b>	<b>UTILIZATION OF STILLBIRTH PREVENTIVE MEASURES</b>		
	<b>High utilization</b>	<b>Low utilization</b>	<b>Total</b>
<b>High level</b>	17 (34%)	0	17 (34%)
<b>Low level</b>	33 (66%)	0	33 (66%)
<b>Total</b>	50 (100%)	0	50 (100%)

All the respondents (100%) had high utilization levels of stillbirth preventive measures. 66% had low knowledge levels while 34% had high level of knowledge of stillbirth preventive measures.

**SECTION E**

This section looks at the qualitative data that was collected from the two open-ended questions. There is only one table of suggestions which the respondents gave as far as knowledge and stillbirth preventive measures are concerned.

**TABLE 8: Frequency for women’s suggestions on how to improve and disseminated information on prevention of stillbirth**

<b>SUGGESTION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Domiciliary visits (focused)	4	17%
Sensitization campaigns	5	21%
Health Education	1	4%
Train more nurses	2	8%
Health post	12	50%
<b>TOTALS</b>	<b>24</b>	<b>100%</b>

## CHAPTER FIVE

### 5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR HEALTH CARE SYSTEM.

#### 5.1 CHARACTERISTICS OF THE SAMPLE

The discussion of the findings is based on data collected from a sample of fifty (50) respondents. The respondents were women in the child bearing age in Mbala District selected randomly from two health facilities and three health posts. The findings revealed that most (66%) of the respondents were not knowledgeable of what stillbirth was but were able to utilize the preventive measures to prevent stillbirth. A few 34% were knowledgeable and were able to utilize the preventive measures to prevent stillbirth. The sample was not gender sensitive because the study was only targeted on women in the child bearing age in the District. This means that 100% of the respondents were female in the child bearing age (18 – 45years).

The study revealed that (11) 22% of the respondents were between 26-30 years, (13) 26% were between 31-35year, (14) 28% of the respondents were between 36-40 years old (See table 4), this shows that there were more women in the age ranging between 26 – 40 years. This is because the five facilities where the study was conducted had a normal distribution of age groups of child bearing women in the district than might be the case in some parts of the district were girls less than 17 years are mothers and risky having complications and stillbirths. The results could be attributed to the government policy that discourages early marriage for girl child (ZHDS, 2007:42.1)

Under the variable of marital status, majority (46) 92% were married, The reasons could be that the area is characterized by polygamy and so most women stated married. Some may have other reasons for stating married for fear of stigmatization on moral grounds.

Regarding educational levels the study reveals (27) 54% stated they went up to primary level; (9) 18% stated they had reached secondary level; (12) 24% stated they went up to college level. This shows that half of the respondents had primary education, meaning most girls dropped out of school probably due to financial constraints. Furthermore, the boy child is given first priority to further education than the girl child who is told or promised in marriage as soon as she gets to grade seven. This is supported by CSO (2007) report which states that

the value to read and write is an important personal asset allowing women increased opportunity in life. Moving away from education levels, about 18 (38%) of the women were house wives, 6 (12%) self employed; 10 (20%) were farmers and (15) 30% of the respondents were in formal employment. The picture illustrates that more women were full time house wives and only a third were in formal employment. This can be attributed to high dropout levels of the girl child from school as a result few manage to complete school and find employment. These findings were consistency with CSO report (2007) that revealed that the major obstacle to unemployment levels among women were inequality in respect to access to education, discrimination in employment and occupation which leads to categorization of jobs according to gender and low level of women participation in decision making.

In regard to the number of pregnancies (42) 84% out of 50 respondents had less than four pregnancies while (8) 16% had between seven to eleven pregnancies. This shows that a good number of women are in the high parity category. Furthermore, out of 50 respondents (45) 90% had more than six children and (5) 10% had children between seven and eleven. This is due to lack of access to family planning services by most women especially those in the remotest areas of the District like Mutwizi East and West health posts. This implies that family planning services were not being utilized fully. This corresponds to Stephenson & Hennink 2004's study in the rural of Pakistan. The coverage and quality of family planning services was poor, with only 10% of the population living within easy walking distance of government operated family planning services access the services (Rosen and Conly 1996). There is need to intensify implementation of the service in the rural parts of the District in order to prevent stillbirths.

