UNIVERSITY OF GHANA

FACTORS AFFECTING MATERNAL HEALTH CARE DELIVERY IN THE KOMENDA EDINA EGUAFO ABREM MUNICIPALITY OF THE CENTRAL REGION

BY

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DECLARATION

I hereby declare that except for reference to the works of other authors, which have been duly cited, this thesis is the true results of my own research work and that it has neither been wholly or partly presented in this University or elsewhere.

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DEDICATION

This work is dedicated to my son, Kojo Nkrumah-Anku.

ABSTRACT

This study was carried out to investigate factors affecting maternal health care delivery in the Komenda Edina Eguafo Abbrem Municipality. Qualitative and quantitative methods were used to elicit information for the study. For quantitative method, simple random and snow ball sampling procedures were used to sample 150 respondents for the survey. In-depth interviews and focus group discussions were employed to solicit information for the qualitative data. The findings of the study showed that, there was an imbalance in the midwife-patient ratio causing delays in response time to treatment and subsequently affecting the quality of services provided. Also, poor road networks, distance and cost, increase travel time to health facilities, a move compelling pregnant women to resort to traditional birth attendants. The study also found that, majority of the respondents associated their inability to access health care to their limited income levels. This was attributed to the hidden charges associated with antenatal care and delivery despite the use of the National Health Insurance card. Dietary superstitions were found to be the main socio-cultural practice among respondents. The study concluded that inadequate midwives, deplorable state of roads, dietary superstitions associated with pregnancy and financial burdens are factors deterring pregnant women from accessing maternal health care services and hence the slight decline in ANC attendance rate. It was therefore recommended that staff strength, especially midwives need to be improved to ensure efficiency. Roads linking communities to health facilities as well as referral and communication systems need to be improved to ease referrals and also make access to health facilities easier for those in hard-to-reach areas. Maternal health education also needs to be intensified to eradicate cultural practices that affect maternal health.

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LIST OF ABREVIATION/ACRONYMS

ANC	Antenatal Care
GDHS	Ghana Demographic Health Survey
GPRS	Ghana Growth and Poverty Reduction Strategy
GSGDA	Ghana‟s Growth and Development Agenda
GSS	Ghana Statistical Service
HCF	Health Care Facility
HIV/AIDS	Human Immune Virus/ Acquired Immune Deficiency Syndrome
K.E.E.A	Komenda Edina Eguafo Abbrem
MDGs	Millennium Development Goals
MRH	Ministry of Roads and Highways
NHIS	National Health Insurance Scheme
SBA	Skilled Birth Attendant
TBA	Traditional Birth Attendant
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children Education Fund
WHO	World Health Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Maternal health is the 'health of a woman during pregnancy, childbirth, and the postpartum period (WHO, 2016). It encompasses the health care dimensions of family planning, preconception, prenatal, and postnatal care in order to reduce maternal morbidity and mortality'. Inadequate care in any of the four dimensions can therefore result in maternal mortality or injury.

Four elements are essential to improving maternal health and subsequently prevent maternal death (UNFPA, 2012). Prenatal care, the first element is considered to be very important in maternal health care. It is recommended that expectant mothers receive at least four antenatal visits to check and monitor the health of mother and foetus. Secondly, skilled birth attendance with emergency backup such as doctors, nurses and midwives who have the skills to manage normal deliveries and recognize the onset of complications. Another important element is the availability of emergency obstetric care. This unit addresses the major causes of maternal death which are haemorrhage, sepsis, unsafe abortion, hypertensive disorders and obstructed labour. Lastly, postnatal care which is the six weeks following delivery. During this time bleeding, sepsis and hypertensive disorders can occur and newborns are extremely vulnerable in the immediate aftermath of birth. Therefore, follow-up visits by a health worker necessary to assess the health of both mother and child in the postnatal period. Inadequate care in any of the four dimensions can therefore result in maternal mortality or injury.

Maternal mortality, according to the World Health Organization (2012, p.4) refers to "the death of a woman while pregnant or within 42 days after termination of pregnancy, irrespective of the duration and sight of the pregnancy, from any cause related to the pregnancy or its management but not from accidental or incidental cause". The death of

a woman due to pregnancy is one of the most avoidable deaths when proper care is given. Yet this form of death has gained global attention due to its increasing rate and its impact across the world (WHO, 2014). The effect of a mother's death results in vulnerable families, and their infants, if they survive childbirth, are more likely to die before reaching their second birthday. It therefore became necessary to consider it when the millennium development goals were formulated.

The Millennium Development Goals (MDGs) are eight international development goals that were developed by the United Nation to meet the needs of people particularly in the poorest parts of the world. These goals, with their various targets, are bound by a deadline, which is 2015, by which member countries are expected to achieve their set targets. They are to serve as a guide to the various governments of those countries to achieve socio-economic development. The fifth Goal (MDG 5) is structured around two key targets: to reduce maternal mortality rates by 75% between 1990 and 2015; and to achieve universal access to reproductive health by 2015 (WHO, 2012). Maternal mortality is measured as number of actual maternal deaths that occur in a year per 100,000 live births or the proportion of all deaths of women 15 – 49 years that was due to pregnancy related causes (WHO, 2012).

Due to the vulnerability and the biological changes experienced during the nine months of pregnancy, women require proper care to ensure their safety during and after pregnancy. However, every minute of every day, a woman in the world dies as a result of complications arising during pregnancy and childbirth. It is estimated that, nearly 600,000 women between the ages of 15 and 49 die every year as a result of complications arising from pregnancy and childbirth globally (WHO, 2012). About 99% of these deaths occur in the least developed countries. It is also worth noting that, more than half of these deaths occur in sub-Saharan Africa where women have 1 in 16 chance of dying in pregnancy or childbirth (WHO, 2012). The life time risk of dying due to

maternal mortality is about 1 in 30,000 in the developed countries compared to 1 in 6 in the developing countries (WHO, 2012). Maternal mortality ratio has therefore become one of the most important and sensitive indicators of the health disparity between the developed and under developed countries across the world.

Maternal mortality rate (MMR) is high in developing countries; Africa leads the group with higher cases occurring in sub of the Sahara (WHO, 2012). Sub-Saharan Africa experienced the highest maternal mortality with 920 maternal deaths per 100,000 live births, followed by South Asia, with 500 maternal deaths. This compared with maternal mortality ratio of 8 per 100,000 live births in industrialized countries. According to the World Health Organization (2012), countries with the highest maternal mortality ratios are Sierra Leone (with 2,100 maternal deaths per 100,000 live births), Niger (1,800), Afghanistan (1,800), Chad (1,500), Somalia (1,400), Angola (1,400), Rwanda (1,300), and Liberia (1,200). Globally, an estimated 287 000 maternal deaths occurred in 2010. Sub-Saharan Africa (56%) and Southern Asia (29%) accounted for 85% of the global burden (245 000 maternal deaths) in 2010. At the country level, two countries account for a third of global maternal deaths: India at 19% (56 000) and Nigeria at 14% (40 000). According to a UNFPA report, "A woman's chance of accessing quality maternal health care and dying or becoming disabled during pregnancy and childbirth is closely connected to the following; her social and economic status, the norms and values of her culture, and the geographic remoteness of her home. Generally speaking, the poorer and more marginalized a woman is, the greater her risk of death. Thus, maternal mortality rates reflect disparities between wealthy and poor countries more than any other measure of health" (UNFPA, 2016)

Looking at the current trends across the world and especially the case of Africa, the dream of achieving the MDG5 targets is still a mirage. To reach the target, the global rate would have had to be reduced by an average 5.5 per cent a year between 1990 and

2015. The current average rate of reduction is less than 1 per cent a year. The estimated 0.1 per cent annual rate of reduction in sub-Saharan Africa, where levels of mortality are highest, is slower than in any other region (WHO, 2012).

Ghana, like many developing countries, is struggling with the MDG goal five. The national target is to reduce the maternal mortality rate of 214 per 100,000 live births (national) by three quarters to as low as 54 per 100,000 live births. This target has however not been achieved. According to the 2008 Demographic Health Survey, maternal mortality has been on the decline (to about 451 per 100,000 live births) especially with the introduction of the free ante and post natal health services under the National Health Insurance Scheme (NHIS). Even though the figures are declining gradually, the current figures are still a source of concern. There are, however, regional variations in terms of the decline in maternal mortality rates across the country. The three northern regions have the lowest level of health care provision in the country which makes its residents vulnerable to most health related problems including maternal mortality (Grimbergen & Thönissen, 2007).

In spite of the challenges faced, there have been numerous interventions by the government to curtail the problems of health care delivery in the country, particularly, maternal health. Popular among them is the National Health Insurance Scheme which was introduced in 2003. Until the introduction of the National Health Insurance Scheme in 2003, the country's health service was operating on the 'cash and carry' system which resulted in the fall in the utilization of health care facilities (Asante & Aikins, 2008). The NHIS erased the cash and carry system and introduced a system of providing free health care to all who were registered under the scheme. The scheme is operational in 145 districts with a registered membership of 12.2 million at the end of the year 2010 (NHIS, 2010). The free maternal health service was introduced under the scheme to deal

with the maternal health issues. Women were required to register for free, attend anti natal care and be rest-assured that delivery cost would be catered for under the scheme.

A safe motherhood task force is operational and government is supporting increased production of midwives through direct midwifery training. For example, with two new midwifery training schools opened in Tamale and other places, the initiative has resulted in 13 per cent increase in national enrolment between 2007 and 2009 (UNDP, 2015). Moreover, in 2010, midwives received specific training on the use of partograph. Knowledge in the use of partograph promotes confidence, reduces prolonged labour, caesarean sections and intrapartum still births. The High Impact Rapid Delivery (HIRD) approach is also being implemented as a complementary strategy to reduce maternal and child mortality. Several districts have indicated progress in service indicators achieved and innovative strategies implemented with regard to improving maternal health. Other interventions also include the Emergency Obstetric and Neonatal Care (EmONC) which is being implemented in all 10 regions, but not yet with full complement of required resources (midwives and equipment) (UNDP, 2015). However, access to health facilities due to poor state of roads and vehicle, inadequate staff and equipment's especially in rural areas continues to be a challenge to improving maternal health care in Ghana.

1.2 Problem Statement

Ghana, like many developing countries, has had challenges in delivering quality health care to its populace due to problems like lack of infrastructure and skilled personnel (UNDP, 2015). This has resulted in inequalities in the quality of care delivered in the country. It is estimated that, only 43% of births in rural areas are supervised by skilled providers due to inadequate access to obstetric care (GSS, 2008). The case of maternal mortality in Ghana is as serious as that of many other African countries. A large number

of women lose their lives during pregnancy and child birth despite the efforts of the government and other stake holders in the health sector. Even though available reports show an improvement in maternal health care, the country is unlikely to attain its target of reducing maternal mortality rate by three quarters by 2015 since the rate of decrease is slow and also varies across the regions (Ghana Health Sector Review Report, 2010). Maternal mortality rate has reduced from 214 per 100,000 live births in 1990 to 164 per 100,000 live births in 2010. The national target of 54 per 100,000 live births in 2015 is yet to be achieved with a 110 days to go (UNDP, 2015). Supervised delivery is known and accepted to be a major factor in reducing the risk of complications and infections during childbirth, and thereby decreasing maternal mortality. It is therefore important to ensure skilled care provided by skilled professionals during pregnancy and childbirth as a critical intervention for safe motherhood. In Ghana, three quarters of all maternal deaths occur during birth and the immediate post-partum period (GSS, 2008). However, skilled birth attendance (SBA) or supervised delivery does not only remain low in Ghana, but also a significant equity gap exists across regions and within regions (i.e. urban and rural disparities). The 2008 GDHS reported that, while 62 per cent of births occurred in rural areas, less than half of births (43%) were assisted by SBA in rural areas, as against the national average of approximately 57 per cent of births. Access to skilled care at delivery is dependent on regional location and income status with Accra having the best access (between 71 to 80%) and the three northern regions recording the worst (between 0 to 30%). One of the measures to improve maternal health in Ghana is the 'fee free' policy under the National Health Insurance Scheme introduced in 2008. The 'fee free policy therefore is a form of relief for most poor families who otherwise would not have been able to utilize health facilities. Since its inception, the scheme as at the end of the year 2010 has catered for 1,277,819 pregnant women. It provides services like free deliveries, caesarean operations and other pregnancy related complications like

fistula. Once the baby is born, the policy also covers it up until 90 days after birth.

