KWAME NKRUMAH UNIVERSITY OF SCIENCE AND

TECHNOLOGY- KUMASI

COLLEGE OF HEALTH SCIENCES
DEPARTMENT OF COMMUNITY HEALTH

FACTORS CONTRIBUTING TO MATERNAL MORTALITY:
THE CASE OF BAWKU WEST DISTRICT IN
THE UPPER EAST REGION GHANA

BY

ABOTZABIRE, AZAMBARIMA WILLIAM

MARCH, 2008

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND

TECHNOLOGY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

FACTORS CONTRIBUTING TO MATERNAL MORTALITY:
THE CASE OF BAWKU WEST DISTRICT IN
THE UPPER EAST REGION, GHANA.

A DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE

STUDIES, KWAME NKRUMAH UNIVERSITY OF SCIENCE AND

TECHNOLOGY, KUMASI IN PARTIAL FULFILLMENT OF THE

REQUIREMENT FOR THE AWARD OF MPH DEGREE IN

HEALTH EDUCATION AND PROMOTION.

ABOTZABIRE, AZAMBARIMA WILLIAM

MARCH, 2008

DECLARATION

I, Abotzabire, Azambarima William, hereby declare that, except for references to other people's works which have been duly acknowledged, this work is the result of my own original research.

I hereby also declare that this work has neither in whole nor in part been presented for any degree elsewhere.

Signature………………

Abotzabire Azambarima William

Signature…………….   Signature………………..

Dr.Anthony K. Edusei   Dr. Easmon Otupri

Supervisor   Head, Department of Community Health

DEDICATION

With an indebt gratitude to the Lord God Almighty, I dedicate this thesis to the Ministry of Health and My Mother.

ACKNOWLEDGEMENTS

This study has been possible through the contributions of many people and I give my sincere thanks to them all.

However, I will like to convey my deepest gratitude to my academic supervisor, Dr. Anthony K. Edusei for his invaluable guidance and constructive comments throughout the study.

I express special thanks to the lecturers of the Department of Community Health at the Kwame Nkrumah University of Science and Technology for the knowledge and experiences that they have imparted to me.

To my colleagues doing the MPH, MSc courses at the Department of Community Health, I say thank you for the friendship, support and the sharing of ideas throughout the period that we have known each other.

I will also like to express my appreciation to the District Health Directorate of the Bawku West in the Upper East Region, especially the District Director of Health Services (DDHS), Mary- Stella Adapesa.

Last but not least, I would like to specially acknowledge Madam Patricia Akweogo, Mr. Awine Timothy, Akologo Joseph and Isaiah Agoriya all staff of Navrongo Health Research for their wonderful support and encouragement during the hard period of the gathered data for writing this thesis. To my hard working research assistants who sacrificed their time and energy throughout the raw data collection period to bring this work to a reality, I say thank you. I also thank my parents, children and siblings for being a wonderful family.

Finally, I want to acknowledge the continued assistance of Mr. Kofi Boateng, of Rplus Consult in editing and polishing up this work to its final production.

DEFINITION OF TERMS

Community: A group of people who have something in common and act together in their common and collective interest.

Infant Mortality: Death of a child occurring under one year of age

Maternal Mortality: Female deaths due to complications of pregnancy, childbirth and puerperium.

Neonatal Mortality: Death of an infant occurring under the first 28 days after birth

Puerperium: The period immediately after childbirth when the womb is returning to its normal size, lasting approximately six weeks

Skilled Birth Attendants: Providers with midwifery and obstetric skills, thus excluding trained birth attendants.

ABREVIATIONS/ ACRONYMS

ANC.-…………………………………………………Antenatal Care

DA...District Assembly

DCE …………………………………………………....District Chief Executive

DHA…………………………………………………District Health Administration

DHD………………………………………………….District Health Directorate

DHMT…………………………………………District Health Management Team

ICPD…………………………International Conference on Population and Development

MDGs………………….…………………………… Millennium Development Goals

MHC..……………………..……………………….Maternal Health Care

MMR……………………………………………… Maternal mortality rate

NGOs…………………………………..…………Non-Governmental Organizations

PHC.. …………………………………………………Public Health Center

PNC.…………………………………………………….Post natal Care

PPH…………………………………………………..Post partum Haemorrhage

SPSS………………………………………………Statistical Package for Social Sciences

TBAs …………………………………………………..Traditional Birth Attendants

UNICEF………………………………………United Nation Children's Educational Fund

WHO...……………………………………………………World Health Organisation

WIFA……………………………………………………Women in Fertile Age

TABLE OF CONTENT

CHAPTER TWO – RELATED LITERATURE REVIEW

CHAPTER THREE – METHODOLOGY

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

ABSTRACT

This is a cross-sectional study of 341 household on factors that accounts for high maternal mortality in Bawku East district, in Upper East region of Ghana. The objectives of the study were to: ascertain the incidence of non-institutional maternal deaths in the district; determine the differences in backgrounds of maternal deaths and non-maternal death; assess the health seeking behaviour of cases of maternal deaths; and identify and describe the socio-cultural influences that accounted for maternal deaths in the district.

The methodology used was a multistage sampling for the administration of interview guide in Tilli /Widnaba, Zebilla and Zongoire sub-districts. In addition, the purposive sampling technique was used to conduct a focus group discussion with men, women and compound heads in the selected communities.

The results showed that, a maternal death per household was 158 per 1000 households which occur mainly at home (58%). The trend of maternal death in the communities is increasing, recording seven in 2004 and 37 in 2007. Most (54.8%) of the maternal deaths occurred after the women had delivered. When characteristics of maternal death cases and non-maternal death cases were compared, it was evident that: maternal death cases were significantly occurring amoung the younger age mothers with (chi square = 21.6, p=0.00); being married reduced the risk of maternal death significantly (chi = 5.34, p = 0.02; OR = 0.35); It was also evident that the risk of maternal death among women with no formal education was 3.27, 2.29 and 8.02 folds compared with the event in mothers who had 1st cycle, 2nd cycle and tertiary educated women respectively. On health seeking behaviour it is demonstrated that maternal death cases (47.2%) did not use ANC services because they were prevented by their compound heads. There are embedded cultural and

traditional barriers to accessing maternity services. They are the use of soothsaying, libation, consultation with ancestors and use of herbs for pregnant women before orthodox services is contacted.

It is recommended that women and women groups should advocate through the chiefs, opinion leaders, compound heads, and by the facilitative efforts of the district assembly, the district health directorate and Mr. Abotzabire Azambarima William (Author of this document),to help enact by-laws and ensure its' implementation in curtailing the cultural practices that prevents women for seeking prompt maternity care.

CHAPTER ONE

INTRODUCTION

1.1   Background information

The WHO defines maternal mortality as "the death of a woman while pregnant or within 42 days after termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to the pregnancy or its management but not from accidental or incidental cause" (WHO, 1993).

Maternal deaths results from varied of causes which could be direct or indirect. In most instances it results from complications developed during pregnancy or during child birth or immediately after childbirth. It is estimated that more than 40% of pregnant women may experience acute obstetric problems during pregnancy, childbirth and the postpartum period and an estimated 15% of pregnant women develop life-threatening complications (WHO, 1994). The development of complication increases the risk of maternal deaths during pregnancy. The risk of a woman dying as a result of pregnancy or childbirth during her lifetime is about one in six in the poorest part of the world compared with about one in 30,000 in Northern Europe. According to UNICEF as many as 300 million women more than one-quarter of all adult women now living in the developing world suffer from short or long term illness related to pregnancy and childbirth (UNICEF, 1996). The risk of an incidence of maternal death could therefore be said to be higher in developing nations including Ghana, than the developed world. Indeed, recent estimates by the World Health Organization suggest that 500,000 women die every year from

complications in pregnancy, including abortion with related complications over 90% occurred in developing nations (WHO, 2002).

Due to the magnitude of maternal death and its effects on the social and economic fibre of society there have been several global efforts to reduce the incidence of maternal deaths. The Millennium Development Goals has targeted reducing maternal mortality by 75% of the 1990s figures by the years 2015 (Hercht *et.al.* 2006). These efforts is underpinned by overcoming complexity of challenges relating to social equity and health systems deficiencies which seem to be predominant in developing nations. These challenges includes mainly health infrastructure, health financing and human resources. In developing countries due to the scarcity of trained health personnel for delivery, pregnancy related care and delivery are most often provided by less qualified staff such as auxiliary nurse/midwife, village midwives, health visitors, trained and untrained TBAs and even relatives (WHO, 1998). In industrialized countries and in many urban areas in the developing world, skilled care at delivery is usually provided in a health facility. However, in most developing countries, and particularly in rural areas, many women prefer to deliver in the familiar home environment or in the home of parents, parents-in-law or in a setting provided by the TBAs (WHO, 1998). For example, the majority of births in rural Bangladesh are carried out in unhygienic conditions by relatives and TBAs. These result in a high incidence of maternal and infant mortality that could be reduced if childbirth were to occur in health centers or under the supervision of trained TBAs (Johkhio, 2002).

In Ghana, the Ministry of Health (MOH) through the Ghana Health Services (GHS) and Teaching Hospitals are making frantic efforts to reduced maternal deaths. These efforts include training of health professionals, construction of clinics and hospitals, the provision of logistics and equipment to enhance delivery services. In addition to these, there is an open policy for free maternity services for pregnant women over a year ago coupled with education on maternal health issues. Despite these efforts maternal deaths is on the increase. According to the (GHS, 2008), annual report, there were as much as 51 more deaths over that of the previous year.

In Ghana, Maternal mortality ratio in 2007 was 230 /100,000 live births an increase over that in 2006 (187) /100,000 live births).

The frequency of maternal death in a country depends not only on the risk of an average pregnancy, but on the fertility rate as well. Unlike the risk of infant mortality to which every person is exposed only once, the risks of maternal health accumulate with each successive pregnancy. In the Upper East Region of Ghana, a reported maternal death in the year 2007 was 93.1 percent. The major causes of maternal deaths are Haemorrhage, puerperal sepsis, pregnancy induced hypertension, obstructed labour, ruptured uterus, unsafe abortions and indirect causes.

The Upper East Region, one of the poorest in the country, have recorded a decreasing regional maternal mortality rate over the past three years (GHS, 2008) In fact, maternal mortality in the regions has reduced from less than 175/100,000 live births in 2005 to 100/100,000 live births in 2009. Despite the decreasing regional average the trend in the Bawku West District in the regions recorded an increasing trend. In Bawku West District,

maternal deaths is high, and accounted for more than 59.0% as estimated from the total deaths of 374 in 2006 (DHA, 2006). The actual determinants that influenced the increasing rate of maternal mortality in multi-cultural ethnic traditional communities in the district were then an issue which required investigation.

1.2: Problem statement:

The global ratio of maternal deaths to live births is 400 per 100,000 live births for the year, 2000 (GSS, 2003). Maternal deaths are not uniformly distributed throughout the world. A staggering lifetime risk of one in 16 births in Saharan Africa whilst in South Asia is 1 in 43. The global estimate for the lifetime risk is 1 in 74, implying that for every 74 women, one will die of maternal causes.

According to the Ghana Statistical Services, in its 2003 Ghana Demographic Health Survey report, 46.0% of births were delivered in health facilities in Ghana with 36.0% in public health facilities and nine percent in private health facilities. More than half of birth 53.0% occurred at home (GSS, 2003).   The situation in Bawku West District in the Upper East Region also shows that there is increasing institutional maternal mortality rate from zero in 2003; two (2) in 2004, two in 2005 and four (4) each in 2006 and 2007 respectively, (DHA, 2006). The rate could be higher in the District because non-institutional cases are often not reported.

 There has not been any documentation of the magnitude of non-institutional maternal mortality in the district. Indeed, it is perceived that the number of maternal death could be

high in the communities than what is recorded at the health facility. More important is the need for information that relates the socio-cultural behaviour of pregnant women that could account for the increasing deaths. There is no evidence of the nature and form with which maternal death occur in the district, especially in the communities. Also, of relevance but for which information is inadequate is the differences in the maternal deaths as compared to non-maternal deaths as had occurred in the districts.

This study therefore seeks to examine the factors that accounted for maternal deaths in the district by conducting household surveys, measuring its magnitude and nature in communities within the district.

1.3: Research questions

This study sought to provide answers to the research questions below:

1. What is the mortality trends in the districts especially that relating to the death of pregnant women?

2. What is the difference in the characteristics associated with the maternal deaths and non-maternal deaths in the district?

3. What were the health seeking characteristics of maternal deaths that occurred in the district?

4. What are the socio-cultural issues affecting pregnant women in the community and to what extent do they influence the health seeking behaviour of women in the district?

1.4: Main objective:

The main objective of the study is to ascertain the factors contributing to maternal deaths in the Bawku West (Zebilla) District.