## **5.2 Knowledge of stillbirth**

Knowledge is one factor that contributes to positive health behavioral practices for example in this study, utilization of stillbirth preventive measures. The study findings revealed that 27 (54%) of these respondents (more than half) the respondents stated giving birth to a dead baby is the definition of stillbirth. 7 (14%) of the respondents stated death of a baby. This means two thirds of the respondents had the knowledge of stillbirth although they may not have a full understanding of the whole concept. This correlates with WHO, 2006, who stated that, stillbirth is a professional and lay term that refers to a dead born fetus and or intrauterine

death occurring either before onset of labour (ante partum death) or during labors (intra partum death). This is contrary to McClure et al 2011 who defined stillbirth in a complex and professional way as death of the fetus in the uterus after 28<sup>th</sup> week of conception or of a birth weight of 1000 gram. Hence women may not understand this definition well as compared to a simple definition. Meanwhile 16 (32%) of these respondents stated that they did not know. This would be attributed to inadequate health education that health workers give to women in the reproductive age. There is need to intensify education (information empowerment) on stillbirth by giving enough details of this public health problem in order to prevent the occurrences. In conclusion, the study indicates that if the women are given adequate information on what stillbirth is, they will be able to understand and use the knowledge to better their lives and those of the unborn babies thereby preventing stillbirths.

Regarding the period or months when the fetus born dead can be called stillborn, 3 (6%) of the respondents stated 0-4 months; 17 (34%) respondents stated 5-6 months; 17 (34%) of the respondents stated 7-8 months and 13 (26%) stated 9 months and above. According to this study half of the respondents could tell the difference between a stillbirth and a miscarriage that is those who stated below 5 months for miscarriage and 7 – 9 and above for stillbirth respectively. This does not correlate with Farlex (2011) who stated that stillbirth in developed countries is defined as fetal loss beyond 20 weeks of gestation. The conclusion for the finding of the study indicates that if most women in child bearing age had adequate knowledge about on stillbirths, they could be able to seek medical help to prevent loss of pregnancies thereby enabling pregnancies to progress to term and have live bouncing babies, thereby, preventing stillbirths.

On the knowledge of causes and risk factors of stillbirths (Figure 5) the study findings were that, 45 (90%) out of 50 respondents stated sexually transmitted disease to be the cause of stillbirth. The cultural practice of polygamy in the area where the research was conducted (Mambwe land) is rampant. Therefore, use of condom to prevent STIs cannot be tolerated in these homes. This increases the risk of STIs although the risk behaviors are within the marriages (within polygamy cultures) as Manlove et al, 2007 stated. 47 (94%) out of 50 respondents stated that poor maternal effort causes stillbirth. The reason is that most women were knowledgeable on the causes of stillbirth. Apparently the connection on how the above

causes can directly and or indirectly affect the growing fetus in the uterus is what they may be lacking. This implies that even if women could have the knowledge but if not interpreted into action of health behavior seeking; it would be of no benefit at all to them, their families and the society at large. Mallard et al, 2007 said both knowledge and perceived risk of STI among women in childbearing age are very limited. Therefore, to have knowledge about stillbirth causes, utilization of stillbirth preventive measures is important because of its significance contribution to adverse outcome of pregnancies in terms stillbirths (WHO, 2006).

Knowledge of respondents on risk factors for stillbirth which was a multiple answer questions stated the following, 19 (38%) out of 50 stated “being obese; 34 (68%) out of 50 respondents stated taking alcohol in pregnancy as one of the risk factors to stillbirth while 34 (68%) stated smoking as being a risk factor to stillbirths. The findings of the study demonstrate that more than half of the respondents had some knowledge on the risk factors. This entails that there is need to strengthen strategies for educating the women in child bearing age of the health behaviors that need to be encouraged in order to promote their health and prevent loss of life of the unborn babies. This correlates with the study conducted by Setright Russell in Australia between 2001 and 2006 et al; WHO, 2011 which indicated that inadequate nutrients and essential nutrient deficiencies like folic acids, iodine, and omega 3 among women in child bearing age contribute to spontaneous abortions, and birth defects abnormalities consequently leading to stillbirths. Therefore, women in child bearing age need to be informed and encouraged through Information Education Communication (IEC) to have good nutrition during pre conception and during pregnancy to prevent congenital abnormalities and thereby lessening stillbirths.