However, just like any other policy, the 'fee free' policy also has some challenges. Among them include the quality of care and funding. For the policy to continue running, regular supply of funds is required. Premiums paid by subscribers still need to be augmented by government and other donor funds. The inconsistencies in the supply of these funds have resulted in most facilities going back to the cash and carry policy (Witter et al., 2007). The lack of funds affects the quality of care provided even in facilities where the policy is still operational. This includes sub-standard treatment and medication. Also, the NHIS does not cover the costs of transporting women in labour to the immediate hospital or health facility which may be one of the major factors explaining the unwillingness of mothers to deliver at the facility (UNDP, 2015). Access to health care contributes greatly to its utilization. Therefore, transport plays a major role in maternal health care delivery. According to the UNFPA (2009), more than 70 per cent of maternal deaths could be avoided through timely access to child-birth related care. Although much research has been done on maternal health in Ghana, most works focused mainly on accessibility to health care or a single factor such as the quality of services offered by health facilities, social and economic factors and how they affect maternal health care delivery. However, not much work has been done in the Central region, specifically the K.E.E.A municipal area incorporating all the factors affecting maternal health care delivery. For instance, a study on the spatial accessibility to health care facilities in the Ajumako-Enyan –Essiam and Upper Denkyira Districts in the Central Region focussed on the role of distance and the location of health facilities on actual utilization. It was found that, people living close to the facility had easy access and therefore utilized the facility more than those farther away. (Kissah-Korsah, 2008). In another study, an assessment of the utilization of Community Health based Planning and Services (CHPS) was carried out in the K.E.E.A municipality. The findings of the

study revealed the lack of midwives at the CHPS compounds, however not much discussion was conducted on its effect on maternal health in the municipality. Therefore, this study seeks to take account of factors such as transport and the socio-economic and socio-cultural aspect of the society that affect maternal health. In addition, 'clinical' factors such as the quality of services provided by health facilities and the available infrastructure will be assessed to find out how they also affect maternal health in the K.E.E.A municipality.

1.3 Research Objectives

The general objective of the study analyse factors that affect maternal health care delivery in the K.E.E.A municipal area.

Specifically, the study seeks to:

1. Assess the quality of maternal health care services provided in health centres.
2. Find out how road transport affect maternal health care utilization
3. Examine the socio-economic factors that affect maternal health within the study area.
4. Analyse socio-cultural issues relating to maternal health.
5. Provide recommendations to stakeholders in the health sector and the K.E.E.A municipality.

1.4 Research Questions

The following research questions will serve as a guideline for the research. Response to these questions will help in achieving the specific and broad objectives of the research.

1. What constitute quality maternal health care?
2. How does access to transport affects the utilization of maternal health care services?

3. What are the various socio-economic and socio-cultural factors that affect maternal health?

1.5 Research Hypothesis

The following hypotheses will be tested in the study:

H_a: There is no significant relationship between distance to health facility, cost of transport, nature of road and attendance of anti-natal care.

H_b: There is no significant relationship between socio-cultural and economic factors and place of delivery.

1.6 Rationale of the study

This study is will contribute to existing knowledge by unravelling the factors that affect maternal health in the K.E.E.A Municipality. The findings will subsequently inform stakeholders such as the reproductive and family health unit of hospitals as well as policy makers on the measures to put in place to improve maternal health and reduce mortality rates.

The study will also highlight factors that impede access and utilization of maternal health services. This will promote public education on some socio-economic factors that contributes to poor maternal health or death. In addition it will highlight some erroneous perceptions held by women with regards to the utilization of maternal health services.

Finally, the finding of the study will reduce the effects of financial instability, break in family chain, early pregnancy among young girls and infants' mortality/malnutrition as a result of the loss of the mother or wife through maternal death.

1.7 Organization of Chapters

The first chapter gives a background of the study from the global perspective, Africa, and finally the Ghanaian situation. It also presents the problem that the study intends to investigate. The broad and specific objectives and research questions that will serve as a

guide for the study are also indicated in this chapter as well as the rationale for the study and definition of terms.

Chapter two presents a review on the current body of knowledge on the research topic. The review covers the factors that influence maternal mortality. The socio-economic and socio-cultural factors as well as 'clinical' factors (hospital infrastructure, staff and quality of services) that affect maternal health which results in maternal mortality are discussed in this chapter. The chapter concludes with a conceptual framework on the factors that affects maternal health using the three delay model by Thaddeus and Maine, 1994.

Chapter three explains the study area and specific methods used during this investigation. The mixed method strategy is outlined; the primary data collection process, data analysis and data presentation are also explained.

The fourth chapter discusses the demographic and social background information as well as the quality of maternal health care services provided in the health facilities as well as the transport services. Components of maternal health such as the level of ANC attendance, skilled staff and other medical infrastructure that influence maternal mortality are analyzed and discussed in this chapter.

Chapter five focuses on the role that transport plays in maternal health care delivery. The availability, cost and other transport related issues are also discussed in this chapter to identify relationships.

Chapter six looks at the socio-economic and socio-cultural factors that could endanger the lives of pregnant women. Economic factors such as the type of occupation and the level of income are discussed to know how they influence maternal mortality. Some social norms and taboos that affect maternal health are also considered.

The final chapter summarizes the key findings of the study, conclusions and provide recommendations.

CHAPTER TWO

REVIEW OF LITERATURE AND CONCEPTUAL FRAMEWORK

2.1 Introduction

This section debates current academic knowledge on maternal health and mortality rates from the global perspective, and also looks at the situation in Africa and for that matter West Africa. The case of Ghana and subsequently the study area is also considered. Analyses of the various factors that influence maternal mortality such as the socio-economic (income levels, occupation, education etc.) and socio-cultural factors (religious affiliation, cultural norms and taboos) are also considered while commenting critically on where interesting questions and inconsistencies lie. Biological or clinical factors (medical supplies, quality of services offered, skilled staff etc) are looked at in this chapter. Transport plays an important role in all human activities which includes health care access. Therefore, this chapter also discusses the role that transport plays in the accessibility and subsequent utilization of maternal health services.

The chapter concludes with a conceptual framework adapted from Thaddeus and Maine (1994); that is the 'three delay model'. The model serves as a guide upon which the research is done. The various factors identified in the framework are analyzed to identify their relationship with each other and how they interact to affect maternal health care.

2.2 Causes of Poor Maternal Health

Health care patterns across the African continent are similar due to high poverty and diseases like malaria and HIV/AIDS which have caused the loss of millions of lives across the continent, rendering many children orphans. The high levels of poverty in the continent especially in Sub- Saharan Africa also contributes to the high mortality rates among pregnant women. Until the introduction of the 'fee free care' for pregnant

women, most women in Ghana, avoided seeking professional medical care during obstetric emergencies due to the cost of care and medication (NHIS, 2010). This made most pregnant women to seek care with unprofessional traditional birth attendants and other spiritualists which often resulted in complications and sometimes the loss of either the mother or baby and in worse situations both mother and child (NHIS, 2010). The causes of poor maternal health in Ghana are not that different from that of other African countries. Basically, poor maternal health results from direct, indirect (pre-existing diseases), socio-economic and socio-cultural factors or causes. Direct maternal death or poor health results from complication of the pregnancy, delivery, or management of the two. Indirect maternal death however is a pregnancy-related death in a patient with a pre-existing or newly developed health problem unrelated to pregnancy. Such deaths or fatalities during but unrelated to a pregnancy are also termed accidental, incidental, or non-obstetrical maternal deaths (Khlat & Ronsmans, 2009). Socio-economic and cultural barriers that limit access to maternal health care services include poverty, lack of information, distance to health facilities and cultural practices (WHO, 2015).

2.2.1 Direct Causes of Poor Maternal Health

Maternal deaths result from a wide range of both indirect and direct causes. Direct maternal deaths result from conditions or complications, or the management thereof, which are unique to pregnancy and occur during the antenatal, intrapartum, or postpartum period. Sixty to eighty percent of maternal deaths are due to five direct causes. Seventy-three percent of maternal death between the period of 2003 to 2009 were due to direct obstetric causes. These are haemorrhage (severe bleeding or a heavy flow of blood within or from the body) (27%), obstructed labour (9%), eclampsia which is a complication of pregnancy characterized by convulsion and coma, sepsis / infections which is a medical condition where the body is inflamed and a known infection is present (11%), and unsafe abortion, the cessation or termination of

pregnancy using means other than the medically accepted and proven methods (8%) (Say et al., 2014). These direct complications are unpredictable and tend to occur within hours or days after delivery with between 11 and 17 per cent of maternal deaths occurring during childbirth itself, and between 50 and 71 per cent in the postpartum period (WHO 2005).

Haemorrhage or bleeding during pregnancy may indicate several conditions. In early pregnancy it indicates threatened abortion. In later pregnancy, it suggests problems in placenta. The gravity of haemorrhage is that in anaemic women, even a small amount of blood loss can be fatal. Postpartum haemorrhage is one of the most common reasons for blood transfusion, an intervention that has become dangerous with the advent of HIV/AIDS. Severe anaemia contributes to poor health of pregnant women by impairing a pregnant woman's ability to resist infection or severe haemorrhage. In Ghana, parasitic infestation, especially malaria, significantly contributes to poor health among pregnant women which often result in deaths, complications during delivery or injuries (Brabin, 1983).

Obstructed Labour refers to complications in which the process of labour does not function normally due to mechanical blockage of the birth canal. In very severe cases, it may lead to fistula in which urine and faecal matter gain entry into the reproductive system. Obstructed labour may be due to early pregnancy which is mostly high in poverty stricken areas, inadequate nutrition during childhood, foeto-pelvic disproportion, multiparity and abnormal foetal presentation (WHO, 2005). Thus, poor health of a woman due to malnutrition and early pregnancy which are among the common features of women from poor homes contributes prolonged or obstructed labour. Pregnant adolescents or teenagers are least likely to receive any prenatal care at all and are mostly prone to complications. Improper development of the pelvic as well as their inability to provide financially for themselves affects their diet and hygienic

conditions. This often leads to anaemia and infections resulting in poor health and subsequently injuries during labour or death.

Abortion is also known to contribute to poor maternal health and mortality**.** This is voluntary or involuntary termination of pregnancy before 20 weeks of gestation. It is characterized by bleeding, lower abdominal pains, and passage of foetal and placental tissue (WHO, 2005). Unsafe abortion counted for 8% of all maternal deaths between the periods of 2003 to 2009 (Say et al., 2014). This finding according to the research conducted by Say et al, (2014) may be higher than the recorded figure due to underreporting. Thus, in countries where induced abortion is legal, religious and cultural perceptions do not permit women to disclose abortion attempts and health-care professionals do not report deaths as such. In countries where it is illegal, women resort to unprofessional care, over-the-counter drugs and other concoctions that mostly become leads to death or excessive bleeding, severe injuries to either the woman or her foetus.

Sepsis occurs when aseptic procedures are not followed, when the amniotic sac ruptures long before delivery occurs, when vaginal examinations are too frequent, when obstructed labour occurs, raptured membrane, caesarean-sections and miscarriages (van Dillen et al., 2010). During these ante natal visits, which are one of the major elements in ensuring good health during pregnancy, women are counselled on nutrition and hygiene to improve their health prior to delivery and postpartum periods. Thus women who miss out or are not able to access these services become ignorant on some of the precautionary measure to avoid infections. Long term consequences of puerperal sepsis include pelvic inflammatory diseases, secondary infertility and in rare cases, maternal tetanus. In their research, van Dillen et al, (2010) estimated that puerperal sepsis causes at least 75,000 maternal deaths every year mostly in low income countries.

2.2.2 Indirect Causes of Poor Maternal Health

According to Say et al., (2014), indirect causes accounted for 28% of maternal deaths between 2003 and 2009. These 'indirect causes' results from a previous existing disease, or disease that developed during pregnancy and that was not due to direct obstetric cause but was aggravated by the physiologic effects of pregnancy. Maternal deaths due to indirect and likely preventable causes represent 20-25 per cent of the total number of deaths worldwide (Stekelenburg et al., 2004) These deaths are caused by diseases (pre-existing or concurrent), or by an existing medical condition or by compromised health due to poor nutrition and disease that is worsened by pregnancy or delivery. They include hypertension, malaria, anaemia, hepatitis, cardiovascular diseases or HIV infection. A large concern for HIV-positive pregnant women is the risk of contracting tuberculosis (TB) and/or malaria especially in developing countries which could result in poor health and subsequently complications during the pregnancy, labour or the postpartum periods (Mclyntyre, 2005).

Women whose health has already been compromised are more likely to be vulnerable to pregnancy-related complications. It is important to note that Hypertension is one of the premier causes of maternal deaths. Almost a fifth of all deaths are attributable to this condition. This form of maternal death can be linked to the current phenomenon of Ghanaian female obesity which is a risk factor for hypertension (Amoah, 2003a, 2003b; Biritwum et al, 2005). Gestational weight gain should typically fall between 11-20 pounds in order to improve outcomes for both mother and child (Simmons, 2011). Increased rates of hypertension, diabetes, respiratory complications, and infections are prevalent in cases of maternal obesity and can have damaging effects on pregnancy outcomes (Nodine & Hastings- Tolsma, 2012). Obesity is also known to be risk factor for gestational diabetes. Research has found that obese mothers who lose weight (at

least 10 pounds) in-between pregnancies reduce the risk of gestational diabetes during their next pregnancy, whereas mothers who gain weight actually increase their risk (Glazer et al., 2004).