1.4.1: The specific objectives were:

1. To estimate the non-institutional maternal mortality trends in the district.

2. To identify the difference in characteristics between maternal deaths and non-maternal deaths in the Zebilla district.

3. To assess the health seeking behaviour of pregnant women in the district.

4. To ascertain the socio-cultural factors affecting the health-seeking behaviour of pregnant women especially those relating to maternal care services.

1.5: Rationale of the study

Pregnancy related infections continued to be the leading cause of mortality and morbidity for pregnant mothers in the Bawku West District, with a lot of complications and a financial drain to families. The death of women, especially preventable deaths needs to be avoided. This is because the death of women and children could have effects on the core of procreation of the human race, notwithstanding the social loss leading to orphans and streets children. More important is that these deaths could be reduced if the related infections were promptly diagnosed and treated with the correct drugs and appropriate skilled management. It is therefore imperative to identify the main factors that lead to delays in seeking treatment for by mothers and subsequently recommend methods to curb these problems.

• The data generated would be relevant in guiding policy- makers in the design of appropriate policies to address the incidence of maternal mortality in the District.

• It will also generate useful data that would prompt further research into the subject.

• The research output would also guide health personnel in the district to properly target their services towards women in deprived communities in the district

1.6: Conceptual frame work

```
┌ ─ ─ ─ ─ ─ ─ ─ ┐
  Maternal Mortality
└ ─ ─ ─ ─ ─ ─ ─ ┘
```

Poor Maternal Health

Health System barriers
- attitude of staff
- qualified staff
- logistics/equipment

Financial Barriers
- employment
- remittance
- cost of care
- income earned

Social and Cultural barriers
- education on maternal health
- beliefs about maternal health

Physical barriers
- Road network
- Transport
- cost of transport
- distance to health facility

Source: Author's Construct, 2008

Figure 1.1: Conceptual framework showing the factors that could influence the incidence of maternal deaths.

7

Maternal mortality results from multifaceted factors that act in an interrelated manner. The factors include financial, physical, socio-cultural and health systems factors. The complexity of the dynamics of the factors makes it difficult to predict exactly the magnitude by which each of them acts independently as a cause to maternal mortality. Funds needed to access health services is dependent on employment status, income earned, remittance and also the cost of care. It is also indirectly dependent on the physical barriers and socio-cultural factors relating to health seeking behaviour. Thus if women are of adequate financial standing as a result of having secured employment and regular income coupled with family support, they may seek health care if they have the requisite knowledge and appreciation of the importance of maternal health. On the other hand, when the women lack funds due to unemployment or irregularly earned income that could rarely be saved for health purpose, coupled with enculturated social and cultural knowledge about orthodox medicine, their health seeking behaviour towards maternal health could be affected hence may be likely to have maternal death.

Social and Cultural barriers affect the incidence of maternal deaths in several ways. As far as social background of the women is concerned, women who are less educated may be disadvantaged in understanding the essence of acting in manners – such as attending regular Antenatal Care (ANC), seeking prompt care during complication among others - that could protect them during pregnancy and hence prevent maternal death, unlike the educated. In addition, a married woman may be of better position to seek maternal care hence preventing mortality because she may receive support from her husband and kindred unlike the un-married. Indeed, the unmarried pregnant women is first less

desirous of having a child outside the wedlock – a status to commended by society – hence may act in a manner that would or may complicate the pregnancy including inducing it for termination. There could also be cultural factors as a result of positive or negative influences of ideas of maternal care that are upheld by the community and implemented by kindred mostly, grandparents, parents or spouse. In a situation where cultural or society beliefs about maternal care does not encourage use of health facilities during times of pregnancy, women in such communities may be influenced negatively and hence may report late during pregnancy or when complications arise from the pregnancy.

Physical barriers to maternal care include nature of roads, availability of transport, cost of transport and distance to health facility. For instance it is presumed that pregnant women living in communities with adequate road infrastructure and transport to the nearest health facility may use maternal health regularly than those living in communities that have farm paths with limited access to transport. Even when road infrastructure and transport services are adequate if the time to the nearest hospital takes long not only because of distance but sometimes due to vehicular traffic pregnant women may stop attending maternal services and seek help from other sources who may be unqualified. The consequence is maternal death that could have been prevented.

Apart from the listed factors above which are usually outside the health facility, the health system structure itself creates certain barriers to health services. For instance poor staff attitude, untrained staff and lack of logistics could contribute to the incident of

maternal deaths. Poor staff attitude may not only create dissatisfaction among client – pregnant women – but also deters them from visiting the facility because they may be shouted at or disrespected and or abuse by the health workers. In such instance, clients may report to the facility with complications that may result to death. On the other hand, good staff attitude may influence pregnant women to be regular at the facility hence, early detection of danger signs and complications due to pregnancy would be treated, hence maternal death avoided.

The conceptual framework emphasizes how issues relating to incidence of maternal deaths are networked by factors both outside the health facility and that relating to individual and community characteristics.

1.8: Scope of the study

Maternal deaths have a broader scope all of which were not covered in this study. This study examined principally the social characteristics basically of index cases of maternal deaths and the cultural issues that may have influenced the health seeking behaviours of the cases as reported by close relatives. Indeed issues relating to health services factors are less covered. This study therefore covers mostly non-facility based issues pertaining to the incidence of maternal deaths in the Bawku West Districts.

1.9: Organization of report

Chapter one of this report covers the background information, statement of the problem, rationale for the study, research questions, objectives and conceptual framework. Chapter two covers the review of the related literature in a format of the specific objectives.

Chapter three is about methodology, which includes the study design, data collection techniques and tools, sampling, ethical consideration, and limitations of the study. Chapter four is the result. This is where the results of the study are displayed in a form of tables and graphs. Chapter five discusses the results, by explaining the relationship between the dependent variable and the independent variables. Chapter six gives conclusion and recommendations. The recommendations were given to the stakeholders.

CHAPTER TWO

RELATED LITERATURE REVIEW

2.1 Introduction

Reducing maternal death has become an international goal having received attention by world leaders in 2000 as stipulated in number five of the millennium development goals (MDGs). There have been several efforts in considering strategies to reducing maternal mortality especially in developing countries. Indeed studies have been conducted on and around the subject matter, yet the desirable results have not been attained. This section of the study focuses on reviewing related literature on maternal mortality. This would highlight strategies, observations and implications of studies in efforts at reducing maternal deaths. It is organized based on the objectives of this study and hence examines: issues relating to non-institutional maternal deaths; differences in characteristics of maternal and non-maternal deaths; health seeking behaviour; and socio-cultural issues pertaining to maternal deaths.

2.2 Non-institutional Maternal deaths

Estimation of maternal death is important in terms of devising means of preventing or treating pregnancy related complications in any population. This is because it enables us to estimate the requisite resources required to manage maternal health issues especially that associated with high risk of maternal death (Qomariyah, *et.al.* 2009). In addition, it defines the scale of the problem, ensures that all maternal deaths are audited, and facilitate development of policy and practices through context evaluation of the maternal

deaths. Certainly its estimation also determines the social, economic and cultural status of women relative to the experiences of pregnancy and childbirth.

Institutional data on maternal mortality is referred as the tip of the ice berg especially in developing nations. This assertion is adduced from the several system lapses that results in poor appreciation of the need for accurate information in delivering health services in most developing countries. Indeed, institutional maternal mortality estimates is bedeviled with inaccuracy of data. Qomariyah, et al (2009), demonstrated that facility based records grossly underestimates maternal mortality ratio. In their study of death of women of reproductive age in two hospitals in Indonesia over a 24 months period, it was found out that 150 maternal deaths occurred within the period as compared to 67 recorded in the books in the institutions. This was among others, attributed to incomplete coverage of routine reporting system but this was not absolutely so since in most of the wards studied, it was realised that the number of deaths were actually doubled compared to what was routinely captured in the ward registers. Even though this study provided evidence of the extent of underestimation of even institutional maternal mortality, it did not reflect much on community based maternal death techniques.

In Ghana, facility or institutional mortality rates are used to assess performance and projection of maternal health needs (GHS, 2007). Indeed, despite the recognition of the gaps in facility based maternal estimation, little attention has been given in developing a more sensitive technique such as that used by Qomariyah *et. al.,* let alone delving into community approaches. Mills et al, (2007) conducted a survey in the Kassena-Nankana District, Ghana on the determinants maternal mortality decrease in the district. The

researchers used the Navrongo Demographic Surveillance System (NDSS) that had all inhabitants of the district captured and updated continually. In addition, it used verbal autopsy from relatives of maternal deaths identified from the database. It became evident that using a community verbal autopsy techniques based on identified death, the maternal death in the district was 343 per 100,000 live births as compared to 141 per 100,000 live births recorded in the health facilities in the district. This also highlights the gross underestimation of maternal deaths using facility records. It must be noted that this strategy may not be applicable to most districts in the country, including Bawku West, since, such surveillance system are non-existing. The use of verbal autopsy at the household level was of relevance to this study, hence applied. The limitation could be recall bias which could be controlled by cross-examination of evidence with a number of household members.

Martey, et al (1994) conducted a similar community based study at Ejisu Juaben district. The study that interviewed 1200 women in 66 communities revealed that maternal mortality in the community was 235 per 100,000 live births in the district, identified.

Notably, the causes of community maternal deaths are similar to institutional maternal deaths. Among the presumptive causes of maternal deaths identified by Martey and others included post partum haemorrhage, eclampsia, and jaundice in pregnancy and obstructed labour. The exactitude of these presumptive causes may elude some community members. For instance in the study of community perspective of maternal

mortality in Nigeria, Mariga and others reported that only two of the five clinically recognised causes of maternal deaths were identified (Mariga *et.al.,* 2008).

2.3 Risk Factors Associated with maternal and non-maternal deaths

The risk factors associated with maternal deaths have been extensively studied globally. The intentions of such studies were to provide information so that health providers and individuals would identify such risk in time so as to minimise or prevent its consequence – death or illness. However, there have not been enough studies into the magnitude of the differences in characteristics of maternal deaths and non-maternal deaths, which could contribute significantly to maternal mortality. In deed, literature reviewed in this study therefore largely focused on maternal risk factors identified among maternal deaths mostly within health facilities.

The common risk factors associated with maternal deaths includes maternal age, parity, birth interval (Christian, 2009). These factors could also account for the death of women yet this was not measured in Christian's work. These factors are known to be part of gynaecological protocols, especially antenatal care protocols in most hospital in developing nations especially those that have adopted the Safe Motherhood Initiative. This initiative entreats mothers to use health facility promptly and quickly to ensure that among others risk factors that could cause death or disability or illness in the course of pregnancy could be managed. It also seeks to improve quality of care in the health facilities. Ghana, has adopted this framework and therefore, the Bawku West district reproductive health services impinges on this framework.

The Safe Motherhood framework has contributed significantly in the use of ANC but not delivery services (Martery, *et.al.* 1994). This could contribute to increasing maternal mortality. In the community study in Ejisu Juaben, out of the 44 maternal deaths identified 59.0% were 20-34 years old, and 41.0% were in high-risk age groups. Over sixty percent (65.9%) had at least some primary education, and 81.8% were married at the time of death. Twenty seven percent (27.3%) were childless at the time of death (Martey, *et.al.* 1994). This study did not examine non-maternal deaths and therefore did not establish whether the above characteristics of maternal deaths varied with non-maternal deaths.

In a case-control study, where maternal deaths were cases and attendees of ANC were controls, Evjen-Olsen *et.al.,* (2008) observed that, in Tanzania, there was an increased risk of maternal deaths when women or husbands adhered to traditional beliefs, (OR 2.1; 95%CI 1.0–4.5) and (OR 2.6; 95% CI 1.2–5.7), respectively. Women whose husbands did not have any formal education appeared to have an increased risk (OR 2.2; 95%CI 1.0–5.0). The presumption of the study was that maternal deaths in the hospital would be similar to those that occurred in the community especially considering the background of the women. It is obvious as noted by many studies (Martey, *et.al.* 1994; Evjen-Olsen *et.al.,* 2008; Christian, 2009) that even though most women use ANC when pregnant, majority of them do not use hospital for delivery purpose.

There is no evidence in terms of difference in the characteristics in maternal deaths and non-maternal deaths that occur in communities. The risk of death among these groups is essential in improving quality of health care. Risk factors to non-institutional maternal death could reinforce the need for prompt access to maternal health services mostly in deprived areas in developing countries, such as Bawku West district in Ghana.