### **5.3 Utilization of stillbirth preventive measures**

A multiple question answer on utilization of antenatal services revealed that; 30 (60%) out of 50 respondents stated having utilized family planning services; 47 (97%) out of 50 stated testing for syphilis; 43 (86%) out of 50 respondents stated having utilized health education services and 42 (84%) out of 50 respondents stated physical examination utilization. The scenario for these results demonstrates good level of practice in utilizing services that will prevent stillbirths. As a matter of facts, knowledge is power and is able to transform or influence positive health behavior practices. The current study results correlates with the

results in the study conducted by Ssengooba and friends (Ssengooba et al, 2003). It involved training of Midwives / nurses per each Rural Health centre in ten districts in family planning. The use of continuous information, communication and education saw an increase in women receiving delivery care from these mid-wives / nurse because they were well informed. The increase of services rendered was from 36% - 58% for nurses; TBAs from 65 – 18%; Doctors from 3% - 105%. It also illustrated that increasing the number of skilled health providers in reproductive health services increases access to health care to women; besides, the use of continuous information and education provide knowledge on the use family planning and testing for syphilis, thereby reducing reoccurrences of stillbirth which may occur as a result of maternal complications.

Concurrently, 47 (94%) of the respondents stated that they would immediately report to the health worker if the baby in the uterus is not moving adequately as before. 2 (4%) of the respondents stated Do not know and 1 (2%) out of 50 respondents stated that they wait until the next antenatal clinic. This means that the possibility of women in childbearing age to be able to utilize stillbirth preventive measures is very high. Nevertheless the efforts are blocked or impended by non availability of emergency obstetric care units. This is supported by a study conducted by Lirr, (2011) who said stillbirths could be averted with universal coverage of comprehensive emergency obstetrics care, early detection and management of fetal growth restriction and hypertension; reducing the numbers of unintended pregnancies, more especially among high-risk women, and thereby, preventing recurrence of stillbirths. Dr Carole Presern, 2011 also said, if every woman had access to a skilled birth attendant, a midwife, and a physician for both essential care and for procedures such as emergency caesarean section, we would see a dramatic decrease in the number of stillbirths.

#### **5.4 Relationship between Utilization and Knowledge**

According to the analysis, with respect to knowledge of stillbirth preventive measures 66% had low knowledge about stillbirth and 34% had low level of the knowledge of stillbirth preventive measures. This shows that health workers are implementing the programmes for the sake of meeting the national target to prevent stillbirth which is good to have figures. On the other hand, women have no reasons for doing all the activities during antenatal because it has no impact on their lives to make informed choices and take full responsibilities of their

health. The results correspond well with the words of Gromadecka, 2001, in Debrah, 2010 (pg 38) where he stated “health professionals should use antenatal clinics as platform to organize health education programmes to educate mothers and pregnant women on the nature, causes, effects and preventive measures of stillbirth.” According to Gromadecka very little is being done in this direction. He went on to say helping mothers to have in-depth knowledge of stillbirth will help reduce stillbirth rates. White, 2003 results revealed that women are not advised or do not know that ANC services were necessary. This shows lack of awareness and inadequate dissemination of information to prevent stillbirths using this media of communication.

According to Gromadecka, (2001) he stated that level of education in a person plays an important role in his or her ability to be able to know any changes that may take place on her body and be able to maintain a certain level of hygiene. Therefore, educated women will maintain hygiene and prevent infections like urinary tract that may lead to loss of pregnancy. Education has been identified as a primary tool in behavior change (Edward, 2010). In this study more than half of the women who participated in the study had low level of education (56%) that is 27 (54%) and 1(2%) respectively. Therefore, a pregnant woman’s level of education has an impact in application of the learnt knowledge on the prevention of stillbirth.

Respondents who attained tertiary education level (university plus those who never went to school) had high level of knowledge of stillbirth and preventive measures that is 100% respectively, followed by those who attained college. Their knowledge levels were at 66%, primary education had 22% and 11% for those who attained secondary level. Furthermore, respondents who attained primary, secondary and college levels had low knowledge level of stillbirth preventive measures at as follows; 89%, 78% and 44% respectively. The least in knowledge level were those who never went to school had these were at 0%. The results of the study show the mixture of both the educated and un educated having low knowledge. This implied that lack of awareness could have had an influence on the results. This correlates with the study conducted by Tura 2009 in Ethiopia, whose findings were that ANC services were underutilized because of low awareness of the community about its importance.

More than half of the respondents who attained primary level education had higher levels of utilization preventive measure (54%) than those who attained tertiary education (24%) college

and university 2% respectively. Those who attained secondary level educations were at (18%) and those who never went to school at (2%) respectively. The results in this study were that women with low level education had high level of utilization. This was contrary to Kumar et al, 1997 results on the study conducted in India where women belonging to a poor social strata did not go for antenatal and were mostly illiterate. This shows that it is not the level of education only that can influence utilization of ANC services but other factors can be involved. Therefore the need to explore other factors in future researches.