2.2.3 Socio-economic and Socio-cultural Causes of Poor Maternal Health

Socio-demographic factors such as age, income level, education and cultural practices amongst others are significant indicators of maternal health outcomes.

Age at first pregnancy is an important factor to be considered as young mothers face higher risk of complications and death during pregnancy than older women, especially adolescents aged 15 years or younger (WHO, 2014). Adolescents have higher risks for postpartum haemorrhage, puerperal endometritis, operative vaginal delivery, episiotomy, low birth weight, preterm delivery, and small-for-gestational-age infants, all of which can lead to either the death of the woman or her baby (Conde-Agudelo et al., 2004). Structural support and family support influence maternal outcomes. Furthermore, pregnant adolescent often lack the financial support to enable them seek professional care, a phenomenon that leads most of them from attending ante natal care and also delivering with skilled birth attendant (at health facilities). Social isolation also adversely affects maternal health (Morgan & Eastwood, 2014). Thus, women who lack moral support during pregnancy are likely to suffer emotional breakdown which can affect their health. Single women or victims of rape who become pregnant mostly become isolated for fear of being stigmatized. The emotional burden can cause them to commit abortion which if not done professionally can cause the death of the woman or neglect care which can also be fatal.

Number of prior births can also affect the health of a pregnant woman. Therefore in societies where children are considered assets or security for the parents, women tend to have more children. For instance, a sheep is slaughtered for a woman upon the birth of her tenth child amongst the Akans in Ghana. The celebration and honour bestowed upon

the woman can serve as a motivation for others. Birth spacing allows the woman to gain her strength since the more children a woman bears the weaker she becomes. The use of modern contraceptive therefore allow women to space birth and also avoid unwanted pregnancies which could be harmful to their health. Therefore women in societies where children are considered as assert or where the use of contraceptives are shun stand a greater risk of obstetric complication, injuries or death.

Access to health care and poverty also affects maternal health. A research conducted in the Ajumako –Enyan Essiam district of the Central Region on the spatial accessibility to health care facilities revealed that people who lived in close proximity to health facilities utilized its services more than those who lived farther away (Kissah-Korsah, 2008). The potential utilization of a facility is therefore greatly influenced by its accessibility. In maternal health care provision, access to health care is very crucial in ensuring a safe pregnancy and delivery. The uneven distribution of health facilities in most developing countries has made access to basic care for women difficult. In rural areas where the situation is more serious, pregnant women often do not attend ante natal care and patronize the services of TBA's who are mostly not trained in dealing with serious complications. Poverty has a direct link to the health of both mother and child. Women living in poverty-stricken areas are more likely to be obese and engage in unhealthy behaviours such as cigarette smoking and drug use, are less likely to engage in or even have access to legitimate prenatal care, and are at a significantly higher risk for adverse outcomes for both the mother and child (Timmermans, 2011). A study conducted in Kenya observed that common maternal health problems in poverty-stricken areas include hemorrhaging, anemia, hypertension, malaria, placenta retention, premature labor, prolonged/complicated labor, and pre-eclampsia (Izugbara & Ngilangwa, 2010).

2.3 The Three Delay Model

The "three delay" model developed by Thaddeus and Maine (1994) identifies delays in seeking care, reaching, and receiving care as the three major factors that contribute to maternal deaths or complications. Maternal mortality in resource-poor nations has been attributed to the "3 delays": delay in deciding to seek care, delay in reaching care in time, and delay in receiving adequate treatment once the patient is within the health facility (UNFPA, 2003). The model therefore provides the framework that explain how institutional, socio-economic and the culture of a group of people influence maternal mortality. It points out how these factors interplay and how people react to these factors when it comes to maternal health. Timing proves to be very important in obstetric emergencies. The model therefore sets out key time periods or points in peri-natal complications at which delays can occur. Women who die in childbirth are likely to experience one of the three delays.

2.3.1: First Delay - Delay in Seeking Care

The first delay is related to the woman, family, or community not recognizing a life-threatening condition. Most importantly, the ability to identify this problem and the decision to seek help depend on the woman's knowledge of her condition. Most deaths occur during labour or in the first 24 hours postpartum, therefore the ability to identify an obstetric emergency becomes difficult. Births that occur at home with unskilled attendants make it more difficult to foresee and prevent fatalities due to their inability to diagnose and immediately act on complications. This delay in realizing the complication may result in injuries or death (UNFPA, 2003). Therefore the decision to seek care with trained professionals is very crucial in ensuring the safety of both mother and child. The decision by a pregnant woman to seek care with skilled professionals is influenced by factors such as the educational level of the woman, financial implications,

occupation and income level, past experience at health facility, preference for traditional birth attendants and health care policies instituted by the government.

Educational levels Of Women

Literacy level according to Sari (2009), have an impact on access and the use of maternal health information, especially on modern medical treatment and have greater capacity to recognize specific illnesses . Educated women have the opportunity to access health care information and therefore are able to plan ahead for obstetric emergencies. Women's education has been found to have a strong association with the use of maternal health care services. Educated mothers are also considered to have a greater awareness of the existence of maternal health care services and the benefits in using such services. They are therefore most likely to have better knowledge and information and subsequently understand their condition. The knowledge and skills attained through education influences a person's perception of his environment. It makes people more receptive to health education messages which enable them to communicate their health issues better and access appropriate health service (WHO, 2010). Thus, the ability to comprehend health information and for that matter maternal health information depends on the literacy level of the woman. If health education is well understood, the likelihood of them practicing it will also be high. Educated women are considered to have much confidence and are able to make decisions concerning their own health and that of their children. Thus, the over-reliance of most women on their husbands or male family heads in decision making concerning their health especially in Africa is reduced (Caldwell, 1979). This means that, women become more capable and independent when it comes to decisions affecting their health due to their ability to seek information, understand it and also practice it without supervision. Consequently, maternal health will be improved and deaths or other fatalities will also be avoided.

Financial Implications

The decision to seek care at health facilities may be impeded due to the cost involved. About 45% of Ghanaian women consider money for treatment and availability of drugs as the major barrier to seeking health (GSS, 2008). The low status and negotiating power of the poor rural woman within the household means that they are not able to decide when and where to seek care. In obstetric emergencies, poor women may be left in the hands of an unprofessional who charge less or even accept payment in kind. The lack of skills and modern equipment used may result in fatalities or death. A survey in a rural district in Mali investigated the levels of knowledge, attitudes, and practices related to maternal health care among women of reproductive age and corresponding household heads. The survey revealed that over 70 per cent of women and household heads, cited the husband as the principal decision maker for decisions about whether or not to seek care in the face of a sign of potential danger during pregnancy (Smith et al., 2004). Therefore the absence of a decision maker during the labour can also cause a delay in the decision to seek care at a health center, since the man determines where the child is born depending on finance or belief system. Therefore poverty among women, especially in Africa is a major hindrance to seeking care.

Occupation And Income Levels

Employment or occupation can increase a woman's economic status and reproductive health status as it improves health seeking behaviour and opportunities (Blanc, 2001). A study in Kenya reported that antenatal care visits tend to start earlier for women in paid employment as they are likely to have greater knowledge about pregnancy and childbirth due to freedom of movement outside household (Magadi et al., 2000). They also tend to seek information on services available for pregnancy care and also pay for the services where it is not free.

Occupation is related to income since the amount of money earned is dependent on the type and nature of occupation. Therefore the rewards of work either in monetary terms or material assets influences living standard which also has a bearing on health (WHO, 2010). In its report on the social determinant of health, the World Health Organization, identifies how occupation reflects 'social standing' and also relates to health. According to the report, certain occupation comes with privileges such as access to health care and education. By inference, women who may be fortunate enough to gain employment with well established organizations stand a better chance of accessing better health care than their counterparts in poor paid jobs or unemployed. This may help reduce the reliance of women on their husbands, on the decision to attend ANC and sometimes the choice of place of delivery, since the husbands mostly end up paying the bills. For instance, in its 2008 report, the Demographic and Health Survey identified about 45% of women citing money for treatment as one of the major factors that affects their health care accessibility. Hazardous and stressful occupations on the other hand can also impact negatively on the health of people (WHO, 2010). Workers, particularly women who work with toxic substances or under stressful conditions are likely to suffer a lot more complication especially when pregnant since it is not good for their health. Therefore the type and nature of occupation can either enhance health status or make it worse. Hence women should be circumspect when it comes to their choice of occupation as it can also affect their unborn children.

Past Experience At Health Facilities

The decision to seek care can also be impeded by the previous experience at health facility. The nature of treatment received at a health facility can either encourage or discourage the use of the facility. In cases where the people were not satisfied with the

services they received at a health facility, they often sought alternative care. In the case of pregnant women, the other option to obstetric care is with the traditional birth attendants whose practices are mostly based only on experience and do not have the required medical equipment and expertise to manage obstetric emergencies (UNFPA, 1996). This often results in either disabilities or deaths of the women. In a report on maternal and child care in K.E.E.A (2009), participants observed the attitude of health personnel in some public health facilities as one of the major contributing factors to the high maternal and infant mortality in the country. Pregnant women are sometimes made to wait for several hours in waiting rooms where they go through agonizing pain without being attended to. During delivery, some women are not allowed to use the position for which they are comfortable with and therefore most of these women prefer to deliver with traditional birth attendants with whom they are comfortable. These experiences sometimes deter women from re-visiting the health facilities.

Traditional Birth Attendants

Traditional birth attendants (TBA), popularly referred to as traditional midwives are very common in most developing countries. They provide basic health care for pregnant women and their children sometimes years after the child is born (WHO, 2005). They are elderly women who are respected for their years of experience and service to the communities in labour deliveries. Their health care practices are based on experiences and knowledge acquired through years of apprenticeship with little or no formal education (UNFPA, 1996).

She speaks the language of her clients, allows them to position themselves in ways comfortable for delivery, charges far less, accepts payment in kind and handles exertions of childbirth. Perhaps, even more important, she provides strong emotional support during and after delivery. Due to the lack of education in some TBAs, the

'unskilled way' of handling deliveries becomes risky for women and their babies, and could lead to poor health outcomes and even death (WHO, 2005). It is being increasingly recognized that TBAs may have a role to play in improving health outcomes in developing countries due to their access to communities and the relationships they share with women in local communities, especially if women are unable to access skilled care (UNFPA, 1996).

In Ghana, Traditional Birth Attendants are part of the cultural settings in most societies and are still regarded to be important. Ghanaian TBAs are traditionally older women in the community who are respected for their years of experience, service to the community and empathy for labouring women. In rural areas where access to health care is difficult either due to distance, cost of transport or non availability of a health facility, the TBA is usually the first point of call during pregnancy and deliveries (Jansen, 2006). Recent estimates suggest that although 95% of women in Ghana now receive ANC from a skilled provider, low facility deliveries continue to occur at high rates; 41% of deliveries in Ghana occur without SBA and 43% of births occur outside a HCF. 30.3% of Ghanaian births are reported to be attended by traditional birth attendants (TBAs), accounting for a large majority of non-HCF delivery (GSS, 2009). The large majority of them, however, are untrained. In the context where most deliveries occur outside the health facilities and are handled by untrained traditional midwives, the patient may lose her life in the event of life-threatening complication such as haemorrhage, obstructed labour and sepsis which cannot be managed by traditional midwives.

Societal Norms and Taboos

Although pregnancy is a biological event, it is significantly influenced by certain religious beliefs, societal norms and values. In order to ensure safe delivery of normal

babies, each society prescribes certain dietary and behavioural taboos or observance, which pregnant women must comply with (Senah, 2003). Cultural norms and practices can influence the recognition of complications during pregnancy, birth, and post-partum periods, thereby inhibiting women from seeking health care. Some communities in Ghana do not permit or forbid pregnant women to expose her pregnancy while it is in its early stages. Religious beliefs according to Onah *et.al. (*2006), shrouded in traditional practices could affect pregnant mothers. This occurs when practices that could endanger both the mother and her unborn child are performed to either determine the sex of the child or the health of the pregnant woman. And also in certain instances where pregnant women are forbidden to deliver at health facilities due to religious influences, the life of the woman and the unborn child is put at risk.