2.4 Health seeking behaviour of pregnant women prior to maternal deaths

Seeking for medical services is influenced by several behavioural tendencies by pregnant women. The lack of use of medical services has been well recognised as a major cause of maternal mortality. Studies (Onah *et.al.,* 2006; Galadance *et.al.* 2007) have been conducted to unravel the specific behavioural tendencies of pregnant women that contribute to the avoidable maternal deaths. These include poor utilisation of ANC services, delivery at home, delivery by unskilled attendants, low utilisation of maternity services, and cultural and decisional issues.

Currently, to overcome problems associated with access to delivery services, traditional antenatal care has been changed and focused antenatal care promoted. The former has been observed by experts to be ineffective and of low quality since its indicators is based on quantity of women seen, rather than the quality of care rendered. Focused antenatal care however emphasises quality of care. This is done through: identification of pre-existing health problems; early detection of complications arising during the pregnancy; health promotion and disease prevention; and birth preparedness and complication readiness planning. These aims are intended to bring to focus the need for individual

attention and assessment during care delivery, such that, in the case of pregnant women, their pressing needs would be identified and managed promptly so as to ensure a successful pregnancy, delivery and after-birth. The identification of these problems includes that which is social in nature. Thus decision making issues, distances, child spacing among others need notice (Nyarko *et.al.* 2006).

In assessing maternal health in northern Nigeria, Galadance *et.al.* (2007) have asserted that the quality of care given to pregnant women is a "far cry" ie. (a long way) from the ideal. Using a cluster sampling technique, 210 women were interviewed by the researchers. It became evident that majority of the respondents, 73.2%, were between the ages 20 and 34 years. Overall, 50% of the women attended antenatal clinics during their last pregnancy. The low ANC attendance is far from the desirable coverage of 80% and it was not surprising therefore that home delivery was still the norm throughout the zone of the study, with 1791 (85.3%) delivering at home. Up to 80.5% of the deliveries were supervised by personnel with no verifiable training in sanitary birthing techniques.

In a similar study in Enugu, Nigeria, Onah *et.al.,* (2006), noted that 52.9% of pregnant women delivered outside health institutions and 47.1% in health institutions. The major factors influencing choice of place of delivery included: promptness of care, competence of midwife/doctor, affordability, and health education. There were statistically significant associations between choice of institutional or non-institutional deliveries and socio-demographic/economic factors such as place of residence (urban/rural), religion,

educational status, tribe, marital status, occupational level, husband's occupational and educational levels, age and parity (p<0.05).

These barriers that hinder utilisation of maternity services, resulting in lost of lives of pregnant women, cuts across many nations, especially in developing nations. In Tanzania, a study to assess the use pattern of maternal health services and determinants of skilled delivery demonstrated that there are several efforts that need to be channelled towards improving services. In the study of 974 women who had delivered in the previous year, Mpembeni *et.al.* (2007) demonstrated in Tanzania that even though 99.8% of the women used ANC services at least once, 46.7% reported to deliver in a health facility and only 44.5% were assisted during delivery by a skilled attendant. In addition to this there are some geographical indicators that predict the use of maternal health services and therefore which when present could contribute to the occurrence of maternal deaths. Further discussions within the family, and mostly that relating to the type of health care needed by the pregnant women coupled with who gives her the necessary financial and physical support to the seeking care, determines the use or non-use of maternal health services. Mpembeni *et.al.* (2007) showed that distance to the health facility (OR = 4.09 (2.72-6.16)), discussion with the male partner on place of delivery (OR = 2.37(1.75-3.22)), advise to deliver in a health facility during ANC (OR = 1.43 (1.25-2.63)) and knowledge of pregnancy risk factors (OR 2.95 (1.65-5.25)) showed significant association with use of skilled care at delivery even after controlling for confounding factors.

2.5 Socio-cultural factors / issues affecting pregnant women

Maternity is viewed variedly in cultures. The health of the pregnant woman is managed traditionally based on several pre-determined and experienced beliefs within specific cultural settings (Malin and Gissler, 2009). The need for health care, the manner in which such decisions would have to be made, the interplay of influences on the nature and form in which the pregnancy should develop, coupled with the conflicting choices and decision within and without the household, are issues that affect maternal morbidity and mortality. Mace and Colleran (2009) recognises the influences of kin reproductive health issues including management of pregnancy. The role of mothers and sisters of the pregnant woman and that of the in-laws provide considerable influence on the health of the pregnant woman. According to Mace and Collen, in patrilineal society, the wife, in this case the pregnant woman, has to abide by the social learning issues about pregnancy. These lessons which have transcended through the fibre of the culture of the people are projected and continued by the mothers and sisters of the husband. For this reason, the pregnant women abide by and follow specific instruction meted out by their in-laws so as to ensure continuity of the culture and practices and beliefs associated with it.

Religious believes (Onah *et.al.,* 2006) that mostly is engrained in traditional practices could affect pregnant mothers. This may results when setting practices would have to be performed for the determination of the status of the health of the pregnant women before a decision is taken to use or not to use a health facility (Malin and Gissler, 2009).

In the view of Aina (2007), the complexity of social and cultural influences on pregnant women contributes to diverse psychological distress which could account for maternal death among the pregnant women. In a review of psychological disorders that influence maternal death, Aina, further asserted that the likelihood of such stress pertains mostly during the pre-natal stage and also post-partum. This could be as a result of the several ideas, norms, values and traditions that the pregnant women is suppose to be taught, followed and practiced.

In patrachial societies, men play important role in determining the health of the entire household including pregnant women. This role is duly respected with disregard to the knowledge of the men about pregnancy and pregnancy management (Lawonyin, *et.al.,* 2007). In the assessment of men's perception of maternal mortality in Nigeria, Lawoyin *et.al.,* indicated that men perceived that pregnant women could use health facilities when they developed complication. The economic factor, i.e. funds for seeking health services by pregnant women was also identified as a major factor that accounts for high maternal mortality in Nigeria (Lawonyin, *et.al.,* 2007).

In a qualitative survey on women in Somalia, the need for in-depth understanding of the socio-cultural and political dimension to maternal mortality is highlighted (Furuta and Mori, 2008). The study emphasizes the predictive factors that is society based and which affects the decision processes of pregnant women to access maternal health services especially when they have developed complications. Political influence and action were noted by Furuta and Mori to be a possible way of improving maternal outcome. This

could be achieved through support from politicians who would influence effects of social and cultural dynamics of maternal health, especially maternal deaths.

The above literature review has highlighted the detrimental patterns of maternal death especially in developing nations. It has also indicated the extensive work done to determine the factors that contribute to maternal deaths and more importantly the social, cultural dynamics of maternal deaths that put pregnant women at risk.

CHAPTER THREE

METHODOLOGY

3.1 Study Type

This is a descriptive study that examines non-institutional maternal mortality in the Bawku West District in Upper East Region, Ghana. The study assesses the prevalence of death in the districts and narrows to maternal death in addition comparing it with non-maternal deaths. It was conducted in October 2008 to Marchl 2009.

3.2 Profile of Study Area

The Bawku West District is one of the nine districts in the Upper East Region of Ghana. It was carved out from the then Bawku District by the Legislative Instrument 1442 in 1988 under the new local government system. It is located at the extreme north eastern part of the Ghana. It shares borders with Burkina Faso in the north, Bawku Municipality to the East, Talensi/Nabdam District to the West and East Mamprusi District to the South. It has an estimated population of 87,978 and an annual growth rate of 1.1%.

There are 114 communities in the district. The population is characterized by smaller settlements with populations of 200 - 800 people. The distances between settlements are far apart. This peculiar pattern of distribution of population has an adverse implication on service delivery, as SDHMTs going on out-reach travel long distances only to reach a small proportion of their target population.

The District is divided into six (6) sub-districts to enhance service delivery. The White Volta, which runs from Burkina Faso through the District, makes some communities

hard-to-reach during the raining season. Majority of the populace enjoy portable water, mostly from pipes, boreholes and hand dug wells.

The predominant tribes are Busangers, Frafras, Kusasis, Mamprusi, and Moshies. However, other settlers such as Fulani and Transferred Government employees from all the regions of the country cohabitates in the District.

Farming, rearing of animals, poultry keeping, weaving, and cultivation of onions, millet, maize and watermelon are the socio-economic activities of the inhabitants. There are three main religions: Traditional African, Islam and Christianity. However, many adherents of the two imported beliefs still clinch to many aspects of the traditional religion since it is more or less part of their culture.

3.3 Study population

The study population is women of fertility age group in the Bawku West district. Death of household that occurred within 12 months before the study was eligible for verbal autopsy. Households who recorded death of women during that period were also eligible for interview. Such close relatives should have stayed in the district for not less than five years. This is to enable respondent give credible information especially about the traditional, cultural and social practices relative to seeking maternal care that may account for death of pregnant women in the districts. Thus, women who had lived in the community for more than threes; have not had a household member dying over the last 12 months; and have not recorded a death of a women within the 12 months were not selected for the study.

3.4 Study variables

The dependant variable for this study is death of a woman of fertility age group in the district and the independent results include age of the woman, ANC attendance, place of death, time of death and educational background among others.

Table 3.1: Definition of variables for the study

Variable	Operational definition	Scale of measurement
Maternal death	The death of a woman in the district within the last 36 months due to complications of pregnancy, child birth or puerperium.	Nominal
Non-maternal death	The death of a woman in district within the last 36 months not as a result of pregnancy, child birth or puerperium.	Nominal
Age in completed years	The age of woman at the last birth date	Nominal
Religious	The religious denomination that the person belonged	Nominal
Marital status	A woman whose traditional marriage has been performed	Nominal
Educational status	The last level of education completed by the persons	Nominal
Occupation of partner	The work done by partner of the woman before she died.	Nominal
Parity	The number of children the woman had alive before she died	Nominal
Health seeking behaviour	Responses to series of questions in the questions. For instance attendance to ANC; regularity of attendance to ANC, time of first attendance to ANC etc.	Nominal
Cultural/traditional practice	Cultural practices that promote or discourages the use of maternal death. Determined by answers to series of questions.	Nominal

3.5 Sampling and sample technique

3.5.1 Sample size

A total of eligible 341 respondents were estimated and sampled. This was based on the maternal mortality prevalence rate of 59% in the district. (DHMT, 2006).

$$n = z^2 (pq)/d^2 \text{ (Wayne 2006)}$$

Where n = sample size

z = Reliability Coefficient with 95% confidence interval

p= Population variance available from previous data, where q = 1-p

d = the desired or the required size of standard error allowed

If the value of p is 0.59 and the desired standard error chosen to be 0.05 with reliability coefficient of 95 % certainty (z = 1.96).

Then, $n = \underline{[(1.96)^2(0.59*0.41)]}$

$$(0.05)^2$$

$n = \textbf{340.71} \quad \boldsymbol{\approx} \textbf{341}$

3.5.2 Sampling technique

Multistage sampling procedure was employed in this study. This was used to select three sub-districts, a community from each of the selected sub districts, and the selection of houses and households in the chosen communities.

For the sub-districts, the simple random sampling method was employed through the balloting method to select three sub districts. The sub-districts selected were, Tilli / Widnana, Zongoire and Zebilla. The same sampling method was used in the selection of three communities. All the communities were labeled and balloted. The one picked first represented the sub-district. In the chosen community, the first house was selected by taken a spin at the market centre. Every third house was chosen. In the chosen, the simple random sampling technique was again used to select a respondent if there were more than one eligible household to respond to the instrument.

Purposive sampling was used to select respondents in three communities for a focus group discussion. The three groups comprised mothers-in-law, child -bearing age women both (pregnant and non-pregnant) and men (aged and the youth).

Key informants comprising Chiefs and opinion leaders in the selected communities were also purposively selected.

3.6 Data collection techniques and tools

The data collection techniques used was interview and focus group discussion techniques. The interview techniques were employed for the selected respondents in the chosen households. The interviewer administered method, where the interviewer reads out the content of the interview guide and records as appropriate the responses of the respondent, was employed. The focus group discussion method was used to illicit detail responses on cultural and traditional practices that determine maternal health seeking behaviour of pregnant women. This method enables the group selected to bring out detail practices and share ideas about issues of maternal health care and causes of maternal mortality in their communities.

The tools used were an interview guide and a focus group discussion guide. The interview guide was in four sections namely: the background of the respondents, incidence of all forms of death with highlights of maternal death, health seeking behaviour and cultural practices observed by pregnant women. The guide contained closed and open ended questions that captured respondents' views on the maternal mortality relevant to this study. The focus group discussion contained themes about maternal health care behaviour in the community. It emphasizes cultural and traditional beliefs and practices that contribute to maternal deaths in the community and especially on the manner and form by which these practices manifest.

3.7 Pre-testing

After training of research assistance, the instruments for the study were pre-tested at Paga a community in the Kasena Nakana District that had similar characteristics. Identified problems from the items in the instruments were refined before the administration of the questions and collection of data during the actual research work.