## **5.5 SIGNIFICANCE TO NURSING**

Implications of this study on the health care system is based on four main headings which are related to the problem under study, its objectives and hypothesis namely Practice, Research, Administration and Education. The study revealed that 66% of the respondents out of the total number of women involved in the study had low knowledge but high level of utilization. This indicates that the majority of the respondents were not very knowledgeable in regard to knowledge of stillbirth and preventive measures although the utilization level of stillbirth preventive measures was high. Another observation noted is that despite few respondents 34% had high knowledge, their utilization level correlated well to their knowledge of stillbirth and preventive measures. All these findings have implications to the health care system as already alluded to above.

### **5.5.1 Practice**

The study findings reveals that 66% of women involved in the study had low knowledge but high level of utilization of stillbirth preventive measures while 34% had both high knowledge and high level of utilization. This indicates that women need information regarding prevention of stillbirth for them to utilize the preventive measure strategies and an understanding of the reasons behind utilization. This will be achieved through intensified health education preventive strategies at each point of contact with women in childbearing age. However it is important for the nursing staff and other health workers including the community based volunteers (Trained Traditional birth Attendants -TBA) to intensify IEC on the importance of making use of the services offered in health institutions to prevent stillbirths. This puts a challenge on health care providers to take up the responsibility to disseminate message of

stillbirth as one of the health problem. This implies that vigorous campaigns and outreach activities on community sensitization are required to ensure that women utilize the antenatal services offered within their environment.

**5.5.2 Nursing Research**

According to the findings of this study, 34% of the respondents had both high level of knowledge and utilization levels of preventive measures but 66% had low knowledge but high utilization levels of preventive measures of stillbirth. Therefore, with the findings of this research; further search should be done to find out what drives or motivates the women to utilize the preventive measures of stillbirth and yet lack the knowledge of what they are preventing.

**5.5.3 Administration**

The results of this study revealed a significant association between knowledge of stillbirths, utilization of preventive measures and lack of information on the impact and the challenges this health problem has on society. Therefore, nurse administrators and all health workers involved in primary health care must be well equipped with the information leading to stillbirth. This is because effective dissemination of this information will bring positive results of serving innocent lives of the unborn babies. The responsibility to see that information on stillbirth preventive measures is carried out falls on the shoulders of nurse managers who through supervision and encouragement will ensure nurses deliver the information to the women.

**5.5.4 Nursing Education**

In this respect, nurses undergoing midwifery training need to be trained in resuscitation of the newborn in order to bring back to life the asphyxiated babies who are at higher risk if not managed well (resuscitated). There is also need to equip all nurses with this skill even the general nurses through training (short practical courses or workshops); since upon completion of school, they will be working in institutions where they will find themselves as the only qualified personnel to assist mothers during childbirth. For those already qualified, refresher course (practical) for a period of time in resuscitation of the new born will bear positive

results.

## **5.6 Conclusion**

The study sought to determine the knowledge and utilization of stillbirth preventive measures among women in child bearing age in Mbala District. Women were interviewed using scheduled closed ended questionnaire. The sample was drawn from Fifty (50) Respondents who were conveniently selected and written consent was obtained from each respondent before they filled in the questionnaire.

The findings of the study show that there is still need to sensitize women in child bearing age. Their education does have an effect on the knowledge of stillbirth and utilization of the preventive measures of stillbirth. This is because the results from the study revealed that 33 (66%) of the respondents exhibited low knowledge levels of stillbirth preventive measures but high levels of utilization of preventive measures. On the other hand, 17 (34%) had both high knowledge and utilization levels of stillbirth preventive measures. The study also revealed that (54%) of the respondents who attained primary level education had higher levels of utilization of preventive measures. Therefore, there is need to do more dissemination of information on the importance of preventing stillbirth through utilization of stillbirth preventive measures.

## **5.7 Recommendation**

The study results recommendation is that Health Care Providers should have adequate knowledge on prevention of stillbirth and preventive strategies; and should have an insight into the factors that contribute or influence stillbirth. Furthermore, health workers involved in primary health care should make every opportunity of ANC a platform for serious information exchange with the mothers or women in childbearing age.