Some nutritious meals that can be taken by pregnant women are also forbidden in some communities. For instance snails, though rich in protein, is forbidden for a pregnant woman lest the child may be born drooling; they must not eat eggs lest the child grows to become a thief. Among the Kassena and Nankana of the Upper East Region, pregnant women are restricted to vegetarian diet; and are not allowed to take meat and groundnut as it can result in the birth of 'spirit children' (Senah, 2003). These various societal and cultural pressures through norms, values and traditions on pregnant women, according to Aina (2007), contributes to diverse psychological distress which could result in maternal death. Pregnant women among the Akwapim's were forbidden to buy vegetables such as tomatoes, pepper, okro and garden eggs from the market. This is due to the belief that if they do, their children could suffer from skin related diseases. Some of these practices, in most cases, put the woman at a higher risk since most of them become malnourished during pregnancy and may result in anaemic conditions or underweight babies (Aina, 2007).

Government Policies

Government policies on health care also influence one's decision to seek care. For instance, the Structural Adjustment Programme (SAP) which was imposed on many developing countries during the 1980's and 1990's by international financial institutions demanded cuts on government's social sector planning including the health sector. This economic policy led Ghana to the „cash and carry" policy in health sector. This policy prevented most women from seeking professional care and hence the high maternal mortality rate. (NHIS, 2010). The introduction of the national health insurance was intended to ease the financial burden of the poor and vulnerable in the country. The 'fee free' policy on maternal care was introduced in 2009 to help curb the increasing maternal mortality rate in the country at the time. Since its introduction, the number of pregnant women subscribing to the policy keeps increasing yearly which implies that more women are now assessing antenatal services and also delivering at health centers (NHIS, 2010). In countries where poverty levels are still high, the cash and carry system prevents most women from seeking care at health centers. Therefore, health care policies or interventions by governments can either have a positive or negative effect on health care provision especially maternal health.

2.3.2 Second Delay- Delay in Reaching Care

The Second Delay occurs after the decision to seek care has been made. It is a delay in actually accessing the health center due to its location or the lack of transportation. The second delay is concerned with the ability to access the health facility. The delay in reaching care is basically about transportation and its associated problems such as distance to health facility, availability and cost of transport, nature of roads and the geography of the area. This second delay also influences the first delay in the decision to seek care. If patients or pregnant women would have to travel long distance on a poor road network to access care, the chances are that they will prefer to deliver at home.

This implies that, transport and road infrastructure acts as the force behind 'potential accessibility and actual utilization' of health facilities (WHO, 2006).

The provision of social infrastructure such as transportation however is the responsibility of the state. It therefore rests on the government to put in place social policies which seeks to improve the well-being of the population. Economic policies adopted by government can either enhance social infrastructure or cause stagnation within the economy which affects the social infrastructural sector. For instance, the Structural Adjustment Programme (SAP) which was imposed on many developing countries during the 1980's and 1990's by international financial institutions demanded cuts on government's social sector planning. It is as a result of this economic policy that led Ghana to the 'cash and carry' policy in health facilities. Other social infrastructural development such as provision of roads, water and other basic social needs were all halted, resulting in poor road network and poor utilization of health facilities. The poor road networks therefore increased travel distance and hence higher cost of transport fares.

Nature of Roads

In most developing countries, access to paved roads and vehicles are scarce especially in the villages (WHO, 2006). This means it may take hours or days to reach a health-care facility; hence women with life-threatening conditions often do not make it to the facility in time. Until recently, road construction in Ghana was highly concentrated in the urban centers to the neglect of rural roads which becomes less motorable especially during the rainy seasons (MRH, 2010). The nature of a road could influence the modes of transport available in the community. It also affects travel time and distance and cost of transportation.

Travel Time and Distance

Distance decay is a geographical term which describes the effect of distance on cultural or spatial interactions. (Matous et al., 2003). The distance decay effect states that the interaction between two localities declines as the distance between them increases. Once the distance is outside of the two locales' activity space, their interactions begin to decrease. It usually applies to low order goods or service. Thus, when applied to high order services like the treatment of rare diseases, people are willing to travel farther distances for such services. When distance decay is applied to health care, it usually measures the interactions between a single facility or practitioner and people at varying distances from its source. Thus, the rate at which people located at different distance from the facility utilizes the service of the facility or practitioner. Improvements in communications technology, such as telegraphs, telephones, broadcasting, and internet, have further decreased the effects of distance. (Matous et al., 2003). However, the model is mostly applicable in developing countries where basic goods and services limited and are therefore situated in towns and cities at the detriment of the rural areas.

Distance decay is graphically represented by a curving line that swoops concavely downward as distance along the x-axis increases. Distance decay can be mathematically represented as an Inverse-square law by the expression $I = const. \times d^{-2}$ or $I \propto 1/d^2$, where I is interaction and d is distance.

Health care system benefits the people if it satisfies their health demands and the ease with which the facility and its services can be utilized when needed (McCoy et al., 2000). Among the various means of addressing health care accessibility and utilization is the provision of transport infrastructure. Travel time, distance and nature of roads are interrelated. The nature of the road will determine the time and the distance to be

covered not regarding the state and mode of transport used. Travelling for hours on a bad road can be very dangerous for a pregnant woman and hence the best option is to deliver at home with a traditional birth attendant (Bale et al., 2003). In a study conducted in Sierra Leone, Samai and Sengah (1997), found that most communities required a travel time of about three hours to access health care. As a result of the long distance and travel time, accessibility of health care was poor particularly among pregnant women who often preferred to deliver at home (Samai &Sengah, 1997). Most rural roads in Ghana, are of poor quality thereby increasing travel time and cost (GPRS, 2003), with health facilities unevenly distributed, most pregnant women prefer to deliver at home. The National Development Planning Commission's (2006) annual report on Poverty Reduction Strategy vol. 1 indicates that access to health care is still limited in the country. There is a great gap with respect to having to take transport to health facilities. As affirmed in the Ghana Demographic Health Survey (2008), 50 per cent of women in the lowest wealth quintile consider transportation as a major problem, compared with only 13 per cent of women in the highest wealth quintile. Many people in remote areas live a long distance from health facilities. Poor families walk for hours to reach health facilities either because they cannot afford the transport cost or because they cannot wait for limited, slow and/or uncomfortable transportation services as a result of roads being in poor condition. Even if they seek care, most women will walk or use improvised stretchers and bicycles for several hours through agonizing pain and suffering to get to the health centres. These transport related variables all come down to affect the health seeking behaviour of pregnant women.

Accessibility and Cost of Transport

The importance of transport in the health care provision revolves on the issue of accessibility and utilization. It enables the transfer of patient in referral cases, drugs and

other medical supplies to promote health (World Bank, 2006). The issue of accessibility is particularly evident in rural areas of many developing countries where population is not evenly distributed and health centers covering large catchment areas. In such situations, transport becomes the bridge that connects them to the health facilities and hence influences their health seeking behaviour (WHO, 2006).

The Ghana Poverty Reduction Strategy vol. 1 (2003) adds that, 70% of poor people mostly in rural areas considers cost to and from the health facility and medication as one of the barriers to accessing health care. In a study conducted in Bangladesh, it was discovered that, transport was considered the second most expensive item for patient after the cost of medications (Ensor & Cooper, 2004). Hamlin (2004), argues that the delays in access to health services caused by the difficulties in raising money for transportation is one of the important contributors to the occurrence of obstetric fistula and the increased vulnerability among Ethiopian women in Africa.

In most African countries like Ghana, the rural population often rely on walking as the major means of movement. With population sparsely distributed around health facilities which cater for a large catchment area, most rural folks often walk several kilometers to access health care due to high transport cost (GPRS, 2003). By implication, the cost associated with transport often leads to patients, especially pregnant women, to seek for traditional healing; and in the case of pregnant women the TBA becomes the first point of call in obstetric emergencies. In Ghana, 50% of women found within the lowest wealth quintile, mostly rural women, regarded the problem of transportation to health care facilities as their major problem (GDHS, 2008).

In addition to bearing a negative impact on service utilization, poor access and lack of reliable transport also explains why families delay seeking care in an emergency situation or arrive too late at health facilities for effective treatment. In Zambia, a study conducted between 1998 and 2000 showed that 76 per cent of the women had to walk to

the clinic to receive care and 50 per cent had to walk for two hours or more. While 71 per cent of those living within two hour walking distance delivered in a health institution, only 35 per cent of those living further away did (Stekelenburg et al., 2004).

2.3.2.1 Transport and Health Care Utilization

The role of transportation in every human society cannot be underestimated as it connects people to various activities daily. The transport sector to a large extent enhances improvement in physical capital (Fouracre, 2001). Therefore, access to transport and other services, such as schools, clinics, and markets, is integral and contributory to the development of capital assets. Its availability therefore becomes a necessity. However, its accessibility, distance covered and cost involved in its usage to reach out to other social centers such as schools, businesses and most importantly to hospitals especially in cases of emergencies, needs to be considered. In effect, transport and road infrastructure acts as a key link between potential accessibility and actual utilization of health services.

Transport is essential for the distribution of drugs, blood and other supplies necessary for care and proper operations of health facilities. It also enables the timely transfer of patients between health facilities and to the different levels of care of health referral systems. Efficient transport systems and roads facilitate access by health workers to often sparsely populate rural areas as well as the necessary monitoring and supervision of health services and initiatives. Transport and road infrastructure also have a major influence on a patient as well as a community's ability to access and utilize health care. When the ratio of health facilities to population is low or not evenly distributed, transport and roads can ensure a more adequate distribution of and access to care. In addition, the role of transport to reach facilities can be more complex as transport can provide a link to care when the nearest health facility may not be the most accessible or when the nearest one is not perceived as the most effective. On the other hand, poor

road infrastructure or lack of transportation can influence patients to seek health care from less trained providers as long as they are more accessible. In the referral system, transport facilitates access to both preventive and emergency care, which can be provided at the various care levels of the system, either in the community or at a health care facility such as a health center or a district or national hospital. Transporting a patient from the location of an acute event or injury to a health facility or hospital is a critical element of pre-hospital care, especially for a woman in labour. Ghana, like many other African countries, uses population density as a proxy for determining the transport needs of a particular population or catchment area in relation to the location of health facilities. However, this type of measurement often fails to consider obstacles that may be caused by the actual location of health facilities or by the state and quality of or lack of access to transportation infrastructure. As a result, studies seeking to determine health sector needs fail to consider factors affecting access variability, such as the range of services that are actually provided at any particular health center and the different travel times that may apply to different categories of roads or to travel by different transport modes (Martin et al., 2002).

There are examples of interventions that have successfully improved transport in order to provide better access to maternal and child care which has gone a long way to reduce maternal mortality. For instance, in Mali, interagency collaboration has enabled the country to build seven new health centers in three regions and a new maternity unit. With the support from various donors, the government developed programmes to boost its referral system with a rapid response component. The country therefore invested in radio communication among referral centers and procured vehicles to use for patient transport which has now linked the district and local health centers by a two way system of radio communication and transportation. A car already equipped with a stretcher is available to transport women from health centers to district hospitals in emergency cases. Under this system, the time required to transmit an urgent message and transport

a patient is reduced from days to just a few hours.

In some parts of Nigeria, there is an initiative where local truck and taxi drivers union are trained to provide transport in emergency obstetric cases. Payment for the fuel used by the drivers is then paid from a community fund (Shehu et al., 1997). Reports suggest that, the local drivers were happy to help and maternal mortality was reduced significantly due to this initiative. These are few of the examples which go a long way to show the importance of the transport sector. However, this practice at the country or regional level remains limited.

It is estimated that more than 75 per cent of maternal deaths could be prevented through timely access to essential childbirth-related care (Barbinard & Roberts, 2006). Therefore, the constraints on mobility and accessibility have devastating consequences for women's health particularly on the African continent. Despite the various policy calls to action and international networking amongst developing agencies on the topic, the situation is actually worsening. In rural areas where the problem persists, mostly because considerable time is spent by women and their families in waiting for transportation to health facilities due to the poor nature of the roads, too few vehicles and its associated high transportation costs are major causes of delay in decisions to seek and reach emergency obstetric and postnatal care.

2.3.3: Third Delay- Delay of Care Within Health Institution

The third delay is in obtaining care once the woman has reached the health facility. Factors contributing to this third delay can also influence the first delay which is the decision to seek care. For women who have had earlier experience of child birth in certain health facilities, may refuse to use any health facility at all if they felt they were not treated well or were not satisfied with the service provided. They can then go ahead to spread the news to others thereby putting fear in others as well. Factors contributing

to this third include; availability of medication and medical equipment's, skilled staff, referral and communication systems.