3.8 Data handling

Data collectors for both interviews and focus group discussion were recruited and trained. The details of the study procedures regarding the selection criteria, the interpretation of items in the instruments were thoroughly discussed. This was to ensure that there is

uniformity in understanding and translating of the questions in the tools so as to strengthen its reliability and validity.

The data collection was conducted and completed tools examined, corrected and kept with the researcher under lock and key.

3.9 Data analysis

The principal investigator coded all questionnaires before their administration. Completed questionnaires were sorted out, collated and cleaned. Cross validation and consistency checks were done. Data collected were summarized and illustrated using bar-charts and frequency distribution tables used for sample data grouping. STATA 9, and EpiData, both scientific statistical Package were used to create the database as well as for the statistical analysis. The results were presented in tables showing proportions of the distribution of the characteristics. Cross tabulations were used to compare the characteristics of maternal deaths and non-maternal deaths and test of association and risk using chi square and p-value on one hand and Odds ratio on the other, respectively.

3.10 Ethical consideration

Ethical clearance was first sought from the School of Graduate Studies and Ethics Control Board of KNUST, who offered an ethical backing for the research. Informed permission was also sought from the District Director of Health Services, the District Chief Executive and the Head of institutions of the various health facilities in the communities used for the study. Proper community entry was embarked upon, respecting all community structures and protocols. This was to enable the principal researcher explain the purpose of the study

to them, since Maternal mortality issues are very sensitive within the traditional setup. This was done alongside some DHMT staff since they are most known in the study area. Verbal informed consent was obtained from the community elders, and women, chiefs and opinion leaders. All information that was obtained from the respondents was treated confidential.

3.11 Limitation

- The study is not anthropological in nature; hence provide a snap of the cultural factors / issues but not as in depth as anthropological study.

- Respondent may have recall bias of details of the death of women. This is addressed by cross-checking their response with other close relative for better accuracy.

3.12 Assumption

- The responses provided by the respondent were exact and accurate account of what pertains in the community**.**

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter details the findings of the 341 respondents interviewed on issues relating to maternal mortality in the Bawku West District. The presentation of the results is based on the objectives of the study and it is shown in tables and graphs.

4.2 Non-institutional Deaths

4.2.1 Deaths in Household

Out of the 341 household surveyed 66% had recorded a death of a member in the past four years as shown in figure 4.1 below.

Figure 4.1 Deaths of household members in the last 4 years (N = 341)
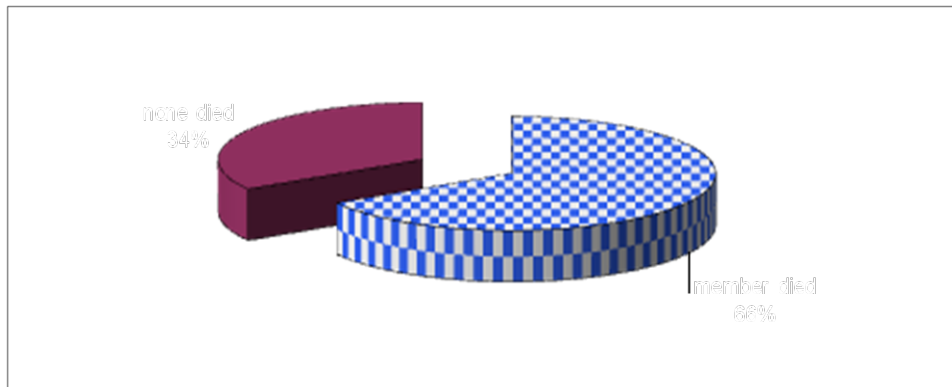
Source: author's field data.

The trend of death of household members showed an increase from a total of 36 in 2004 to 79 in 2007, an increase of 219 % (see figure 4.2 in next page).

Figure 4.2 Trend of household death in the past 4 years
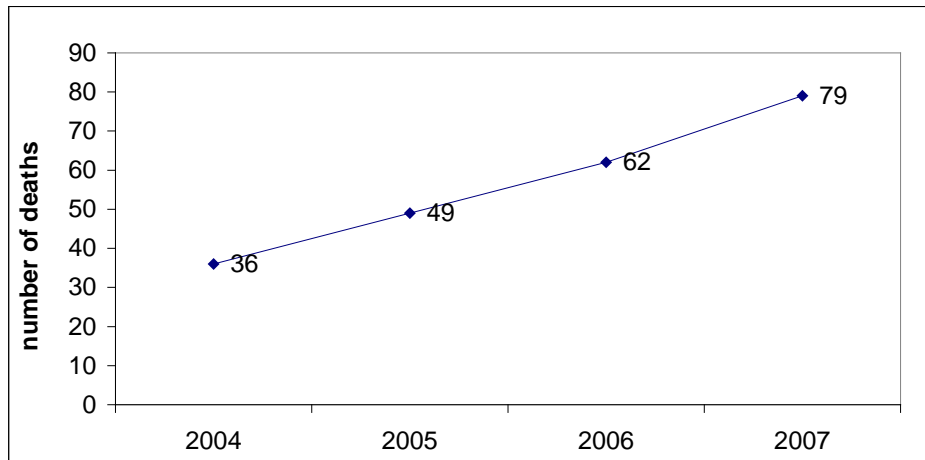
Source: author's field data.

A proportional comparison of the trend of household mortality by gender as shown in figure 4.3 below, indicates that the death of males decreased from 47.2% in 2004 to 31.6% in 2007 as against 52.8% in 2004 to 68.4% in 2007 among the females.

Figure 4.3 Distribution of household death per year by gender
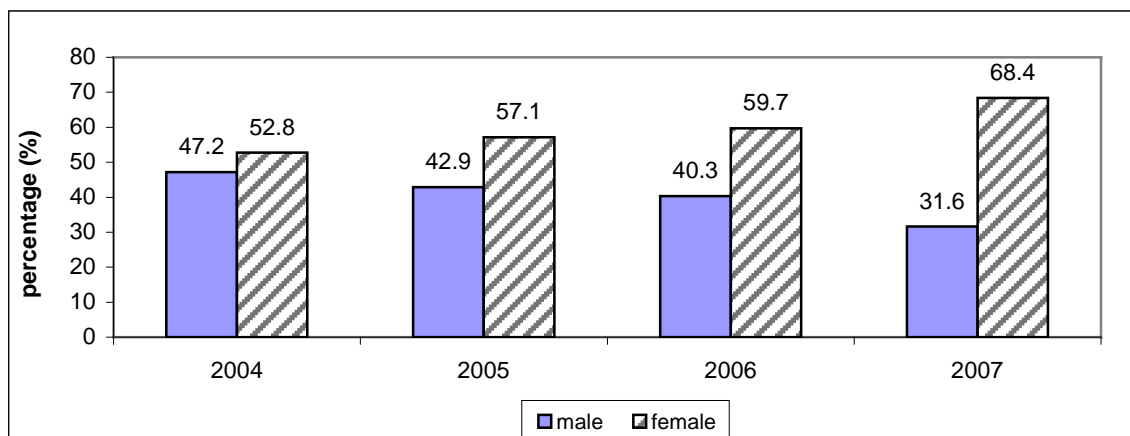
Source: author's field data

Out of the 226 deaths, 138 were females representing 61.1%. The mean age of women who died during the period was 37.11 $\pm$ 17.16 years (95% C.I. = [35.53, 41.31]). The minimum age was 11 years and the maximum, 87 years. Out of the 138 women who died over the period 54, representing 158 maternal deaths per 1000 households (54/341).

Thirty four percent of the women died in a hospital, five percent in a health facility and one percent at a maternity home while two percent and 58% died at a traditional healer's camp and home respectively as shown in figure 4.4 above.

Figure 4.4 Place where the women died
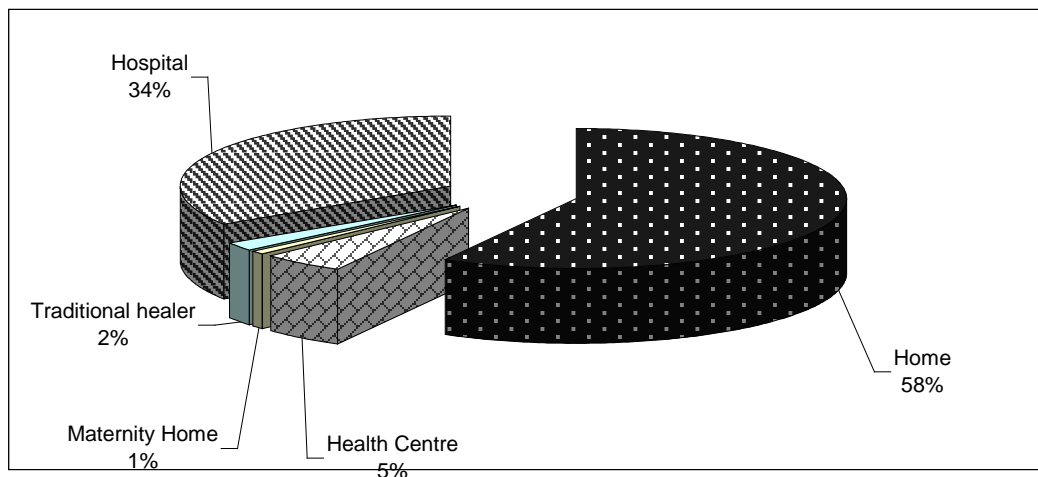
Figure 4.5 below shows the increase in death of women generally over the past four years. Maternal deaths increased from 7 in 2004 maternal death to 37 maternal deaths in 2007.

Figure 4.5 Trend of maternal and non-maternal death (2004 – 2007)
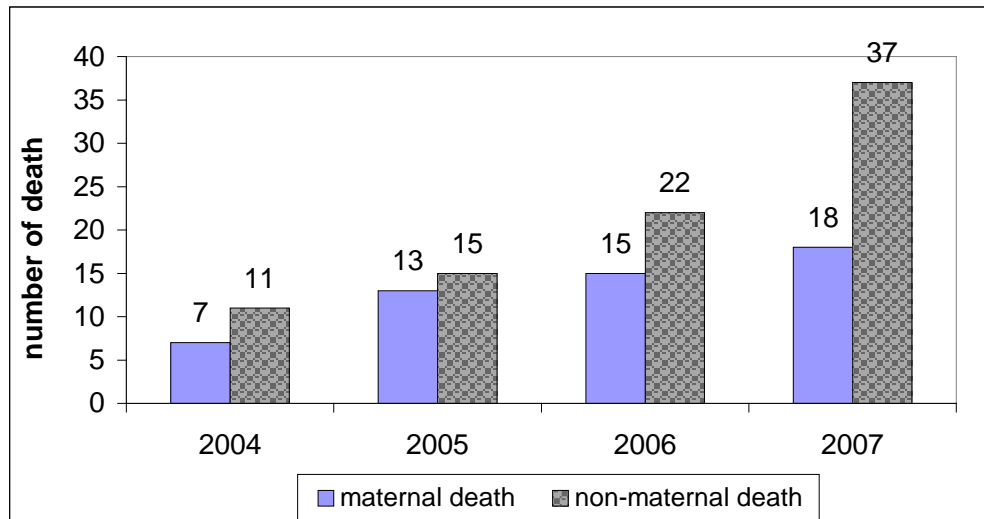
The 53 maternal deaths occurred during pregnancy, 22.6%, during labour 22.6% and after delivery 54.2% as presented in table 4.1 below.

Table 4.1: Times of maternal death

Time of death	Frequency (n = 53)	Percentage (%)
During pregnancy	12	22.6
During labour	12	22.6
After delivery	29	54.8

4.3 Differences in social and demographic characteristics between maternal and non-maternal deaths

About fifty six percent (55.8%) of the women who died were between the ages of 20 – 39 years. Among the maternal deaths 77.4% as compared to 42.4% in the non-maternal death group were of the age 20 – 39 years. There was significance (chi square = 21.6,

p=0.00) in the age of death between the maternal deaths and non-maternal deaths. In all 69.6% of the women were married and rest, 30.4% not married. Over sixty percent (62.4%) and 81.1% of maternal deaths and non-maternal death respectively were married and this was significant (chi = 5.34, p = 0.02). Being married results in less likelihood (OR = 0.35) of having maternal death. Women in polygamous marriage however, were almost twice (OR=1.78) more likely to have had maternal death even though, the number of co-wives in the polygamous homes did not influence the incident of maternal deaths (p=0.45; OR = 0.50; 95% C.I. = [0.04, 6.30]).

About seventy percent (69.6%) of them did not have formal education. The influence of educational status of the dead woman's husband on maternal mortality was significant (chi=10.56; p = 0.01).