### **5.7.1 To Ministry of Health**

- There is need for the MOH to increase comprehensive obstetric emergency facilities and units that is one (1) in each district and four units (4) respectively to preventive stillbirth. This is helpful to prevent stillbirths as women will be told what EMOC is all about and will know exactly where to go for help without delaying. Currently only 52 districts with EMOC units.
- The Ministry of Health should spear head the dissemination of messages through various

media such as television, radio, printed media, campaigns, on community involvement on strategies of preventing stillbirth.

- The Ministry of Health as policy making organization should ensure that the use of partogram in all institutions is adhered to by all health care providers involved in conducting deliveries so as to ensure quality of care through supervisions.
- There is need to increase the grants to the institution for purchase of the necessary equipment and materials required in the prevention of stillbirth.
- The Government needs to identify stakeholder who are specialized in resuscitation of the newborn programme to supplement their inadequacies in terms of training staff and purchasing of supplies in order to curb down stillbirth.
- There is need for Government to build training schools at least one in each district to train midwives to adequately increase the number of health providers in all institutions in the country.
- There is need for Government to include in school health services package a part on stillbirth prevention to adolescents in the childbearing age.
- There is need to increase the funding of research programme to allow more researches to be done on effective strategies or interventions to prevent stillbirths as this will help to improve the quality of care provided to the clients and reduce loss of life to the unborn.

#### **5.7.2 To District Health Management Team**

- The District Health Management Team (DHMT) should positively support the programmes by ensuring that funds allocated to activities related to effective antenatal care campaigns, Information communication and educational materials are released and used for the intended programme.
- DHMT should lobby through the provincial office for more nurses to be sent to the district according to the establishment to have at least one qualified personnel, equipped with resuscitation skills of the newborn to prevent stillbirth at every health facility.
- DHMT to pursue the issue through the province and their Human Resource of including the post of a Nursing officer at the district level to coordinate the activities of Maternal and Child Health in the District.

### **5.7.3 To Hospital Management**

- Management should ensure orientation of health care providers working in obstetric and gynecological wards on the resuscitation of the newborn and other preventive strategies like vigorous information education and communication to all women in childbearing age on contact to enhance their knowledge levels of prevention of stillbirths
- There is need to increase the staffing levels in Gynecological and obstetric wards to effect quality of care and ensure all protocols and guidelines for managing the pregnant and laboring women are adhered to so as to prevent stillbirths.

### **5.8 Dissemination of Findings**

Dissemination of findings entails the measures that would be undertaken to make known to the relevant authorities, public and study subjects what the outcomes of the study was (what it has measured). The study findings will be disseminated by presenting summaries of research findings to Mbala District Management Team and Mbala General Hospital with the necessary recommendations on Knowledge of stillbirth and utilization of stillbirth preventive measures. The researcher will arrange for a presentation of the research findings in the tripartite Management meeting to all the top managers and other departmental heads at the institution. Four copies of the final report will be printed, bound and submitted to the Department of Nursing Sciences, the Medical library, CHAZ as the sponsors and a copy to the investigator. The investigator will make attempts to publicize the findings to the public for public awareness and action, either through the internet or conference, or publication of the article in a peer reviewed journal.

### **5.9 Limitations of the Study**

- Time allocation in which to carry out the research was not adequate.
- Since this was an academic exercise, the sample was limited to 50 respondents. Therefore, it was too small to generalize the findings.

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**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SCIENCES**

**INTERVIEW SCHEDULE**

**TOPIC: TO DETERMINE KNOWLEDGE AND UTILIZATION LEVELS OF STILL BIRTH PREVENTIVE MEASURES AMONG WOMEN IN CHILD BEARING AGE IN MBALA DISTRICT.**

Date of Interview: \_\_\_\_\_

Place of Interview: \_\_\_\_\_

Name of Interviewer: \_\_\_\_\_

**INSTRUCTIONS TO THE INTERVIEWER**

1. Introduce yourself to the respondent
2. Explain the purpose of the interview to the respondent
3. Assure respondent of confidentiality and anonymity
4. obtain verbal consent to interview her
5. Do not write name of the respondent should appear on interview schedule
6. Tick in the box corresponding to the correct answer with alternative
7. Write responses in spaces provided for open questions