Availability Of Medication And Medical Equipment

The inadequate resources or funds to provide the needed equipment as well as the lack of trained personnel to handle emergencies contributes to this delay. The UNFPA (2014) recommends that, for every basic emergency obstetric and newborn care provided in health centres, large or small, they should be capable in providing services like the administration of antibiotics, oxytocics, and anticonvulsants, manual removal of the placenta, removal of retained products following miscarriage or abortion, assisted vaginal delivery, preferably with vacuum extractor, newborn care, caesarean section, safe blood transfusion and care to sick and low-birth weight newborns, including resuscitation. These medical equipments, skills of staff and medications all come together to assist in the provision of quality and efficient health care for women during pregnancy to childbirth. Re-source-poor nations with fragile health-care facilities may not have the technology or services necessary to provide critical care to obstetric emergencies. Oversights in treatment, incorrect treatment, and a lack of supplies contribute to maternal mortality. In rural areas for instance, health facilities are not well equipped with the necessary medications and other equipment which helps in ensuring safe deliveries. The lack of space and hospital beds compels some women to sleep on concrete floors while awaiting a vacant bed to sleep on. This situation compels women to be kept in waiting rooms for several hours or sometimes days in order to get access to a bed. The lack of medication and other delivery equipment in some health facilities makes it difficult for health workers to handle deliveries properly.

An equipment like the vacuum extractor for instance is a soft or rigid cup with a handle and a vacuum pump. This is usually applied to the baby's head in the course of vaginal

delivery to guide the baby out of the birth canal. This procedure is often done if labour is not progressing or when the baby's health depends on an immediate delivery. If the vacuum fails then a caesarean section might be needed.

Medication such as anticonvulsants is very important especially in women with pre-eclampsia. Eclampsia, the occurrence of a seizure during delivery is rare but potentially life-threatening. This makes it very important in the prevention of seizure during labour or delivery.

Availability and Skills of Staff

Poor maternal health care in Ghana can also be attributed to the shortage of health workers in the country's health centres particularly in rural areas. This problem can partly be attributed to the brain drain of Ghanaian health staff to advanced countries where working conditions and salaries are better. This therefore increases the doctor patient ratio and doctor nurse ratio which puts much pressure on them. The few that stay also refuse postings to the rural areas. All the health professionals prefer staying in the urban areas with those from the rural areas refusing to go back after their training. This has left many health posts in rural areas vacant with no professionals, thereby affecting the quality of services provided.

The lack of trained health professionals during deliveries also contributes greatly to maternal mortality. About 44% of women in Ghana consider the availability of health personnel in clinics as a major factor in accessing the facility (GSS, 2008). Rural health facilities often have large catchment areas and hence lack trained staff, drugs and equipment to ensure safe delivery. The lack of incentives to motivate trained midwives and doctors to accept postings to remote areas contribute to this delay. Also, some of the hospitals with skilled staff lack the needed equipment to facilitate safe delivery (GSS, 2008).

The poor attitude of health staff towards clients contributes to the delay of care within

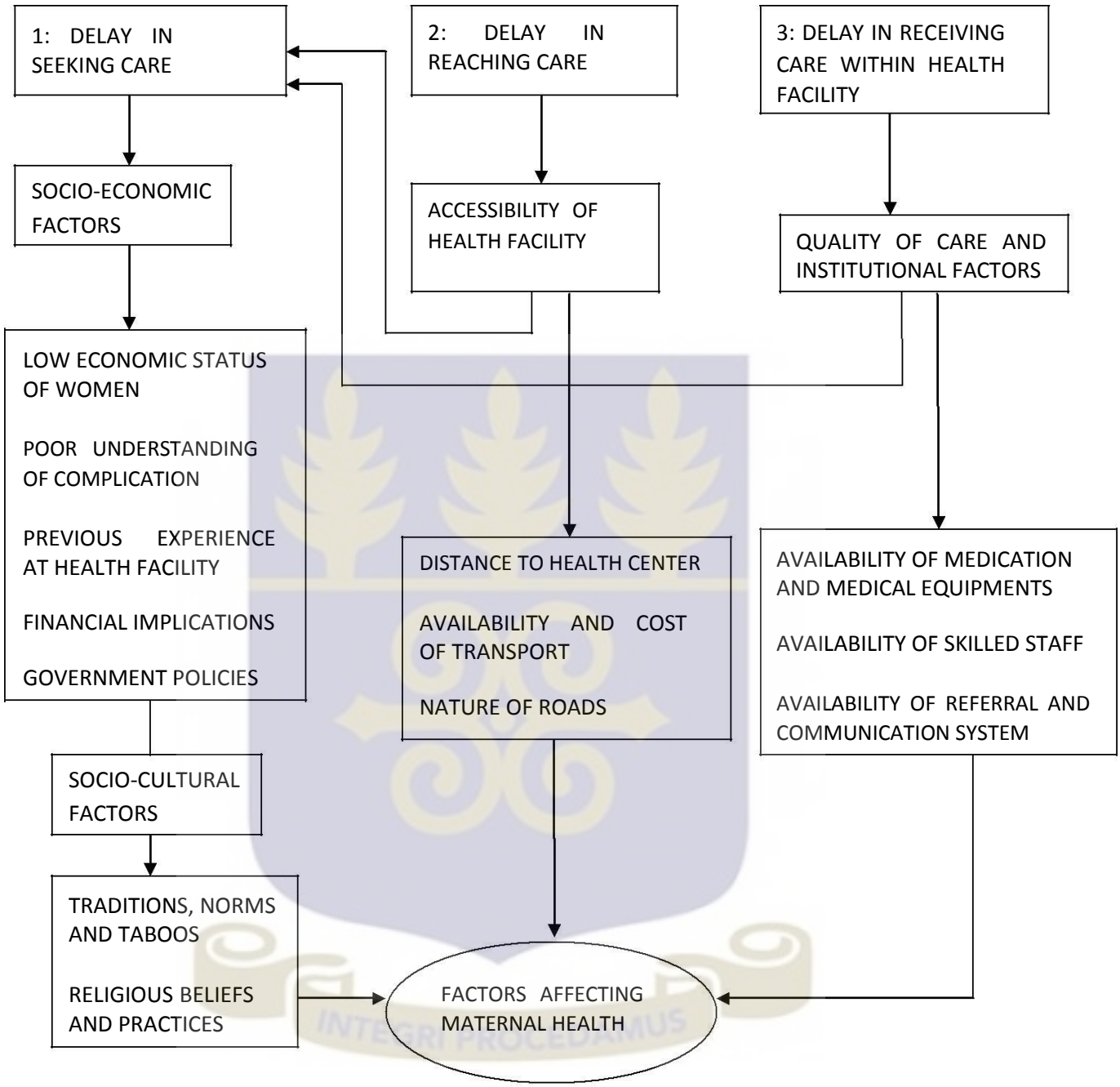
health facilities. The World Health Organization (2005) estimate that, between 11 and 17 per cent of maternal deaths occur during childbirth. Thus, negligence or undue delay on the part of the midwives in attending to the pregnant woman can lead to the death of mother or child or both. The management of obstetric complications, therefore requires highly skilled and dedicated staff. According to the UNFPA (2014), a facility must have at least two skilled attendants available at every hour of the day assisted by trained support staff to manage complications requiring surgery. The facilities must have a functional operating theatre, adequate support staff and must be able to administer blood transfusions and anaesthesia. Another skill which is very important to know is the cardiopulmonary resuscitation commonly known as CPR. This procedure is often performed to restore spontaneous blood circulation and breathing in a person who is in cardiac arrest. Ideally, every maternity home should be able to provide these services, however the lack of the various medical equipment's or poor infrastructure and medical supplies in most hospitals, especially in rural areas, makes it difficult to offer the best services to patient even with the availability of skilled staff.

Referral and Communication System

Lack of ambulances in health facilities and shortage of other means of transport in remote areas also delay the management of life-threatening complications, particularly on non-market days or during the rainy season (Shehu et al., 1997). In Tanzania, 63 percent of the women who died after reaching a hospital had travelled 10 kilometers or more for treatment (Biego, 1995). Communication systems such as telephones and radio as well as ambulance service make it easier to reach out to health care providers for help during obstetric emergencies. It also put the staff on the alert and enables to have an idea of the condition of the woman before she arrives at the hospital (Samai & Sengah, 1997). Communication and referral systems therefore assist in quick emergency response which can help reduce deaths and injuries of pregnant women. Most health

facilities, particularly those in rural areas lack such equipment's (Shehu et al., 1997). Women in rural areas sometimes have to walk for several hours to access care which can be harmful to both mother and child especially during obstetric emergencies.

FIGURE 2. 1The three delay model



SOURCE: Adapted (Thaddeus and Maine, 1994).

2.4 Application of the conceptual framework to the study

A conceptual frame work is very important in a research work. It helps in showing the relationship that exists among the various factors or determinant variables and how they interact within a given context. Direct and indirect factors, according to the World Health

Organization (2010), constitute about 80% of maternal deaths worldwide. On the other hand the socio-economic and socio-cultural factors also influence maternal health and therefore play an important role in the general health care system. Therefore, discussions on maternal health and for that matter, maternal mortality, require inter-sectorial approach.

The three delay model by Thaddeus and Maine (1994) is a social framework which identifies the various factors or barriers that lead to obstetric complications or deaths. The framework consist of various structures placed in a societal and institutional set up which causes three major delays or barriers to accessing health care. These delays are: i. delay in seeking care, ii: delay in reaching care and iii: delay in receiving care within a health facility (Thaddeus and Maine, 1994). These delays influence one another with clear and distinct interconnections between them. The framework will be used to analyse the different factors that influence maternal mortality in the K.E.E.A Municipality. The variables were grouped under three headings (delays): i. delay in seeking care, ii: delay in reaching care and iii: delay in receiving care within a health facility. This was followed by the establishment of various social and 'clinical' factors associated with each delay. These provided the opportunity for determining the connections between the three delays and how it interplays in influencing maternal mortality. The utilization of the framework therefore spanned the objective of the research, items on the questionnaire and also interview guide used. The variables were therefore determined to stimulate the views of respondents on the main factors that affect maternal health or likely to cause delays which may affect accessibility and utilization of health facilities especially during labour and ANC attendance.

More importantly, the three delays in the framework presented in this thesis will help in the systematic considerations of the various factors influencing maternal mortality at the

analyses stage. Findings from the field work would be compared and contrasted with the causative factors under each delay; this would either confirm or debunk the framework. The framework will also help to expose gaps between policy and practice, in that, it would serve as a check to existing measures put in place to curb maternal mortality and subsequently, improve maternal health. Thus, factors or variables that might have been ignored by stakeholders in the health sector, pregnant women and society at large would be identified and help in the restructuring of policies and programmes to improve maternal health and reduce maternal mortality.

The framework, therefore would serve as a guide in the entire process of this thesis by highlighting the importance of analysing the various factors that influence maternal mortality and how they can be tackled to improve maternal health.

2.5 Summary of Chapter

This chapter considered the various academic debates on the factors affecting maternal health from the global standpoint, Africa and Ghana. Key factors affecting maternal health, current mortality rates and measures that are being taken in relation to achieving the targets of the MDG goal 5 were also discussed. The chapter concluded with a conceptual framework on the three delay model which provided the various factors or barriers likely to be experienced by a pregnant woman which can cause delay in seeking, reaching and receiving care within a health facility.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the design of the study. Specific methods of enquiry adopted for the study, the instruments, data collection procedures and the techniques of analyses of data has been discussed under this chapter.

3.1 Profile Of The Study Area

3.1.1 Location and Physical features

Location and Size

The Komenda Edina Eguafo Abirem Municipality is bordered on the south by the Atlantic Ocean (Gulf of Guinea), on the east by Cape Coast Municipality, the north by Twifo-Hemang-Lower Denkyira district and the west by Mpohor – Wassa East district in the Western Region. The Municipality can be located between longitude 10 20' West and 10 40' West and latitude 50 05' North and 150 North with an area coverage of 452.5square kilometers and a population density of 319.8 persons per sq. km (GSS, 2014).

Relief, Geology, Soils, Topography and Drainage

The municipality has a series of lagoons and wetlands, the largest of which include the Benya, Brenu, Susu, Abrobi and Ankwanda Lagoons. These lagoons help to sustain the vibrant salt industry largely mined in Elmina. Mainly the Birimian rock type consisting of schist and granites as well as pegmatite underlies a large portion of the Municipality. On the slopes of the hills are sandy clay while the valleys are gravely and sandy (GSS, 2014).

There are steep slopes and hills in the inland areas. In between the hills, are valleys of various streams, which drain into the coastal lagoon and the Atlantic ocean (GSS, 2014).

Climate and Vegetation

The coastal areas of the municipality form part of the irregular coastal zone of Ghana. It experiences a lower level of rainfall in the region compared with the interior locations. Temperatures are generally high. And so the variability in climate and vegetation is influenced more by rainfall than temperature. With double maxima rainfall, annual rainfall totals in coastal locations ranges between 750mm and 1,000mm while in the hinterland, it ranges between 1200mm and 1500mm (GSS, 2014). The vegetation varies according to the rainfall patterns. In coastal areas, the vegetation consists of shrubs, grasses and scattered trees with secondary forest in the interior areas (GSS, 2014).