With regards to the incidence of non-educated women, educational status and the risk factors involved in maternal mortality, there was significant social and demographic characteristics. The findings are stated as follows: The incidence of maternal mortality in the non-educated women compared to those who had up to 2nd cycle and tertiary education was [(chi =2.93; p =0.00) and (chi =5.28; p= 0.01)] respectively. Educational status of the dead woman was (chi = 12.23; p=0.00) and the risk of maternal death among women with no formal education was [(chi = 3.27; p =0.00, chi = 2.29; p=0.00 and chi = 8.02; p =0.00)] compared correspondingly with 1st cycle, 2nd cycle and tertiary educated women respectively.

There was a relationship between the dead woman's husband occupational status and maternal mortality (p=0.00). The unemployed husband of the dead woman was 3.50

times more likely of losing her wife as compared to a colleague who is a trader. The occupation of the dead woman also had a strong association (chi = 16.44, p = 0.00) with maternal mortality. Maternal death cases among the unemployed were 2.80 times more likely, as compared to those who were civil/public servants as detailed in table 4.2 on next page.

Religious difference among the deceased and her husband had significant (chi = 10.25, p = 0.00) influence on incidence of maternal death. The number of children the woman had also has a significant influence (p=0.00) on maternal deaths. Women with three or more children were 20 times more likely to have died of maternal causes than those without children. The age of the last child also had significant influence on incidence of maternal death. Among the dead women, 70.9% had children less than 5 years of age. Among the maternal deaths, 88% had children less than 5 years as compared to 56.7% in the non-maternal death group. Women with children less than 5years were 5.6 times more likely to have had maternal death as compared those with children 5 years or more as detailed on the same table 4.2 .

Table 4.2: Socio-demographic characteristics affecting maternal deaths

Variable	% maternal death (n = 53)	% non-maternal deaths (n =85)	% all women (n = 138)	Chi square or F-test (p-value	OR [95% C.I.]
Age at death					
< 20	5.7	8.2	7.2	21.6	-
20 – 29	30.2	21.2	24.6	(0.00)	
30 – 39	47.2	21.2	31.2		
40 – 49	15.1	21.2	18.8		
50 +	1.9	28.2	18.1		
Marital status					
Married	62.4	81.1	69.6	5.34	0.35
Not married	37.6	18.9	30.4	(0.02)	[0.17, 0.87]
Married	*(n = 43)*	*(n = 53)*	*(n = 96)*		
Polygamous	23.2	34.6	29.4	1.45	1.75
Monogamous	76.7	65.4	70.6	(0.25)	[0.64, 4.80]
Number co-wives	*(n=18)*	*(n=10)*	*(n=28)*		
One	88.9	80.0	85.7	(0.45)	0.50
Two	11.1	20.0	14.3		[0.04, 6.30]
Education level dead woman's partner					
No education	56.6	77.6	69.6	10.56	-
1st cycle	13.2	12.9	13.0	(0.01)	1.40
2nd cycle	7.5	3.5	5.1		2.93
Tertiary	22.6	5.9	12.3		5.28
Education level dead woman					
No education					
1st cycle	58.5	83.5	73.9	12.23	-
2nd cycle	18.9	8.2	12.3	(0.00)	3.27
Tertiary	9.4	5.9	7.2		2.29
	13.2	2.4	6.5		8.02
Occupation of dead woman's husband					
Civil/public servant	20.8	15.3	17.4	21.73	0.85
Farmer	41.5	44.7	43.5	(0.00)	0.58
Trader	26.4	4.7	13.0		3.50
Unemployed	3.8	2.4	2.9		-
Can't tell	7.5	32.9	23.2		0.14
Occupation of dead woman					
Civil/public servant	13.2	3.5	7.2	16.44	2.80
Housewives	28.3	29.4	29.0	(0.00)	0.72
Trader	45.3	31.8	37.0		1.07
Unemployed	9.4	7.1	8.0		-
Can't tell	3.8	28.2	18.8		0.10
Religion (husband and deceased)					
Christian					
Moslem	35.8	23.5	28.3	10.25	5.94
Traditional worship	30.2	21.2	24.6	(0.00)	5.56
Different religions	26.4	25.9	26.1		3.98
	7.5	29.4	21.0		-
Number of children of dead woman					
None	5.7	29.4	20.3	(0.00)	-
One	9.4	12.9	11.6		3.79
Two	17.0	12.9	14.5		6.82
Three	45.3	11.8	24.6		20.00
Four	13.2	11.8	12.3		5.83
Five and above	9.4	21.2	16.7		2.31
Age of last child of dead woman	(n = 50)	(n = 60)	(n = 110)		
<5 years				12.98	
5 years and above	88.0	56.7	70.9	(0.00)	5.60
	12.0	43.3	29.1		[2.07, 15.1]

4.4 Health seeking behaviour of maternal death cases

Out of the 53 maternal deaths, 25 representing 52.8% used Antenatal Care services. Sixteen percent (16%) among maternal deaths who used ANC services visited the facility less than four times and 28% of them reported later than the first trimester. Thirteen out of the 53 maternal deaths had complications during pregnancy and this represents 24.5%. Out of the 13 who developed complication, 30.8% had abdominal pains, swollen legs and face, 30.8% and ante partum haemorrhage, 23.0%. Twelve (92.3%) out of the 13 women who had complication sought for treatment. Treatment was sought from local treatment, 23.0%, hospital, 69% and private maternity home, 7.6%.

During the FGD, discussants revealed the extent to which they are influenced by the compound head. Describing him as "… *the chief of the house…", "the father of the house…", and "…the one with authority and know how to care for the househousehold.."* the compound head has so much power and influence that he cannot be bypassed for anything including health matters, and that relating to management of pregnancy in particular. They are the key decision makers as to the health options that need to be availed to the pregnant woman in the household. As highlighted by a participant, "*The household head takes care of everything within the household. It is when he fails to handle any issue that you inform the compound head for advice (YOUNG WOMEN, ASAPALUGO).*

In deed men in the district also regard the compound head as influential and a determining factor in deciding on the type of health care a pregnant woman had to use. This was clearly expressed in the discussion when it was emphasised that "*If the pregnant*

woman says she is sick even if it is in the night I have to wake up the compound head....

He can give you permission to take the woman to the hospital... (MEN, ZONGOIRE).

Among the 53 maternal deaths, over ninety percent (94.4%) fell sick during pregnancy. In 26.4% of them there were sick for more than four times. Eighty eight percent of those who fell sick recovered however 81.8% (36/44) of those who recovered were able to carry their pregnancy to term. And among them, their labour lasted within a day, 47.2%, one day, 39.6% and more than two days, 8.3%. Women who carried their pregnancy to term delivery at home, 47.2%, health centre, 30.6% and hospital 22.2%. Delivery at home was corroborated by the responses from the FGD where it was stated that "*My husband's mother is the person I usually inform when I am in labour. She will suggest a lot of things to you and if the child does not come out, she arranges for you to be sent to the hospital...(WOMEN, ZONGOIRE /ASAPALUGO).* The pregnant women were assisted in labour by TBA (30.5%), and Traditionalist (11.1%), nurse (52.8%) and doctor (5.6%) as shown in table 4.3 next page.

Table 4.3 **Health seeking behaviour of maternal death cases**

Variable	Frequency	Percentage (%)
ANC use		
Attended ANC	25	52.8
Did not attend ANC	28	47.2
Frequency of ANC attendance	(n = 25)	
Less than four	4	16.0
Four and above	21	84.0
Time of use of ANC	(n = 25)	
1st trimester	18	72.0
2nd trimester	6	24.0
3rd trimester	1	4.0
Had complication in pregnancy		
Yes	13	24.5
No	40	75.5
Type of complication	(n = 13)	
Abdominal pains	4	30.8
Swollen legs and face	4	30.8
Cardiac disease	1	7.7
Post partum haemorrhage	1	7.7
Ante partum haemorrhage	3	23.0
Sought for treatment of complication	(n = 13)	
	12	92.3
Place of care of complication	(n = 13)	
Local treatment	3	23.0
Hospital	9	69.2
Private maternity home	1	7.6
Frequency of illness	(n = 53)	
None	3	5.6
Once	8	15.1
Twice	12	22.6
Thrice	16	30.3
More than 3 times	14	26.4
Recovered from illness	44	88.0
If recovered, carried pregnancy to term	(n = 44)	
Yes	36	81.8
No	8	18.2
How long did labour last	(n = 36)	
Within a day	17	47.2
One day	11	39.6
Two days	5	13.9
More than two days	3	8.3
Place of delivery	(n = 36)	
Home	17	47.2
Health centre	11	30.6
Hospital	8	22.2
Assistant during labour	(n = 36)	
TBA	11	30.5
Traditionalist	4	11.1
Nurse	19	52.8
Doctor	2	5.6

Among all 341 respondents, 51% indicated that there exist cultural beliefs related pregnancy related deaths. Over forty percent 45.2% indicated that pregnant women are exposed to local treatment and that pregnant women on local treatment are allowed to visit ANC (46.9%). The respondents (35.2%) indicated that pregnant women in labour used health facilities later, whilst (64.8%) said that women in labour used health facilities first as shown in table 4.4 below.

4.5 Socio-cultural issues affecting pregnant women

Table 4.4i: Socio-cultural issues affecting pregnant women in the district

Variable	Frequency (N = 341)	Percentage (%)
There are cultural beliefs about death relating to pregnancy	174	51.0
Give local treatment to pregnant women	154	45.2
Time spent at home before going to a health facility		
Days	66	19.3
Weeks	64	18.8
Months	54	15.8
Cannot tell	157	46.1
Pregnant women on local treatment used ANC services?	160	46.9
Reason for not using ANC when on local treatment	(n = 181)	
Sudden labour	87	48.1
Family beliefs	94	51.9
Pregnant women in labour use health facility		
First	221	64.8
Later	120	35.2

It was evident in the discussion that there were several cultural practices that is upheld in households in the district and affirmed in the responsibilities of the compound head.

These included soothsaying, offering of sacrifices, pouring of libation, and giving local herbs to ensure safe delivery. These were expressed as follows: "*he goes to consult the soothsayer... When you inform him and he tells you to wait for him to consult the soothsayer you have to comply. If it is to offer sacrifice to the ancestors we have to do that because all is to help the woman to get well. There is a saying that too much of meat does not spoil soup or one treatment does not prevent the other one from working*" (MEN, ZONGOIRE*);*

"*When a woman is in labour the landlord pours libation for the woman to give birth successfully and when she does not he will tell you to take her to the hospital*" (OLDER MEN, WIDNABA /TILLI)*.;* and *"I usually try our local herbs, I soak leaves in water and use to cool the pregnant woman down and if it doesn't improve, I then ask the mother to send her to hospital sometimes I ask them to give the woman some medicine.* (OLD WOMEN, WIDNABA/TILLI).

Table 4.4ii: Influence of health seeking and cultural issues on maternal mortality

Variable	Chi square	p-value
There are cultural beliefs about death relating to pregnancy	2.07	1.66
Give local treatment to pregnant women	1.58	0.21
Pregnant women on local treatment use ANC	0.04	0.83
Pregnant women in labour use health facility	0.00	0.96

It was gathered from the focus group discussion that there were several cultural and social issues that influences maternal health outcomes.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This section of the study discusses the findings of the study. The implications of the findings to the health of the community and most importantly, pregnant women are inferred. In addition, it provides other observation of maternal mortality that has been established in literature and also related to the observations made in this study. It is organized based on the objectives of the study.

5.2 Non-institutional mortality trend in the district

All death per household is increasing in the district. It is evident in this study that women seem to be at more risk of dying within the district. This is because whereas the death rate of males were dropping over the four year period, that of females increased significantly from 52.8% in 2004 to 68.4% 2007. This is attributed to a series of socio-cultural factors that deny pregnant women access to health services. The vulnerability of the women as far as mortality is concerned does not only reflect in the trend of increase, but also more women died each year than males. This unfortunate trend has implications on improving the lives of women in the district and more importantly achieving the MDG goal number five (Hertcht, 2006). On the later, if the trend continues it is obvious that reducing mortality rates by 75% by the year 2015 would only be a mirage. There is therefore the need to critically examining the impact of current intervention aimed at achieving this objective such that, at least, a reasonable achievement could be made towards the target within the few years left towards 2015. On the former, even though the district is known to be deprived, since it is in one of the poorest regions in the country, it is imperative that

health system structures reach out to the door steps of the people. The implementation of the Community Health Planning Services (CHPS),in the scattered communities is worthy of note, however its impact and challenges regarding its implementation need further examination. This is deduced from the background that, the effectiveness of the CHPS system certainly should have reflected in the trend of mortality over the years, but as evidenced in this study it is not so. Indeed, this is even buttressed by the evidence that 60% of the death occurred outside a health facility. Of course, there may be other factors relating to household characteristics that might have delayed access to health facilities. This notwithstanding, the question stills stands why the women did not make use of the numerous CHPS compound scattered in the communities in the district.