**SECTION A: DEMOGRAPHIC DATA**

FOR  
OFFICIAL USE

1. What is your age? (Age on last birthday) \_\_\_\_\_ years

2. What is your marital status?

(a) Single { }

(b) Married { }

(c) Divorced { }

(d) Separated { }

(e) Widowed { }

3. What is your highest educational attainment?

(a) Never been to school { }

(b) Primary { }

(c) Secondary { }

(d) College { }

(e) University { }

4. What is your occupation?

(a) Self employed { }

(b) Formal employment { }

(c) Farmer { }

(d) Full time housewife { }

(e) Others (Specify) \_\_\_\_\_

\_\_\_\_\_

5. How many pregnancies have you had? \_\_\_\_\_

6. How many of these pregnancies did reach term? \_\_\_\_\_

7. How many children do you have? \_\_\_\_\_

**SECTION B: KNOWLEDGE OF STILLBIRTH AND PREVENTIVE MEASURES**

8. What is stillbirth?

- (a) Giving birth to a dead baby { }
- (b) Death of a baby { }
- (c) A non motile fetus in utero { }
- (d) I don't know { }

9. At how many months can a fetus born dead be called stillbirth?

- a) 0 – 4months { }
- b) 5 – 6months { }
- c) 7 - 8months { }
- d) 9months and above { }

10. What are the causes of stillbirth? (Tick all correct answers)

- (a) Bleeding during pregnancy { }
- (b) Cord around the neck { }
- (c) Having sex during pregnancy { }
- (d) Sexually transmitted disease { }
- (e) Eating groundnuts { }
- (f) Poor maternal effort { }

11. What are the risk factors to stillbirth? (Tick all correct answers)

- (a) Being assisted by a skilled personnel { }
- (b) Being obese { }
- (c) Not taking traditional medicine in pregnancy { }
- (d) Alcohol { }
- (e) Smoking { }
- (f) Giving up smoking and drinking alcohol { }
- (g) Taking ferrous sulphate { }

12. How would you want health care providers to provide you with information on stillbirth, any suggestion?

---

## SECTION C: UTILISATION OF PREVENTIVE MEASURES

13. What antenatal services did you utilize during your previous

pregnancy in order to prevent stillbirth? Tick correct answers.

a) Family planning { }

b) Testing for syphilis { }

c) Health education on care of

pregnancy, birth preparedness, signs of labour

and disease prevention { }

d) Physical examination { }

e) Sleeping facing up { }

14. I took Fasidar as prescribed during my previous pregnancy.

a) Took Fansidar { }

b) Twice { }

c) Don't know { }

d) I am not sure { }

e) Did not take Fasidar { }

15. I slept under a treated mosquito net as a preventive measure against stillbirth in the previous pregnancy.

a) Always { }

b) Sometimes { }

c) Never { }

16. I was vaccinated against Tetanus as a preventive measure against stillbirth in my previous pregnancy.

a) Strongly agree { }

- b) Agree { }
- c) Don't agree { }
- d) Disagree { }
- e) Strongly disagree { }

17. I took Herbal medication during my previous pregnancy.

- a) Always { }
- b) Never { }
- c) Sometimes { }
- d) Disagree { }
- e) Not sure { }

18. I took Vermox during my previous pregnancy as prescribed by the health care provider to treat worm infestation.

- a) Strongly agree { }
- b) Agree { }
- c) Don't agree { }
- d) Disagree { }
- e) Strongly disagree { }

19. I took Folic Acid during my previous pregnancy as prescribed by the health provider to prevent stillbirth.

- a) Strongly agree { }
- b) Agree { }
- c) Don't agree { }
- d) Disagree { }
- e) Strongly disagree { }

20. I took Ferrous Sulphate in my previous pregnancy as prescribed by the health care provider.

- a) Always { }
- b) Sometimes { }

c) Never { }

21. During my previous pregnant I went for Voluntary Counseling and testing to as a preventive measure for stillbirth.

a) Self motivated { }

b) Informed consent { }

c) Don't know { }

d) Disagree { }

e) Don't want { }

22. How many times did you attend antenatal clinic in your previous pregnancy as is recommended by the health policy?

a) Once only { }

b) Three times { }

c) Four times / and above { }

d) Never been there { }

23. When you are pregnant and you feel that your baby in the uterus is not moving as often as before; what could you do?

a) Just wait for it to start moving again { }

b) Immediately report the matter to  
the health care provider { }

c) Don't know { }

d) Wait until the next antenatal visit { }

24. Any suggestion on how you wish the health workers to provide antenatal health services? \_\_\_\_\_

**END OF INTERVIEW**

**THANK YOU FOR YOUR PARTICIPATION**

Any Comments \_\_\_\_\_

The University of Zambia  
School of Medicine  
Department of Nursing Sciences  
P.O.Box 50110  
Lusaka.