3.1.2 Demographic Characteristics

According to the 2010 Population and Housing Census, the Municipality has a population of 144,705 as compared to 112,435 as at year 2000. The Municipality hosts about 6.6 per cent of the Central Region's population. Majority of the population (about 70%) in the Municipality reside in the rural areas as indicated by the 2010 Population and Housing Census results. There are more females (51.8%) than males (48.2%) in the Municipality.

3.1.3 Economic Activities

The Municipality does not have any large industrial establishment. However, there are several small-scale enterprises located throughout the Municipality, which offer employment opportunities to many people. These include boat making, oil extraction, garages, services such as tailoring and dressmaking, barbering and hairdressing (GSS, 2014). Salt making is also an important industrial activity in the municipality. In addition, alcohol distillation, bricks and tiles making and sawmills can be found in several locations. The KEEA municipal assembly can boast of fishing, farming, salt winning and the shipping industry as the main economic development activities (GSS, 2014).

Tourism

Tourism can be seen as a major potential booming sector, even though it cannot be considered as one of the main economic activities in terms of income. Elmina is a major tourist destination in Ghana. Elmina's importance for Ghana and the world is currently related to the two UNESCO World Heritage protected sites: the castle of St. George and Fort Coenraadsburg on St. Jago Hill. These sites attract over 100,000 tourists annually; of whom 50,000 come from abroad (GSS, 2014). Apart from the Castle and fort, the Municipality prides itself with some few eco-tourism sites. The beaches around the coast of Elmina are beautiful and attractive. There has therefore been an increasing demand for land around such areas for the booming hotel industry to boost tourism and recreation (GSS, 2014).

Agriculture

Agriculture is the backbone of the economy of the Municipality. According to the 2010 Population and Housing report, the KEEA Municipality has an estimated land area of about 372.45 hectares (919.95 acres). Farmers in the Municipality are mostly peasant farmers who rely on traditional and scientific technologies in production. Average farm sizes are between 2 and 3 acres. Large-scale farming in the Municipality is on a limited scale and is done by few commercial farmers and organizations that use scientific methods in farming. The Municipality is sub-divided into fifteen (15) agricultural zones. More than 85% of the population is engaged in either fishing or production of food and cash crops (GSS, 2014). The greater part of the land for agriculture in Elmina town is now being used for other activities such as boat building cites, garages as well as the construction of hotels and recreation centres thereby pushing agriculture into the hinterland.

Industry and Mining

Construction, small-scale manufacturing, agro-processing (food and fish), canoe and boat building and repair are a booming industry in Elmina (GSS, 2014). A high level of

craftsmanship and simple technology marks the industry. Salt mining and winning is identified to be one of the main commercial ventures in Elmina, but this activity cannot be said to be on a very large scale now. Currently, there is some amount of salt winning activity in the township of Elmina. Benya Lagoon is one of the known and significant sites for salt winning in the town (GSS, 2014).

Transport and Communication

K.E.E.A. Municipality is predominantly rural with worse situation than the regional average. There have been remarkable improvements in development since it was carved out of the Cape Coast Municipal assembly in 1988. Development in this district has however been inadequate. According to the 2010 Population and Housing report, Elmina, the Municipality's capital, stands out as the only settlement with any meaningful level of services. Other settlements with some degree of a reasonable service delivery are Komenda and Agona. The municipality was estimated to have 158 settlement as the year 2000. However, it can only boast of tarred roads within these three towns; Komenda, Agona and mostly in Elmina where almost every street in town have been tarred. Construction of more roads is however hampered by the topography of the town. Roads in remaining rural communities are mostly untarred coupled with pot-holes which make access to those communities difficult (K.E.E.A.M.A, 2014). Mummy trucks, taxis, bicycles and hand drawn carts are the most dominant means of transport within the Municipality. The Municipality is poorly served with telecommunication network. At the moment, there are forty (40) normal landlines and thirty-one (31) so-called 'will phones' (wireless phones connected to the grid) in use in Elmina, according to Ghana Telecom figures. In addition, there are three (3) pay phones installed in Elmina; two in Elmina old town (old Post Office) and one at the SSNIT Flats.

3.1.4 Political, Social and Cultural Characteristics

The Komenda Edina Eguafo Abrem (KEEA) Municipality is one of the 20 districts in the Central Region. It has four traditional states which are; Komenda, Edina, Eguafo and

Abbrem. The four traditional states have been put together to constitute a political district. The municipality is further divided into 6 zonal councils with 54 electoral areas as well as 11 sub-committees with 15 decentralised departments. Elmina is the municipal capital, which became independent from the Cape Coast Municipal Council in 1988. Being the first people to come into contact with the early Europeans in this country, the town saw a lot of western civilization and impact as well as other economic activities. The Municipality has some unique cultural festivals, notable among them, Edina Bronya and Bakatue. These festivals attract a large number of visitors from home and abroad, including tourists from Europe and America (K.E.E.A Municipal Assembly, 2014).

3.1.5 Health Care Distribution And Prevalent Diseases

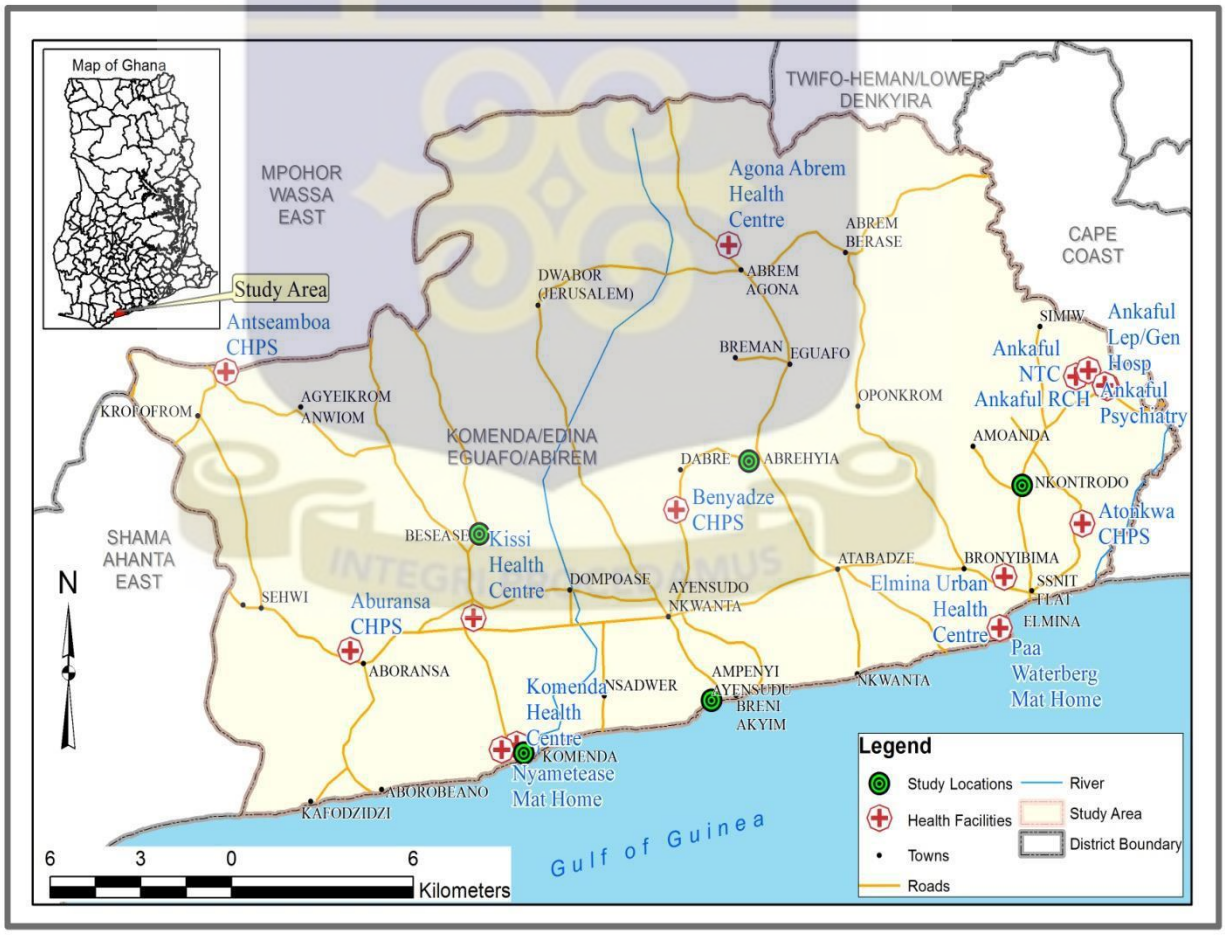
The Municipality is divided into five (5) Sub-municipalities as shown in Table 3.1. These include Elmina, Agona, Kissi, Komenda and Ankaful. According to the K.E.E.A Municipal Health Directorate (2011), malaria is the leading cause of morbidity in the municipality, followed by skin diseases, ulcers, Acute Respiratory Infections and Diarrheal diseases.

Table 3.1: Health facilities in the K.E.E.A Municipality

Sub-Municipal	Population	Communities	Outreach Points	CHIP Compound
Elmina	50,740	23	16	2
Agona	30,749	22	18	3
Ankaful	15,443	10	14	1
Kissi	26,125	22	14	2
Komenda	30,749	13	12	1
District Total	153,816	100	74	9

Source: K.E.E.A Municipal Health Directorate (2011).

FIGURE 3.1: Map of the Komenda Edina Eguafo Abrem Municipality Showing Study Communities.



Source: GIS Lab of the Department of Geography and Resource Development, University of Ghana, (2014).

3.2 Research Design

The cross sectional survey design was adopted for the study. Cross sectional design involves the collection of data on more than one case and at the single point in time. Cross sectional research design is good for determining variation, patterns of associations and may also indicate causation by examining relationships between variables. As a result, it was considered the best choice for the study since the researcher aims to look at the collection of data on maternal health on more than one community by comparing variables to determine variations and patterns of associations.

Research techniques are the various processes carried out to produce a holistic and well researched study. Research techniques that were utilised to collect data from participants included participant observation, focus group discussions, semi-structured interviews and questionnaires. Thus, the strategy used was the Mixed Method Approach which is the combination of elements of qualitative and quantitative research approaches to collect and analyze data. The use of qualitative and quantitative data can cross validate each other around a common reference. Thus, the findings of one method can be used to inform the other method (Teye, 2012). Therefore, the use of mixed methods was appropriate for the study to help provide a better understanding of the research problem. Quantitatively, the study used questionnaires to collect data whereas semi-structured interview guide, focus group discussion and observation were employed under the qualitative approach to solicit for information.

3.3 Sources of Data

There were two major sources used in the gathering of data for the study. These were primary and secondary sources. Primary data were collected using questionnaires, interviews and focus group discussions.

Questionnaire Survey

Questionnaires were the main instrument employed under the quantitative approach to gather information from respondents. The speed with which it can be administered and its convenience makes it a very useful tool in collecting a much larger and standardized data as observed by Clarke (1999). Items on the questionnaire were structured around the objective of the study; the socio-economic background of respondents, the quality of services provided in the health facilities they visit, and how transport affect maternal health delivery. The socio-economic and socio-cultural factors influencing maternal mortality in their respective communities were also considered. The items in the questionnaires comprise closed and open ended items. According to Denscombe (2003), close-ended items allow respondents to select answers from already provided possible responses which is easier to code and analyze. Open-ended questions, according to him, allow respondents to give their own objective responses in their own words and from their own perspectives and experiences. Answers to open-ended questions are categorized and coded to determine a trend, and also to be easily analyzed. Key issues discussed in the questionnaire include the background information of respondents, questions on the quality of maternal health services offered in the various health facilities such as the availability and quality of the basic obstetric equipment and the number of health personnel's in the various hospitals. Items on the questionnaire also looked at the availability of transport at health facilities and within the communities as well as the nature of roads that connects the communities to the nearest health facilities. Occupation and financial status of respondents were also captured to determine their socio-economic status. Also, taboos or practices pertaining in the respective communities were also considered to assess how these factors influence maternal mortality.

Training and Pre-testing of Instrument

Three research assistants were trained to help in the administration of the instruments in the selected communities which lasted for a period of two weeks.

Indepth Interviews

Interviews allow participants to have the opportunity to discuss issues in a conversation form which enables them to provide a wide range of ideas and suggestions on the issues (Boeije, 2010).

Semi-structured interview guide was used to solicit information from the following persons;

- The municipal health director
- The principal midwives of selected facilities in the study area
- Selected drivers within sampled communities
- Traditional head / Assemblyman / Opinion leader within the selected community

Information solicited from the stakeholders in the health sector centered on the service provided in the various health facilities, their quality, what they lack and how these factors influence maternal mortality and what could be done to improve maternal health in the various communities and the municipality at large.