Non-institutional maternal death is very high in the district. From 2004, maternal death increased in three folds by 2007 in the district. Clearly, compared to the institutional deaths recorded in the annual report (DHMT, 2006) of the district health administration, many more maternal deaths occur outside the health facility. Similar observations of high non-institutional maternal deaths occurs in the community more than what is recorded in the health facility (Martery, 1994; Mills, *et.al.,* 2007) and this relate same of the fact that institutional estimates of maternal deaths could be a gross underestimation as also asserted by Qomariyah *et. al.* 2009. Thus, an indication that, the pattern of maternal death, and probably what accounted for it not happening in the health facility, are similar to all deaths. It could be conceived that issues relating to health seeking behaviour may be uniform in all cases including that of pregnant women.

It is sad to note that despite several efforts at reducing maternal death through making available qualified personnel in the community, most deliveries occurred at home. Unfortunately majority of women who deliver at home died few days after delivery. Over half of all maternal deaths occurred after delivery and a quarter during labour. Indeed, most (77.4%) of such unfortunate incidence happened among young pregnant women. This suggests that such women may be at the mercy of custodians of so called customs about pregnancy and child birth and suffer for it.

5.3 Difference in characteristics of maternal deaths and non-maternal death

There were significant differences in the demographic and social characteristics of maternal deaths and non-maternal deaths. The differences reflected in ages, marital status, educated husband, educational status and occupational status.

The ages of maternal deaths were significantly different from non-maternal deaths. Age has been noted to be a significant factor in the incidence of maternal death (Christian, 2009) even though that observation has not been related to non-maternal death in determining the magnitude of its risk. Indeed most of the maternal deaths occurred among relatively younger women as already indicated. The young women form critical part of the productive sector of the district's economy. They could have dispensed their energy in farming, education among other occupations to the benefit of the people and the districts. The death of these young women therefore could affect the development of the area. The essence of young people forming the critical manpower for every community cannot be underestimated. It is therefore worrying that despite this

recognition, the communities are still not up to the task of protecting their own from avoidable deaths such as that result in maternal death. The life of these young and productive women could be prevented if through family and community support, the use of the community structured health services including CHPS were used.

Being married was significantly not different between maternal deaths and non-maternal deaths. It was observed that being married gave a protective measure for pregnant women from dying. It is perceived that married couples would care for each other by providing social and financial support for each other in times of meeting health needs of one another. Pregnant women therefore who might have been sick or required urgent attention during labour may have received enough assistance and care from the spouse so as to prevent death. Unlike the unmarried women who are pregnant, there is little concern and response to ill-health in times of pregnancy. It is worth noting that maternal deaths in polygamous homes were higher than that in non-polygamous homes. This may be due to the fact that due to scarce resources that need to be shared among many in the polygamous home, the pregnant woman who may require more attention in terms of nutrition and health needs may be disadvantaged. Interestingly, the number of polygamous couples did not affect or influence maternal death. This is suggestive that irrespective of the number of wives in the polygamous home, so far as the relationship is polygamous, women in that marriage arrangement stands a high risk of maternal death than those who are in monogamous relationship.

A partner (husband) who is well educated could presumably be more enlightened about attending to the needs of the pregnant woman, considering the possible exposure to complications. It is evident from this study that the educational level of the husband of the dead woman had strong relationship with maternal mortality. In fact, husband with no education stands five times more likelihood of their pregnant wives dying of maternal death than their counterparts with tertiary education. Again, pregnant women whose partners had no education were three times more likely to have maternal deaths when compared with fellows whose husbands had obtained second cycle education. It is obvious as earlier presumed, that educated husbands of pregnant women seem to be more responsible in caring for the women than those without formal education. There is a significantly increasing trend that shows a decreasing risk of maternal deaths as the husband educational level increases. It may be inferred that educated husband may be better employed, earned regular incomes, and have some exposure to the implications of poor pregnancy care, hence there are more concerned and therefore provide better support to meet the needs of the pregnant woman.

The occupation of the dead woman's husband was also a significant predictor of maternal deaths as compared to non-maternal deaths. The odds of an unemployed husband encountering maternal death were three times higher if the husband were to be a trader. The unemployed partner may not have the requisite resources to support the pregnant wife to go through regular ANC, labour and delivery. Interestingly, the risk of maternal death compared between the unemployed husband and civil/public servant on one hand, and farmers on the other were unequivocal. Even though this observation seems difficult

to explain, it could be perceived that, civil/public servants and farmers when compared with the unemployed husbands, earn relatively less to cater properly for the pregnant woman for which reason, the risk of death may be the same irrespective of the employment status.

It is worthy of note that about a quarter or the respondents could not tell exactly the kind of job the husband's of the dead women were engaged in. It could be that there was less recognition of the relationship between the partner and his in-laws such as to enable them to be acquainted with exactly who the partner was. It so happens that some women get pregnant to partners who have not undergone the marital rights and therefore, the husband, fail to take responsibilities as expected. On the other hand, they may have been known alright, but could have been on and of several jobs, for which reason, the specific occupations could not have been recalled.

The unemployed pregnant women who died were thrice more likely to have died as compared to the colleagues who were civil/public servant. In deed the proportion of maternal death among the civil/public servant was relatively lower than those unemployed. It is presumed that the pregnant women who were employed were more capable, concerned and responsible for themselves either than relying on their husbands as compared to those unemployed.

When both partners belong to a religious group, the doctrines and beliefs developed over pregnancy and child birth become uniform and more often understood by the partners. If

the doctrines and beliefs are favourable, with regards to health seeking practices whilst the woman is pregnant, it presupposes that belonging in the same religion could give a protective role, hence minimize maternal deaths. It is evident in this study that partners who belong to the same religious group had a lower risk of maternal death than those who belonged to different religions. The risk is about five fold when Christians or Moslems are compared with partners in different religions and about four fold when compared with partners in traditional religion.

The parity of the women had significant influence on maternal death (Christian, 2009). The trend analysis showed that compared to nulliparous the risk of maternal death was 20 fold for women who had three children, and five and two fold respectively for women who had four children and five and above children. It is well documented that the increase risk of maternal death has a relationship with parity. Indeed, the Ghana Health Services identifies women with parity five and above as high risk groups requiring tertiary services attention due to the possibility of development of complications. The complications arise due to the wear and tear of the uterus coupled with the general wear off energy deposits to carry the pregnancy to term.

The time interval between two successive pregnancies could also account for complication of pregnancy that could lead to maternal death. Parity was also identified Christian (2009) as a major cause of maternal death. It is assumed that women who have longer intervals between two successive pregnancy at their prime age, are likely to have a successful pregnancy to term and also during delivery. It is established in this study that

women who had less than five years interval between the successive pregnancies were five times more likely to have had maternal deaths than those who had five years and above. Thus women who gave adequate child birth spacing were more likely to have survived their pregnancy even if they had developed complications than those who had birth intervals of less than four.

5.4 Health seeking behaviour of maternal deaths

Attending ANC is one of the key indicators for measuring pregnancy outcomes (Galadance *et.al.* 2007). Ghana Health Service promotes the use of ANC services as a means of preventing avoidable maternal deaths. This is intended through the intensive education in the community on the need to use ANC services coupled with providing services to the door steps of the women in the form of CHPS. It is enshrined in the ANC policy of the GHS that women who access the services among several services are examined thoroughly for possible complications of pregnancy and are advised or treated appropriately. Unfortunately majority of the women who died as a result of pregnancy or its related complications did not use ANC services. This was also observed in many studies (Onah *et.al.* 2006; Galadance *et.al.* 2007). Indeed those (52.7%) who used the service fell below the national average of about 90% (GHS, 2007).

It is not only important to attend ANC but to also be regular. It expected that every pregnant woman in Ghana should attend ANC at least four times. Regular attendance to ANC would ensure that indicators for complications and necessary delivery plans such as caesarean section are quickly noted and plan ahead of time. This would ensure that

pregnant women who use ANC facilities would have minimized risk of maternal deaths. It is encouraging that over 80% of the maternal death cases, where noted to have attended ANC more that four times. The question is, what could have accounted for this high incidence of maternal deaths despite high ANC attendance. It is even more difficult to decipher the causes of maternal deaths, when most of those who used ANC used the facilities in the first trimester. Could it be issues about quality of care, poor referral system or social-cultural influences? This brings to light the level of scaling up of Focused ANC – a new ANC promulgated by WHO. The specific but important needs of women who used ANC might not have been addressed since education may have been given to a group of women who make it to the clinic at a time. Indeed the development of complications later in pregnancy irrespective of the how regular the client could cause death. However, few of the maternal deaths were reported to have had such complications like severe abdominal pains, swollen legs and face, cardiac disease, postpartum haemorrhage and antepartum haremorrhage. Postpartum haemorrhage among others was also observed by Martey, (1994) and also Mariga *et.al.,* (2008) in their community based study of risk factors of maternal mortality in the Ejisu-Juaben district in Ashanti region and Kassena-Nankana district of northern respectively in Ghana. One other cause of maternal death in the district is obstructed labour leading to delayed progress of labour. This is adduced from the evidence that even though some of the women were in labour for less than 24 hours, majority of them had labour for more than a day. Such stress in labour may have resulted from several factors which were not captured in this study; however it is obvious that despite the delayed progress in labour, most of the women were not sent to the hospital for treatment. As a woman indicated

during the FGD, "*My husband's mother is the person I usually inform when I am in labour. She will suggest a lot of things to you and if the child does not come out, she arranges for you to be sent to the hospital...*" In some instance libation is poured for a successful outcome which usually does not succeed as expressed by a male participant "*When a woman is in labour the landlord pours libation for the woman to give birth successfully and when it fails he will tell you to take her to the hospital*". A further delay may be caused due to lack of transport, also observed by Nyarko *et.al.* (2006) or finance to access care at the hospital level or disregard for referral protocols by the care givers. Indeed, majority of attendants to these women who died were Traditional Birth Attendants and Traditionalist – a practice known to occur widely (Nyarko *et.al.* (2006; and Mpembeni *et.al.* 2007). These attendants have little or no knowledge about quality (Onah *et.al.,* 2006) obstetrics care and therefore could have contributed significantly to the development of complications resulting in deaths at their facility or at the hospital. Usually it is when the condition of the women have been noticed to be terminal, that these untrained practitioners report it to the health care facility, by which time it would have been too late for the health professionals to contain.

5.5 Socio-cultural issues affecting pregnant women

Social and cultural bonding in the district is very strong. This is derived from the patrilineal lineage in the district which gives male dominance over females. There seemed to be strong regard for family ties as also noted by Mace and Colleran (2009) and values especially that relating to traditional and cultural practices for solving problems. These strong values, especially that relating to pregnancy and its management have well

permeated through health seeking construct of pregnant women and their families. There was evidence of the existence of cultural beliefs about pregnancy in the communities. For instance most pregnant women who died were given local herbs and this was continued despite the fact that they used ANC services. The decision to use or not to use any care traditional or orthodox is determined by the male household head. The male head is described as "*the chief, the father or the one with authority*" (FGD, Tilli / Widnaba and Zongoire). He holds such authority that whatever happens in the household would have to be managed by the decisions he takes including that relating to pregnancy. In fact, one cannot by pass the compound head to take any action. As a woman in Zongoire puts it "*…when there is a problem he knows what to do, so you cannot by pass him and do something without telling him. Since he is the head, he takes care of everybody in the house*". The compounds head usually men possess power in taken decisions on health matters (Malin and Gissler, 2009). Despite this power and trust in the compound head, they seemed to be confused especially regarding solving problems relating to pregnancy. The indecision does not only result in delays that could contribute to the death of pregnant women, but also the use of soothsaying coupled with local treatment could also be factors leading to high maternal mortality in the district.

There is an engrained traditional religious dimension as to the health of the household including pregnant women. The compound head uphold the shrine of the household and has the power to communicate with it and give directives as to what should be done as the case may determine. On the health of the pregnant women, soothsaying is done, libation is poured, ancestors are consulted and herbs are used when the woman is in

labour. It is only when efforts from these powers are failing that the woman in labour is supposedly rushed to the hospital. It is even misconceived that women who are unable to give birth within at short time of 30 minutes at home might have been adulterous or unfaithful. It is difficult to comprehend how very spiritual issues such as soothsaying, consultation of ancestors and libation pouring could provide solutions to a woman with foetal distress, haemorrhage also noted by Aina, (2007), prolonged labour among others. However, these may as well be enshrined within the context of spiritual health or faith believing interventions. The extent of success of such consultation and traditional interventions is beyond the scope of this study, however, based on scientific theory these beliefs have little effects on improving the maternal health outcomes including delivery as a result may have accounted for the high incidence of maternal mortality in the district. These might have accounted for the significant number of pregnant women who did not use ANC when there were on local treatment. It was attributed to sudden labour or upholding of family beliefs and traditional practices. Over a quarter of the women stayed at home, abided by the cultural and social influences relating to pregnancy, and did not even use hospital when they were in labour.