The Executive Director  
Mbala District Management Team  
P.O.Box 420059  
Mbala

26<sup>th</sup> October, 2011

UFS: The Head, Department of Nursing Sciences

Dear Sir / Madam,

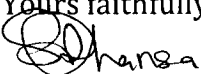
**RE: REQUEST FOR PERMISSION TO UNDERTAKE A PILOT RESEARCH AND MAIN STUDIES IN SIX CENTRES OF MBALA DISTRICT**

I am a fourth year student pursuing a Bachelor of Science in Nursing Degree. In partial fulfillment for the award of this Degree, I am required to carry out a research project. My study topic is "**knowledge of still birth and utilization of still births prevention measures among women in child bearing age in Mbala district**".

I am requesting for permission to conduct both my pilot and main studies in the six health centres in Mbala district - among multiparous women from 1<sup>st</sup> November and 28<sup>th</sup> November, 2011.

Attached are my questionnaire and consent form. If you need any clarification please contact the Head of Department of Nursing Sciences.

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

Yours faithfully,  
  
Sr. Chansa Regina

**Appendix: III RESEARCH WORK SCHEDULE - 29.06 11 TO 14.02.12**

<b>ITEM NO.</b>	<b>TASK TO BE PERFORMED</b>	<b>DATES</b>	<b>WEEKS</b>	<b>PERSONNEL</b>	<b>DAYS REQUIRED</b>
01.	Literature review	29 .06.11- 14.02.12		Researcher	
02.	Finalize research proposal	01.08.11 – 28.10.11		Researcher	59 days
03.	Clearance from relevant authorities	10.10.11 – 28.10.11		Researcher	18 days
04	Pilot study	19.10.11 – 21.10.11		Researcher	3 days
05	Data collection tool	01.11.11 – 11.11.11		Researcher	9 days
06	Data Analysis	07.12.11 – 09. 01.12		Researcher	33 day
07	Report writing	06.01.12 – 30.01.12		Researcher	25 days
08	Submit first draft copy of proposal to supervisor	31.01 12 – 06.02.12		Researcher, Nursing science department, Supervisor,	7 days
09.	Finalizing the report	07.02.12 – 24.02.12		Researcher	18 days
12.	Dissemination of research findings	27.02.12 – 15.03.12		Researcher	18 days
13.	Monitoring and evaluation	26.06.11 – 24.03.12		Researcher	Continuous

**Appendix: IV**

**RESEARCH BUDGET PROPOSED 2011 -2012**

No.	ITEM	UNIT COST (ZMK)	QUANTITY	TOTAL (ZMK)
1	<b>STATIONARY</b>			
	Ream of paper	30, 000	3 Reams	90, 000
	Ball pens	15 00	5	7, 500
	Pencils	500	5	2, 500
	Tippex	30, 000	1 Packet	30, 000
	Note books	5, 000	2	10, 000
	Stapler	20, 000	1	20, 000
	Staples	15, 000	1 Box	15, 000
	Scientific calculator	100, 000	1	100, 000
	Perforator	30, 000	1	30, 000
	Spiral binders	3000	5	15, 000
	Front and back hard covers	15, 000	8	120, 000
	Flip chart	30, 000	1	30, 000
	Markers	5,000	4	20, 000
	BAG			
	<b>Subtotal</b>			<b>489, 000</b>
2	<b>SECRETARIAL SERVICES</b>			
	Typing research proposal	3, 000	50	150, 000
	Typing research questionnaire	3, 000	8 pages	24, 000
	Typing draft report	3, 000	80 pages	240, 000
	Typing final report	3, 000	80 pages	240, 000
	Binding final report	50, 000	5 copies	250, 000

	<b>Subtotal</b>			<b>904, 000</b>
3	<b>PERSONNEL</b>			
	Research bag	1	120, 000	120, 000
	Snacks	10, 000	30 days	300, 000
	Researcher	50, 000	20 days	1, 000, 000
	<b>Subtotal</b>			<b>1, 330, 000</b>
	<b>TOTAL</b>			<b>2, 723, 000</b>
	<b>Contingency fund 10%</b>			<b>272, 300</b>
	<b>GRAND TOTAL</b>			<b>k <u>2, 996, 300</u></b>

### **BUDGET JUSTIFICATION**

In order to conduct this study effectively and professionally, funds for operational, administrative and secretarial services will be required as follows.

### **STATIONERY**

Stationery will be required for typing the research proposal, interview schedules, consent forms, final research report as well as typing and printing of the report. The notebooks will be needed for record keeping during data collection and analysis. The scientific calculator will be used for data analysis. Tipex will be used to erase or collect errors. A bag will be used for carrying and storing data and other stationery.