Drivers were interviewed on the transportation issues such as the nature of roads, distance to health facilities, mode and availability of transportation in their respective communities and how these affected maternal health. Opinion leaders or traditional heads were also asked to give their views on maternal health in their communities and what they felt could be done to improve it.

Focus Group Discussion

A focus group discussion comprising selected members of the communities (men and women) and some opinion leaders was conducted to gain further in-depth understanding through the arguments, interactions and suggestions that emanated from the discussion with different opinions and suggestions. A focus group discussion is a form of interview with a selected number of people coming together to form a group with a moderator who asks questions and listens to various arguments, suggestions and comments that evolve from the group about a particular topic (Boeije, 2010).

Two focus group discussions were held in Ampenyi and Abrehyia which were randomly selected. Participants comprised both men and women, aged between 15 and 65 years. There were about 11 to 16 participants within each group.

Issues ranging from their perception of the quality of services provided at health facilities for pregnant women, their satisfaction with the services offered and what they thought could be done to improve the conditions were discussed. Transportation in the communities and its effect on maternal health was also looked at. Their coping strategies in the absence of both health facilities and transport were also identified. Socio-economic and cultural factors in the communities were also debated to know how they affect maternal health.

3.4: Sampling Of Communities and Survey Respondents

The target population for the questionnaire comprised mainly pregnant women. The sample size was 150 respondents (pregnant women). Respondents were drawn from 5 randomly selected communities. The total population of the community determined the number of respondents chosen from the community. Therefore, communities with high population got higher representation. 150 respondents were then selected for the study because of time and financial constraints.

Purposive sampling was used to select the municipal health director, midwives, and traditional heads because of their perceived knowledge in the research topic. The drivers sampled for the interview were purposively selected from a group of stationed drivers. This is because other drivers only come to the communities when chattered and are therefore not well informed about the transportation issues pertaining in the communities.

The K.E.E.A municipality is divided into five (5) sub-districts namely; Ankaful, Agona, Kissi, Komenda and Elmina. The simple random sampling method was employed through the balloting method in the selection of five communities. All the communities were labeled and balloted. Ampenyi in the Elmina sub-municipal, Dutch Komenda in the Komenda sub-municipal, Abrehyia in the Agona sub-municipal, Besease in the Kissi sub-municipal and Nkontrodo in the Ankaful sub-municipal were the selected communities. In the chosen community, the first house was selected by taking a spin at the market centre. Every third house was chosen. In the chosen community, the snow ball sampling technique was used to select respondents; whereby upon the identification of one pregnant woman led to the identification of other households with pregnant women.

Table 3.2: Communities and Number of Respondents Selected

Name of community	Frequency	Percentage
Ampenyi	37	37.1
Dutch Komenda	29	24.0
Abrehyia	32	22.6
Nkontrodo	25	9.4
Besease	27	6.9
Total	150	100

Source: Field data, May 2014.

3.5 Secondary Data Sources

This form of data is obtained from already researched materials that provide relevant information for another research. This was gathered from books, newspapers, policy documents of the Municipal Health Directorate and the District Assembly, and from journals.

3.6 Data Analyses

The statistical methodologies used in the analysis, interpretations and presentations are: frequency distribution tables, cross tabulation and some basic graphs adduced using the Statistical Product for Science Solutions (S.P.S.S.) version 20. The qualitative data was imported into the Nvivo qualitative software. The interviews were first transcribed and categorized. Notes were systematically compared and contrasted and refined. Core concepts and linkages were explored and themes generated through the analytic technique of coding transcripts. The themes were then contextualized in relation to the various factors affecting maternal health in the communities.

3.7 Ethical Consideration

Respondents were informed of the purpose of the study and were assured of the confidentiality of their responses. None was compelled to participate and their responses remained anonymous as they were not required to indicate their names.

3.8 Limitations of the Study

The following limitations were encountered during the research. The limitations include the constraints of time, material and finance which did not allow the researcher to cover all communities in the municipality. The second limitation was the willingness and trustworthiness of respondents to give accurate and honest answers to questions since the

issue of maternal health is considered mostly private and shrouded in traditions and beliefs which makes it very uncomfortable for people to talk about.

However, five sampled communities from each sub-district were carefully selected which gave an equal representation of the municipality. Despite the limited time, the data collection was made possible with the help of two field assistants who were employed and given a brief training on the administration of the questionnaires. They were then dispatched to some of the communities to administer the questionnaires. This made it possible to cover the five sampled communities within a short time period and at a less cost.

Also, the unwillingness of some respondents to answer some of the questions were mostly overcome by constant reassurance of anonymity and confidentiality of any information provided. This paved way for smooth interaction. In some cases where the respondents refused to answer certain questions, interviews from midwives and other stakeholders in the health sector filled in that gap.

3.9 Summary of Chapter

This chapter elaborated the design and methods of data collection for the study. Data collection instruments and the processes used in seeking information was explained into details. It also provided a description on the various socio-economic and cultural characteristics of the study area.

CHAPTER FOUR

RESPONDENTS' BACKGROUND INFORMATION AND QUALITY OF MATERNAL HEALTH CARE SERVICES

4.0 Introduction

Appropriate health interventions could greatly affect mortality rates of pregnant women; thus this could avert the rate of maternal deaths. This chapter provides information on the social and demographic background of the respondents. The variables analyzed include age, level of education, religious affiliation, marital status, occupation and finally the income levels of respondents. It also discusses the issues on quality of care provided in selected health facilities. The human resource, medical infrastructure, medications etc. all come together to play an important role in ensuring an improved and quality maternal health care delivery. Key amongst them include, the number of midwives in the health facilities, availability of medication and equipment and referral and communication systems.

4.1 Background Information of Respondents

4.1.I: Age of respondents

From the Table 4.1.1, it could be seen that 20-29 age group have the highest representation of 45.4%. This was followed by the 10-19 age group representing 29.3%. The age groups with the lowest representation are the 30-39 and 40 and above with 19.3% and 6% respectively. Thus majority of the respondents were still in their reproductive ages.

Table 4.1.1: Age of respondents

Options	Frequency	Per cent
20-29	68	45.4
10-19	44	29.3
30-39	29	19.3
40 and Above	9	6.0
Total	150	100.0

Source: Field data, 2014.

From the Table 4.1.1, it could be seen that 20-29 age group has the highest representation of 45.4%. This is followed by the 10-19 age group representing 29.3%. The age groups with the lowest representation are the 30-39 and 40 and above with 19.3% and 6% respectively. Thus majority of the respondents were still in their reproductive ages.

4.1.2*:* Highest Educational levels of Respondents

Analysis of the educational levels of respondents in the Table 4.1.2 indicated that majority (44%) had no formal education. This is followed by 28% who had primary education. JHS/Middle school leavers follow with 14%. Some 8% were Senior High School or O'Level leavers. It can therefore be concluded that majority of the women in the municipality had limited educational background.

Table 4.1.2*:* Highest Educational levels of Respondents

Options	Frequency	Percent
Never been to school	66	44.0
Primary	42	28.0
JHS /Middle	21	14.0
SHS/O'Level	12	8.0
Tertiary	9	6.0
Total	150	100.0

Source: Field data, 2014.

4.1.3: Religious affiliation

The religious affiliation cut across the three main religious spectrums in Ghana. These are Christians, Muslims and Traditionalists. Majority of the respondents were Christians (50%). The rest were Muslims (30%) and Traditionalist (20%).

Table 4.1.3: Religious Affiliation

Options	Frequency	Per cent
Christian	75	50.0
Muslim	45	30.0
Traditional	30	20.0
Total	150	100.0

Source: Field data, 2014.

4.1.4: Marital status

Marital status of respondents also helps to discuss issues on maternal health. It is usually assumed that women who are in more stable relationships are more likely to receive the needed moral and financial support from their partners. Therefore, their attitude towards health seeking may be different from single but pregnant women. From the Table 4.1.4, it can be seen that most of the respondents, (59.4%) were currently married. The others were

single (27.3%). However, 13.3% of the respondents refused to answer to this question which could be attributed to the sensitive nature of the question. In traditional Ghanaian societies, women who get pregnant out of wedlock are scorned and are considered a disgrace to their families (Aina, 2007). Women who find themselves in such situations are often reluctant to engage in conversations concerning their pregnancy.

Table 4.1.4: Marital status

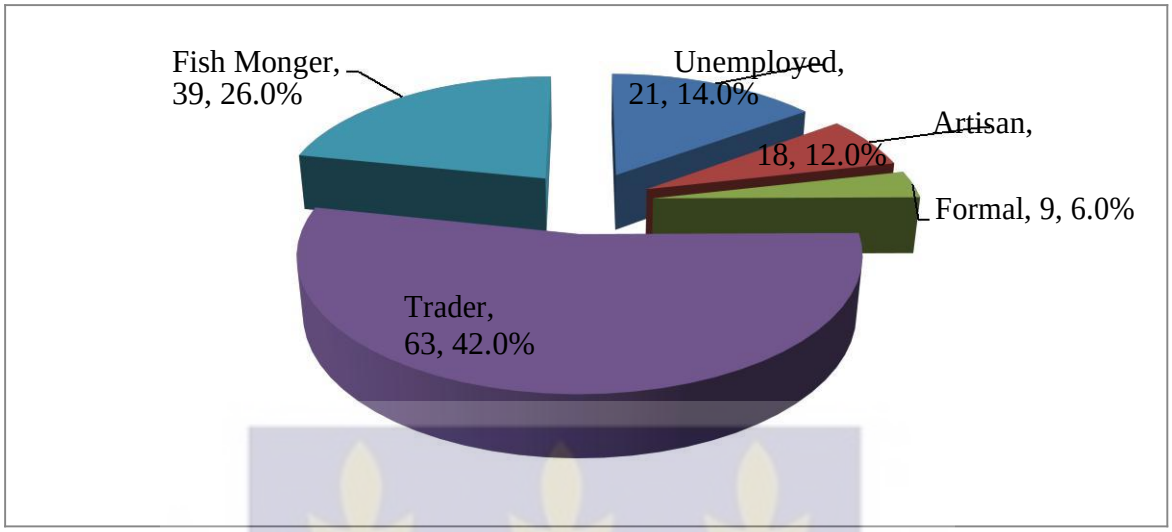
Options	Frequency	Percent
Currently Married	89	59.4
Single	41	27.3
No Response	20	13.3
Total	150	100.0

Source: Field data, 2014.

4.1.5: Occupation of Respondents

Analyzing the various occupations of the respondents in Figure 4.1 revealed that majority were traders (42%). This is followed by 26% who were fish mongers while 14% were unemployed. The rest of the respondents who are in the formal sector were mostly teachers and other public sector workers constituting 6% and artisans 12%. This means that majority of the women are in the informal sector comprising petty traders and artisans such as seamstresses and hair dressers with only 6% working in the formal sector. It can therefore be said that majority of the women are engaged in some income generating activities with only 14% being unemployed.

FIGURE 4.1: Occupation of Respondents



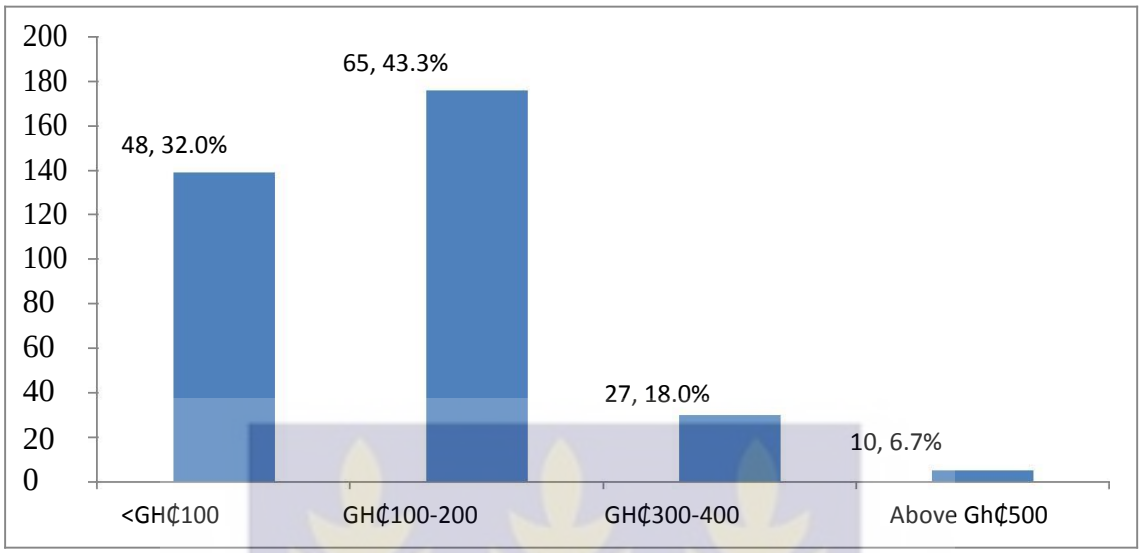
Source: Field data, 2014.