There are several dimensions to the background characteristics of pregnant women, their health seeking decision making processes and socio-cultural practices that influence the incidence of maternal deaths. It is deduced from this survey that, there are predominantly different and significant background characteristics of pregnant women in Bawku West district that makes pregnant women underprivileged and disadvantaged as compared to women who are not pregnant. Their situation is worsened by the engrained social-cultural

practices that is supervised and predominated by males and which accounts for delays in

seeking skilled attendants services in the district.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1. Conclusion

6.1.1 Non-institutional maternal mortality in Bawku West District

- ✓ Many more women die in the Bawku West District than men

- ✓ More pregnant women in the district die in the community than occur in the health facility.

- ✓ There is high maternal mortality in the district and this is higher than the national average.

Difference in risk of maternal and non-maternal deaths

- ✓ The risk of maternal death is less among married women than unmarried women in the district.

- ✓ Women in polygamous household are more likely to encounter maternal deaths than their counterpart who are in a monogamous household.

- ✓ Uneducated husbands of pregnant women stand a greater risk of encountering maternal death when compared with those who are educated and the risk is higher as the educational level increases.

- ✓ Women who are not educated stand the risk of maternal death than those educated.

- ✓ Unemployed husband stand a higher risk of their partner's dying of maternal death as compared to the employed.

- ✓ Pregnant women who are unemployed are more likely to die than unemployed non-pregnant women.

- ✓ When a woman get pregnant again after her third child, she is likely to die of maternal causes than those who did not get pregnant in the district.
- ✓ Maternal death is higher among women who had short birth intervals than non-maternal death.

Health seeking behaviour of maternal deaths

- ✓ Majority of pregnant women in the Bawku West district do not use ANC services.
- ✓ Majority of the few pregnant women in who use ANC services, use it for less than four times as required.
- ✓ Many of the pregnant women in the district develop complications.
- ✓ The complications arises because of the dominance influence of the compound head on the health needs of the pregnant women that results in delays.
- ✓ The compounds heads have negative influences on pregnant women in their household in seeking for early care and management from health facilities.
- ✓ The compound head only resort to health care when the woman has advanced in the development of complication.
- ✓ Many of the women delivered at home and died out of complications in the course of delivery at home.

Socio-cultural issues affecting pregnant women

- ✓ There are cultural beliefs associate with pregnancy and its management in the district and this is overseen by the compound head.

✓ Soothsaying, pouring of libations, calling on the ancestors and using of herbs are the processes that a compound head goes through in order to determine whether a pregnant woman in the household should seek for maternal care or not.

6.2 Recommendations

Women in the district

1. Women and women groups should come together and identify the real needs as far as seeking maternity care is concerned.

2. In groups, women in the district should advocate for freedom from main dominance that affects the life and health and most importantly the rate of death

3. Mothers in-laws should assist the daughters in laws to seek prompt medical care whenever they are pregnant

4. Pregnant women in the district should take action to seek for ANC services when pregnant and continue with it to term.

5. Women and Women groups should also advocate for equity in terms of access to education and employment by women since it is a protective measure against the incidence of maternal deaths.

Compound Heads

1. Compound heads should stop delaying pregnant women from seeking prompt medical care

2. Compound heads should encourage pregnant women in their household to go for ANC services

Chiefs and Opinion leaders

1. Chiefs and Opinion leaders should re-examine some cultural practices, example soothsaying, that are performed before authority is given for pregnant women to seek for medical care.

2. In consultation with compound heads, the chiefs and opinion leaders should formulate regulations that would seek to abolish traditional and cultural practices that cause the death of pregnant women in the district.

District Health Administration

1. The DHA should intensify education on the need to attend ANC when pregnant

2. The DHA should also meet and discuss with its community health workers in the CHPS zones, the reasons why ANC coverage is low.

3. The DHA in consultation with Opinion leaders, Chiefs, Compound Heads, and Chiefs should facilitate the process of ensuring that pregnant women get easy access to maternity care without any traditional or cultural barriers.

District Assembly

1. The District Assembly should empower women in to engage in productive work that would make them independent and also ensure that they are not susceptible to maternal deaths

2. The District Assembly through its assembly members, should also educate women on the need to use approved maternity facilities either than those un-approved.

References:

Aina, O.F. (2007). An overview of the socio-cultural and psychiatric aspects of women's reproductive health in West Africa. *Niger Postgrad Med J. 14* (3): 231 – 7.

Christian, P. (2009). Prenata Origins of undernutrtion. *Nestle Nutr Workshop Ser Pediatr Program 63:* 59 ; 74 – 77.

District Health Administration (2006). Annual Report of Bawku West District. (unpublished).

Evjen-Olsen B. *et.al.* (2008). Risk factors of maternal death in the highlands of rural northern Tanzania: a case-control study. *BMC Public Health* 8:52.

Furuta, M., and Mori, R. (2008). Factors affecting women's health-related behaviours and safe motherhood: a qualitative study from a refugee camp in eastern Sudan. *Health Care Women Int. 29*(8): 884 – 905.

Galadanci H.S., Ejembi, C.L. Iliyasu, Z., Alagh, B. and Umar, U.S., (2007). Maternal health in Northern Nigeria: a far cry from ideal. *BJOG 114* (40: 448 – 552

Ghana Health Services (2008). 2007 Annual Report. Accra. pp 12 – 23

Ghana Satististical Services . (2003). Ghana Demographic and Health Survey Report. pp 19 – 45.

Hecht, R., Alban, A., Taylor, K., Post, S., Andersen, N.B., Swarz, R. (2006).The Millennium Development Goals. *PLoS Med. 3*(11): e455

Johkhio, A.H., (2002). An Intervention Involving Traditional Birth Attendants and Perinatal and Maternal Mortality in Pakistan (Special Article). *New England Journal of Medicine*

Lawoyin, T.O., Lawoyin, O.O., Adewole, D.A. (2007). Men's perception of maternal mortality in Nigeria. *J Public Health Policy 28*(3):319 – 21.

Mace, R., and Colleran, H. (2009). Kin influence on the decision to start using modern contraception: A longitudinal study from rural Gambia. *Am J Hum Biol.* Epub ahead of print]

Malin, M. and Gissler, M. (2009). Maternal care and birth outcomes among ethnic minority women in Finland. *BMC Public Health 20;* 9:84

Mpembeni, R.N. Killewo, J.Z., Leshabari, M.T., Massawe, S.N., Jahn, A. Mushi, D., and Mwakipa, H. (2007). Use pattern of maternal health services and determinants of skilled care suring delivery in Southern Tanzania: implications for achievement of MDG-5 targets. *BMC Pregnancy Childbirth 6*; 7:29

Mariga, A.G., Kawuwa, M.B. and Kullima, A. (2008). Community perception of maternal mortality in north eastern Nigeria. *Afr J Reprod Health* 12 (3): 27 – 34.

Martey, J.O., Djan, J.O., Twum, S. Browne, E.N. Opoku, S.A. (1994). Maternal mortality related factors in Ejisu District, Ghana. *East Afr Med J 71*(10): 656 – 60.

Mills, S. *et al. (*2007). Maternal Mortality Decline in Kassena-Nankana District of Northern Ghana. *Maternal Health Journal 12*, 5: 577 – 585

Nyarko, P. *et.al.,* (2006). *Acceptability and Feasibility of Introducing WHO Focused Antenatal Care Package in Ghana.* Frontiers in Reproductive Health Program. *p*p 37

Onah, H.E., Ikeako, L.C., Iloabachie, G.C. (2006). Factors associated with the use of maternity services in Enugu, southeastern Nigeria. *Soc Sci Med. 63* (7): 1870 – 78

Qomariyah, S.N. *et.al.,* (2009). A practical approach to identifying maternal deaths missed from routine hospital reports: lessons from Indonesia. *Global Health Action 2* suppl.

World Health Organisation (1998). World Health Report – Life in the 21st Century. Geneva, pp 11 – 14.

World Health Organisation (2008). Annual Report. Geneva. pp 12 – 15

Zahr Carla Abou, Wardlaw Tessa. Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF, and UNFPA. http://www.unfpa.org/upload/lib_pub_file/237.

APENDIX 1

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY-KUMASI

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH

Research questionnaire for Household Respondents: Health providers, Community opinion leaders /Assembly men & women and Health related organizations:

ON

DETERMINING THE FACTORS CONTRIBUTING TO THE PREVALENCE OF MATERNAL MORTALITY:

THE CASE OF BAWKU WEST DISTRICT

INTRODUCTION

I am a resident from the above University posted to the district to conduct a research on factors contributing to the prevalence of maternal mortality in the District.

Requested information for the below questions will help facilitate my preparedness to carry out the task ahead basically for academic purpose, hence will be confidentially treated.

No name of respondent is required.

Thanks for your cooperation and quick response.

William Abotzabire.

HOUSEHOLD QUESTIONNAIRE

DISTRICT...

SUB-DISTRICT..

COMMUNITY...

HOUSE NUMBER...

 RESEARCH ASSISTANT:

NAME...

SIGNATURE..

SECTION B1
1.0. BACKGROUND INFORMATION ON WHERE WHO DIED DURING PREGNANCY, LABOUR AND AFTER DELIVERY WITHIN (2004-2007):

B1.1. Has there been any death in this household / compound within the last three years (2004) up to last year (2007)?

a) Yes ☐

b) No ☐

1.2 If yes when did it occur?

a) This year ☐

b) Last year ☐

c) Last two years ☐

d) Last three years ☐

1.3 What is the sex of the person who died?

        a) Male ☐

        b) Female ☐

1.4. If a female how old was she? (in years) ☐

1.5. Where did she die?

        a) Home ☐

        b) Health centre ☐

        c) Private maternity home /clinic ☐

        d) Traditional healers' house ☐

        e) Hospital ☐

1.6 Was she pregnant at the time of death?

        a) Yes ☐

        b) No ☐

1.7. If yes, did she die during…

        a) The pregnancy? ☐

        b) Labour? ☐

        c) After delivery? ☐

1.8. What signs and symptoms did she have before she died?..
....
....

SECTION B2:
2.0. BACKGROUND INFORMATION AND BIRTH HISTORY OF WOMEN WHO DIED WITHIN (2OO4-2007):

B2.1 Age in years …

B2. 2. Marital Status   a) Married

                    b) Single

                    c) Divorced

                    d) Widow

                    e) Widower

2.3 if married, to a single or polygamous husband?
                    a) Single husband

                    b) Polygamous husband

2.4. If polygamous husband, how many co wives has he?

                    a) 2 wives

                    b) 3 wives

                    c)   4 wives

                    d) 5 wives

2.5. Level of education of husband:
                    a) No formal education

                    b) 1st cycle education

                    c) 2nd cycle education

                    d) Tertiary education

2.6 Level of education of dead woman:
      a) No formal education

      b) 1st cycle education

c) 2nd cycle education ☐

d) Tertiary education ☐

2.7 Occupation of husband:

a) Government employee ☐

b) Famer ☐

c) Trader ☐

d) Unemployed ☐

e) Any other (specify)……………………………

2.8. Occupation of dead wife:

a) Government employee ☐

b) House wife ☐

c) Trader ☐

d) Unemployed ☐

e)Any other (specify)…………………………………………………..

2.9. Religious background of both husband and diseased wife:

a) Christian ☐

b) Moslem ☐

c) Traditional worship ☐

d) Any other (specify)…………………………………………..