### **SECRETARIAL SERVICES**

Funds for typing work will be required to pay a hired secretary as work is too much to be done by the researcher. Photocopies will also be required at times to reduce costs on printing the questionnaires. The research proposal and report will need binding therefore, the need to allocate funds to this activity.

**PERSONNEL**

The researcher will need money for Lunch and any other unforeseen circumstances during the study.

**CONTIGENCY**

Contingency fund will be required in case of any unforeseen circumstances like inflation and unstable currency. The contingency fund is 10% of the total bu

## MARKING KEY

### Appendix: V

#### MARKING KEY FOR THE STUDY VARIABLES SECTION C: KNOWLEDGE OF STILLBIRTH AND UTILIZATION OF PREVENTIVE MEASURES

QUESTIONS	ANSWERS	SCORES
8	A	1
9	B	1
10	A, B, D, F	6
11	B, D, E	7
13	A, B, C, D	5
<b>TOTAL SCORE</b>		<b>20</b>

#### KEY

HIGH LEVEL: 11– 20 scores

LOW LEVEL: 0 – 10 scores

**GRAND TOTAL: 20 scores**

#### SECTION C: UTILIZATION OF PREVENTIVE MEASURES

QUESTION	ANSWERS	SCORES
14	A,B, C, D, E	5
15	C	1
16	A, B, C	3
17	A, B,C,D,E	5
18	A,B,C, D, E	5
19	A, B, C, D,E	4
20	A, B,C,D,E	5
21	B	1
22	A, B,C,D,E	5
23	A, B,C,D,E	5
24	A	3
25	-	-
<b>TOTAL SCORE</b>		<b>42</b>

#### KEY

HIGH LEVEL: 21 – 42 scores

LOWER LEVEL: 0 – 20 scores

**GRAND TOTAL: 42 scores**

## Appendix: VI

### INFORMED CONSENT

Dear participant,

My name is Sr. Regina Chansa, a student pursuing a degree in Bachelor of Nursing Science in the Department of Nursing Sciences at the University of Zambia, School of Medicine.

I'm required to undertake a research project in partial fulfillment of my degree in Nursing. My study seeks to determine knowledge of still birth and utilization of stillbirth preventive measures among women in child bearing age in Mbala district.

You have been randomly selected to participate in this study. You will be asked some questions about knowledge of stillbirth and utilization of stillbirth prevention measures, kindly bear in mind that any information you will give me will be kept in confidence and no name will be written on the interview schedule instead I will use the code numbers. I wish to inform you that participation in this study is voluntary and therefore, you are free to withdraw at any stage of the study if you so wish without any penalty.

You will not receive direct benefits from the study or monetary gain. The information that you give will help to develop better understanding of women's perception about still birth and measures to prevent stillbirth. This information will be used by health planners and other organizations in finding ways of helping in preventing stillbirth rates.

I ..... Hereby called the participant understands the guidelines of this study and I am willing to participate in the study.

Dated this .....day of .....2011

Signature/ thumb print of respondent.....

Signature of interviewer.....

Appendix: VII

THE GANTT CHART SHOWING VARIOUS TASKS TO BE UNDERTAKEN AND THE TIME REQUIRED FOR EACH TASK TO BE PERFORMED FROM JUNE, 2011 TO APRIL, 2012

MONTHS	JUNE				JULY				AUG				SEPT				OCT				NOV				DEC				JAN				FEB				MAR				APRIL			
	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				
No. of weeks per month																																												
Task to be performed																																												
Person responsible																																												
Literature review																																												
Finalizing research proposal																																												
Data collection tool																																												
Clearance from																																												



Appendix: VII

THE GANTT CHART SHOWING VARIOUS TASKS TO BE UNDERTAKEN AND THE TIME REQUIRED FOR EACH TASK TO BE PERFORMED FROM JUNE, 2011 TO APRIL, 2012

MONTHS	JUNE				JULY				AUG				SEPT				OCT				NOV				DEC				JAN				FEB				MAR				APRIL											
	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	1	2	3	4								
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	1	2	3	4	1	2	3	4	1	2	3	4
Task to be performed																																																				
Person responsible	Researcher & Supervisor																																																			
Literature review	Researcher & Supervisor																																																			
Finalizing research proposal	Researcher																																																			
Data collection tool	Researcher																																																			
Clearance from	Researcher																																																			