2.10. Ethnicity (tribe) of husband?

a) Kusasi ☐

b) Moshie ☐

c) Busanga ☐

d) Frafra ☐

e) Mamprusi ☐

f) Southerner ☐

g) Any other (specify)………………………

2.11. Ethnicity (tribe) of dead wife?

a) Kusasi ☐

b) Moshie ☐

c) Busanga ☐

d) Frafra ☐

e) Mamprusi ☐

f) Southerner ☐

g) Any other (specify)………………………

2.12. How many children did the dead wife have? ☐

a) 1 child ☐

b) 2 children ☐

c) 3 children ☐

d) 4 children ☐

e) 5+ children ☐

2.13. How old was her last child? (in months / years) ☐

2.14. Did she attend antenatal? ☐

a) Yes ☐

b) No ☐

☐

2.15. If yes, how many times did she attend?

2.16. How old was the pregnancy when she attended the first antenatal? (in months) ☐

2.17. During pregnancy did she have any complications?

a) Yes ☐

b) No ☐

2.18. If yes what were the complications?

……………………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

2.19. Did she seek treatment / care for the above mentioned complication?

a) Yes ☐

b) No ☐

2.20. If yes where did she seek the care or treatment?

a) Local treatment ☐

b) Hospital ☐

c) Health centre ☐

d) Private maternity home / clinic ☐

e) Any other place / person ☐

(specify)………………………………………………………………………………

……………………………………………………………………………………………

……………………………………………………………………………………………

2.21. How many times was she ill during the pregnancy?

a) Once ☐

b) Twice ☐

c) Thrice ☐

☐

d) More than 3 times

2.22. Did she recover from these illnesses?

a) Yes [ ]

b) No [ ]

2.23. If yes, did she carry the pregnancy to full term?

a) Yes [ ]

b) No [ ]

2.24. If yes, when did she start labour?..
....
....

2.25. How long did the labour last?

a) Within a day [ ]

b) One day [ ]

c) Two days [ ]

d) More than two days [ ]

2.26. Where did the labour take place?

a) Home [ ]

b) Health centre [ ]

c) Hospital [ ]

d) Private maternity home /clinic [ ]

e) Any other place [ ]

(specify)……………………………………………………………………………………………
………………………………………………………………………………………………………
………………………………………………………………………………………………………

2.27. Who assisted her during the labour and delivery?

a) TBA [ ]

b) Traditionalist [ ]

c) Nurse ☐

d) Doctor ☐

e) Any other person (specify)…………………………….

2.28 If **NO**, to question 2.22 above may you please describe / narrate the circumstances that led to her death?

……………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

SECTION B 3:
3.0 KNOWLEDGE OF MATERNAL MORTALITY:
3.1. Do you know anything about maternal mortality?

a) Yes ☐

b) No ☐

3.1b. If yes what is maternal mortality?

....
....
....

3.2. Do you know any woman who died when she was?
a) Pregnant?   Yes ☐   If yes what was her age? (………….years)

No ☐

b) During child birth (labour)?   Yes ☐   If yes what was her age? (……..years)

No ☐

c) Within first day to about 42 days after

child birth (delivery)?   Yes ☐   If yes what was her age? (………years)

No ☐

PLACE OF MATERNAL DEATH

3.2**b**. If yes to Questions 3.2 (a, b, or c) above, where did she die?

a) Home ☐

b) Hospital ☐

c) Medicine (Juju) man's house ☐

d) Prayer camp ☐

e) TBA's house ☐

f) Any other place
(specify………………………...

……………………………………………

……………………………………………

3.3. What was your relationship to this woman?

a) Daughter ☐

b) Daughter in-law ☐

c) Wife ☐

d) Rival ☐

e)Any other
(specify)…………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

3.4. Ethnicity (tribe) of deceased mother?
i   Kusasi
ii.   Moshie
iii. Busanga
iv. Frafra
v.Mamprusi
vi.Southerner
vii   Fulani

Any other:
(specify)…………………………………………………………………………..

3.5. What in your own opinion could have caused her death?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

3.6. Apart from this woman, how many women died in this village through pregnancy, during labour or after birth?

…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

3.7. When a woman is pregnant what are the common diseases that she suffers from in the community?

a)…………………………………………………………………………………………………
…………………………………………………………………………………………………
……………………………………………………………………………………………….....

b)…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

c)…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

d)…………………………………………………………………………………………………
…………………………………………………………………………………………………
…………………………………………………………………………………………………

e)…………………………………………………………………………………………………
....
....

3.8. What are the signs and symptoms that a pregnant woman complains of in relation to your named disease in question 2.7?
a)…………………………………………………………………………………………………
………………………………………………………………………………………………..
…………………………………………………………………………………………………

b)…………………………………………………………………………………………………
………………………………………………………………………………………………..
…………………………………………………………………………………………………

c)…………………………………………………………………………………………
……………………………………………………………………………………………..
 ……………………………………………………………………………………………..

d)…………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………..

SECTIONC:
4.0 CULTURAL PRACTICE INVESTIGATIONS:
4.1 Are there some local / cultural beliefs why a pregnant woman dies during or after child birth in this community?

b) No ☐

4.1b. If yes to question 3.1, mention these local / cultural beliefs:
a)…………………………………………………………………………………………
……………………………………………………………………………………………
…………………………………………………………………………………………..

b)…………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………
c)…………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………
d)…………………………………………………………………………………………
……………………………………………………………………………………………
……………………………………………………………………………………………

4.2. Do pregnant mothers / women receive any local treatment at home in this community?

a) Yes ☐

b) No ☐

4.2b. If yes mention any three (3) of the local treatment that are given to the pregnant mothers / women at home.
 1……………………………………………………………………….
2……………………………………………………………………….
3………………………………………………………………………..

4.3. How long do pregnant mothers / women receive local treatment at home before attending to a health facility for service? (in days, weeks and months)

a) Days (state number) ☐

b) Weeks (state number)

c) Months (state number)

4.4. Are pregnant women / mothers who receive local treatment allowed to attend health facilities (hospital, clinics) for antenatal services?

a) Yes

b) No

4.4b.If no to question 3.4 above, why?

....
....
....
....

4.5. Are pregnant mothers / women first sent to the health facility to deliver when they are in labour or later when they are not able to deliver in time?

a) First

b) Later

4.5b. If later to question 3.5, why?

………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

4.6. Are there some reasons why pregnant women / mothers, are not allowed to go and deliver in the health facilities in this community?   a) Yes

b) No

4.6b. If yes, mention at least any three (3) of the reasons

1.……………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

2.……………………………………………………………………………………………
……………………………………………………………………………………………….
………………………………………………………………………………………………

3.………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

4.7 .How in this community / district are pregnant women protected from becoming ill?...
....
....

4.8. What Community action(s) is/are in this community / district for keeping pregnant women
healthy?...
....
....

4.9. What available information is in this community / district that helps prevent women dying from pregnancy, during labour and after delivery?

....
....
....

4.10.What family planning Methods are accepted and in used in this
district?..
....
....

4.11. Have you ever followed your wife / husband to a health provider / health facility to deliver?

Yes

No

4.11b. If no to question 3.11 above, why?
....
....
....

4.12. What are some of the things that discourage pregnant women from going to health facilities (hospital, clinics) before, during and after delivery?
....
....
....

FOCUS GROUP DISCUSSION QUESTIONNAIRE FOR WOMEN, MEN AND THE YOUTH AGES (18-25; 26-35; 36-49 AND 50+).

NB. GROUPS OF (8-12)

DISTRICT...

SUB-DISTRICT..

COMMUNITY...

VENUE..

TIME...

 LEADER OF RE SEARCH DISCUSSION:

NAME...

SIGNATURE...

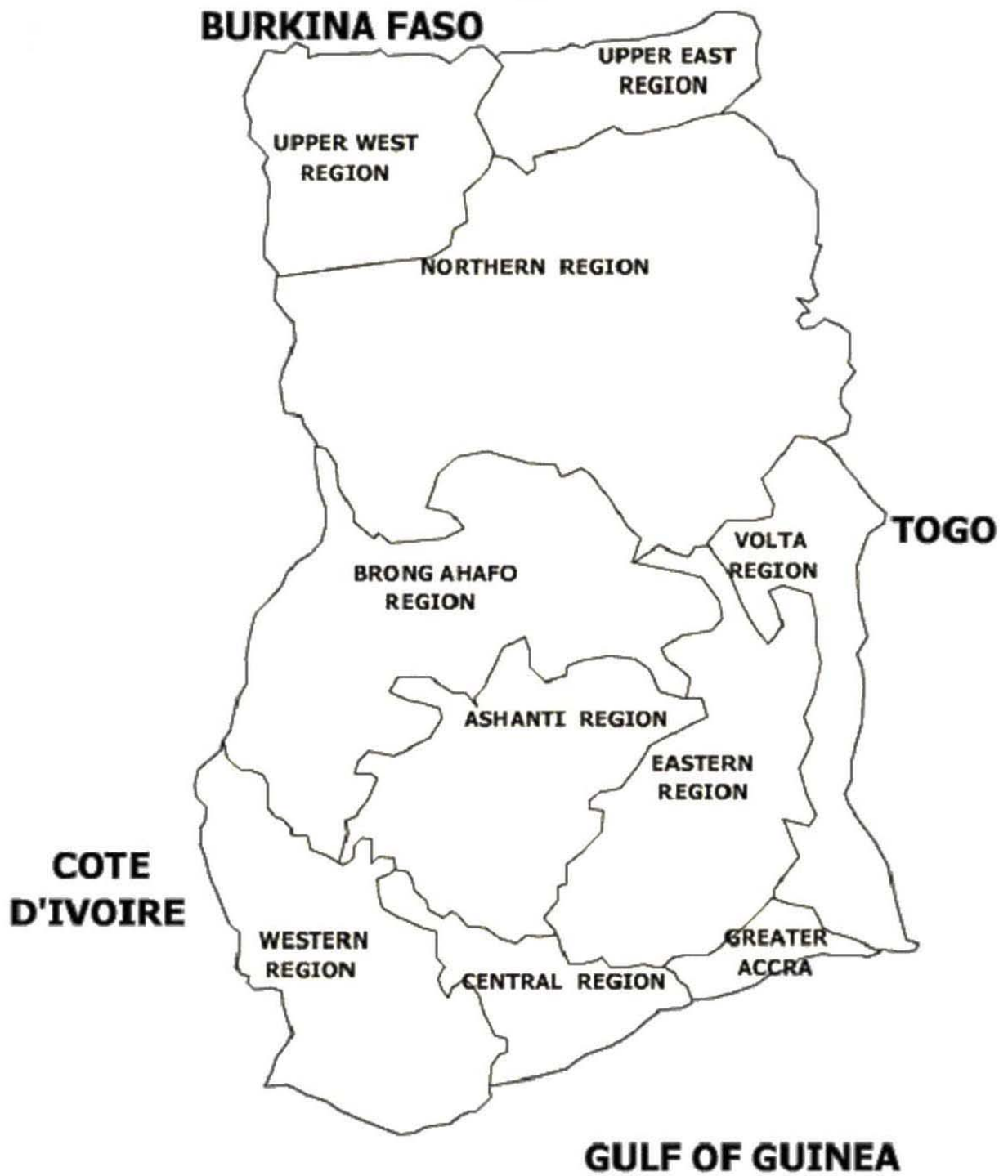**DISCUSSION TOPICS ON:**

1. Food Taboos

2. Work taboos.

3. Antenatal

4. Labour

5. Delivery

6. Death

7. Cultural reasons of pregnant women death during pregnancy, labour and after delivery.

QUESTIONS:

1. Are there some beliefs concerning what food a pregnant woman should eat in your community?

2. In pregnancy what are the foods a pregnant woman is allowed to eat?

3. In pregnancy, what are the avoidable foods a pregnant woman is prevented from eating?

4. Why should pregnant woman be prevented from eating such foods mentioned as above?

5. What are the types of work a pregnant woman should do?

6. What are the avoidable types of work a pregnant woman be prevented from doing?

7. When does a pregnant woman attend antenatal clinics for services?

8. Why is it important for pregnant women to attend antenatal?

9. Why is it that some women refuse to attend antenatal?

10. Are there cultural reasons why some pregnancy cannot be sent to the health facility / antenatal?

11. When a woman is pregnant what are the common diseases that she suffers from in this community?

12. What are the signs and symptoms that a pregnant woman complains of in relations to your named diseases above?

13. What are some local / cultural beliefs why a pregnant woman dies during or after child birth in this community/ district?

14. What are some reasons why pregnant women are not allowed to go and deliver in the health facilities in this community /district?

15. What are some of the things that discourage pregnant women from going to health facilities (hospital, clinics) before, during and after delivery?

16. When a woman is pregnant, do they consult soothsayers on the pregnancy?

17. If yes for above question why do they do that?

18. When women are in labour in this community who assist them to deliver?

19. If TBAS, are they, or is S / he   trained or untrained?

20. What is the perception of the skills of the TBAS this community?

21. When a woman has complications during delivery, what do you do in this community?

22. What are some of the reasons why some women deliver at home?

23. Why do some women die during pregnancy?

24. Some women also die during labour ,what are the reasons?

25. Some women also deliver and after a few days / weeks, they die, what are some of the cultural/local beliefs or reasons?

26 what are some of the things that can be done to prevent women from dying during pregnancy, labour and after delivery?

APPENDIX 3
MAP OF GHANA

BASIC HEALTH INFORMATION
UPPER EAST REGION
BOLGATANGA .

BURKINA FASO

BAWKU WEST

IVORY COAST

TOGO

N
W   E
S

District Capitals
Districts
Bawku East
Bawku West
Bolgatanga
Bongo
Builsa
Garu-Tempane
Kassena-Nankana
Talensi-Nabdam

10   0   10   20 Kilometers