4.1.6 Income Levels of Respondents

Income generated or earned by individuals goes a long way to affect almost every aspect of their lives particularly their health seeking behaviour. Women who are engaged in some economic activities and therefore make some earnings are more likely to have higher economic status which in turn will influence their health seeking behaviour. Their ability to make independent decisions due to the monetary backing will help them make informed decisions on their reproduction health and for that matter maternal health.

Figure 4.2 shows details of the income levels of the various respondents. Majority of the respondents (43.3%) earned between GH¢ 100 – 200 in a month, 32% earned less than GH¢ 100, while 18% earned between GH¢ 300 and GH¢400. Lastly, 10 persons earned above GH¢ 500 which represent 6.7% of the sampled population.

FIGURE 4.2: Monthly Income Levels of Respondents



Source: Field data, 2014.

4.2 Assessing Quality of Maternal Health Care Services

In this study the quality of maternal health care service is assessed by the following criteria; ANC attendance, access to health insurance, number of midwives in health facilities, availability of medication and medical equipment and the availability of referral and communication systems and the place of delivery.

Plate 1: Some Of The Activities Performed During ANC

Source: Fieldwork, 2014.

Antenatal care for pregnant women is one of the most important factors in ensuring a safe delivery. During ANC sessions, women are given regular checks to ensure the safety of the mother and child. In addition, pregnant women are given the needed medication as well as advice on how to manage the pregnancy until delivery. The UNFPA (2009) estimates that more than 75% of maternal deaths could be prevented through timely access to essential child birth-related care of which ANC plays an important role. However, research by the World Health Organization (2003) shows that majority of women worldwide have at least one antenatal visit with a skilled professional during pregnancy.

In Ghana, anti-natal care and delivery is free for pregnant women who possess the Health Insurance card. The card permits them to access all anti and post natal care for free (NHIS, 2010). Therefore, to assess the rate of ANC attendance, the study sought to find out whether respondents have access to the health insurance card and how it is used.

4.2.1 Access to Health Insurance

There has been a tremendous improvement in ANC coverage and attendance nationally despite the rural-urban differences (NHIS, 2010). This is basically attributed to the 'fee free' policy under the health insurance policy which relieves women of the financial burden of delivering at a health facility. However, 41% of deliveries in Ghana occur without SBA and 43% of births occur outside Health facilities out of which 30.3% are reported to be attended by traditional birth attendants (GSS, 2009) which represent a large majority of non-hospital deliveries. Their contribution to health care delivery particularly in the maternal health service is very crucial especially in the rural areas where they are dominant. They acquire their experience from years of apprenticeship from practicing on family members and are usually a family business passed on from generation to generation (UNFPA, 1996). Level of education is therefore not a criteria in this case as most of these elderly women are illiterates. The level of trust and respect received from both clients and

the entire community is very high. The fact that they are part of the community allows them to have better relationships with clients and are therefore comfortable to discuss problems with them, a relationship which is mostly absent with health professional at the health facilities. The introduction of the 'fee free' policy for pregnant women under the health insurance was intended to reduce the reliance on the traditional birth attendants and improve the utilization of the hospital which guarantees supervision by skilled professionals. The four health centres and the Ankaful hospital are all state owned facilities and therefore cater for patients who possess the health insurance card free of charge. Possession of the health insurance card by pregnant women is supposed to guarantee them free access to all ANC sessions and also cater for the cost of delivery. This is to ensure supervision from the beginning of pregnancy up to 90 days after delivery (NHIS, 2010).

Results in the Table 4.2.1 shows that majority of the respondents (81.3%) have access to the health insurance card which allowed them to access maternal health care services for free. The policy had been widely accepted with a registered membership of 12.2 million and operational in 145 districts across the country as at year 2010 (NHIS, 2010).

Table 4.2.1: Access to Health Insurance

Access to Health Insurance	Frequency	Percentage
Yes	122	81.3
No	28	18.7
Total	150	100.0

Source: Field data, 2014.

However, there has been claims of substandard services such as medication and treatment which according to some respondents deter them from accessing health care with the insurance card. Witter et al., 2007 attribute this to the lack of funds and the growing

membership to the scheme. Discussion with some respondents revealed that, they are made to pay for some services such as medication and ultrasound which according to the hospital staff is not covered by the health insurance. They claimed further that, the widespread use of the insurance policy, often results in large turn outs during anti-natal care which puts stress on the midwives. The stress on the midwives, according to them translates to sub-standard treatments which has discouraged them from seeking care at the health facilities.

As one pregnant woman laments:

"...i am supposed to have at least three ultrasound scan before i deliver and each cost GH₵25 and is not covered by the scheme. I have had only one so i find it difficult going to the hospital because they may ask of it which I find embarrassing" (At 32 year old pregnant woman, Elmina).

This therefore means that possession of the card does not necessarily guarantee a totally fee free care from the onset of pregnancy to delivery. There are few occasions where clients (pregnant women) may be asked to purchase medicine or pay for a service that the scheme does not cover. The notion of the totally free care for pregnant women according to some women have led to their husbands denying them money for other needs that might not be covered by the scheme. Women are therefore likely to shun ANC attendance and even hospital delivery even when they possess the insurance card because they are guaranteed of a totally free care. Consequently, they resort to local birth attendants who are usually located within the communities and allow flexible payment.

For the few (18.7%) who do not possess the insurance card, the reason given was the delay in procuring the card. The K.E.E.A municipality, according to the Municipal Health Director has only one office for the registration and renewal of health insurance cards.

The only office situated at Elmina, caters for all clients in the municipality which put undue pressure on workers of the insurance scheme and also causes delay in the renewal of expired insurance card and registration of new members. Discussions with some pregnant women revealed that, it sometimes takes days to get a card renewed and weeks to register new members. For clients who do not reside in Elmina, this means pregnant women would have to look for extra money for travelling expenses. The stress and financial burden according to some respondents is a barrier to securing a health insurance card as explained by one woman:

"... I once got there by 5:00am and waited till 6:00pm when they closed but I could not get the card so I decided not to go there again"(A pregnant woman, Besease).

It can therefore be concluded that, though access to the health insurance among respondents is high, it does not translate into its use in assessing health care at the health facilities. Consequently, the low patronage of professional care in health facility by pregnant women will result in a reduction of ANC attendants as well as supervised deliveries by health professionals. This affects the goal of improving maternal health and reducing mortality rates by 75% by 2015.

4.2.2: Number of midwives and rating of nature of maternal health service offered

Data collected on how respondents perceive the quality of maternal services offered in the various health facilities indicates that, majority of the respondents were satisfied with the services offered despite the limited number of midwives. From Table 4.2.2, 7.3% of respondents indicated that the services offered was poor compared to 41.4% indicating the services was good and 37.3% and 14% rated it as fairly good and very good respectively.

Table 4.2.2: Number of midwives and rating of nature of maternal health service offered

Health facility	Number Of midwives	
Ankaful	4	
Elmina	3	
Komenda	2	
Agona	2	
Kissi	2	
Total	13	
Rating Quality Of Maternal Health Services	Frequency	Percentage
Very Good	21	14
Fairly Good	56	37.3
Good	62	41.4
Poor	11	7.3
Total	150	100

Source: Field data, 2014.

Currently, Ghana has about 4,035 midwives with a ratio of 1 midwife to 6,155 patients (1:6155) which is in contrast with the World Health Organization's recommendation of 1 midwife to 1000 patients (Blay, 2013). The limited number of midwives in the country has been attributed to brain drain and the lack of investment in the health sector. The resulting effect is the limited number of skilled staff which results in undue delays and pressure on the few staff mostly in public hospitals. The data presented in Table 4.2.2 shows a constraint in the staff numbers in all facilities when compared to the number of communities they serve. Though data on the midwife patient ratio in the municipality was

not available at the time of the field work, an interview with a midwife at the Elmina health center indicate that, they cater for over two hundred clients on the average on every ANC session. Although clients have been grouped according to the stage of the pregnancy and given specific dates for ANC, the limited number of staff at the facility makes the work very difficult and stressful.

Despite this challenge, majority of the respondents, representing 41.4% rated the service of the midwives as good with only 7.3% saying it was poor and were therefore not satisfied. Further interviews were conducted to find out how they managed to deal with the large number of clients.

The midwife in-charge at the Kissi health facility explains:

"…..*I have been at this health facility for eight years and I worked alone for seven years until another person joined last year. So I have developed some personal relationship with them. This makes them understand and exercise patience with me. Even though the numbers are overwhelming, we start attending to them as early as 7:00am and close only when the last person is checked and taken care of. It is time consuming and stressful for us. I wish we were more than two but for now, we are working very hard to do what we can to prevent the women from staying away from ANC sessions and delivering at home"*

She was however quick to add that;

".....some of the clients get frustrated due to the time spent at the facility and sometimes leave without being attended to" (Midwife, Kissi health center, Kissi.).

The limited number of midwives can affect the quality of services offered. Thus, the availability of more midwives will not only increase the speed with which clients are served but also will ensure efficiency in their services. Clients who avoid ANC sessions due to delays at health facilities may resort to TBA's who are not properly trained and

equipped to handle obstetric emergencies which may result in injury or death of the woman. Proper assessment of each client requires more time which could be challenging if the clients at the facility are many and with limited staff. The presence of more professional midwives means that, pregnant women can be guaranteed of not only a speedy service but also quality service.

4.2.3 Availability of Medication

Comprehensive emergency obstetric, delivered in district hospitals, includes all basic functions such as administration of antibiotics, oxytocic's, anticonvulsants and manual removal of the placenta (UNFPA, 2003). It is therefore very important to examine the availability and quality of the medication given at the various health facilities as well as the availability of the needed medical equipment's used to ensure safe delivery.

Table 4.2.3: Rating Of Availability Of Medications

Rating	Frequency	Percentage(%)
Good	82	54.7
Average	61	40.7
Poor	7	4.6
Total	150	100.0

Source: Field data, 2014.

Table 4.2.3 indicates that, most of the respondents (54.7%) asserted that medications received during hospital visits were good. This was followed by (40.7%) who rated the availability of medicines during ANC visits as average while 4.6% considered it to be poor. This implies on the average, the women were satisfied with the services they received from the health facilities.

However, there were some contradictory comments by some participants during a focus group discussion. There were claims by some participants that clients who are not

registered with the health insurance scheme often receive better treatment and medication and receive early treatment than those registered with the scheme. This they claim was a result of the inconsistencies of the government in paying facilities and pharmaceutical companies that provide care and medication for the subscribers of the health insurance scheme (Witter et al., 2007). Health facilities therefore provide services to clients based on what is available to them. Clients who can afford other medications are given prescriptions to purchase the drugs elsewhere. Therefore, the quality of services provided under the health insurance scheme depends on the consistency with which government pay providers. Some participant were therefore of the view that 'cash and carry' clients receive better treatment and medication than those registered with the health insurance scheme.

Here are the views of two women from Abrehyia:

"...the midwives are doing their best for us, but sometimes when i go for ANC sessions i don't get all the medications from the hospital. They either tell us they are out of supplies or the health insurance does not cover that particular drug and so we have to find money to buy that outside which is very difficult for some of us"(A pregnant woman, Abrehyia).

Another woman alleged:

"Because of the health insurance that we use we often do not receive satisfactory medication as compared to our colleagues who have not subscribed with the insurance scheme or attend private hospitals. We are sometimes asked to buy some of the drugs because it is not covered by the health insurance which are mostly expensive for us"(A pregnant woman, Abrehyia).

This implies that, even though majority of the respondents rated the availability and supply of medications as good (54.7%) there are some challenges that need to be addressed. Though most of the midwives refuted this fact, a midwife at the Elmina health centre however explained that;

'..... there have been few occasions where we have ask clients to purchase certain medicines by themselves because it is either not available at the hospital pharmacy or not being covered by the health insurance'.

She also added that;

'.... most of the women come to the facility expecting to have everything for free, which usually is not the case since the health insurance does not cover services like ultra sound scan'.

However, she indicated that most drugs needed by the pregnant women are usually available and covered by the insurance scheme. also, the drugs given to the 'cash and carry' clients prescribe are of the same quality as that given to clients registered with the health insurance scheme.

4.2.4 Availability Of Medical Equipments

For women to have quality place of delivery, access to family planning, antenatal care, postnatal and abortion and post abortion care, a functioning health system is required. This consists not only of efficient human resource but also infrastructure including drugs, health facility buildings, power supply, clean water, transportation, and communication (Barnidarb & Roberts, 2006).

Vacuum extractor, safe blood for transfusion especially in case of excessive bleeding during labour, oxygen, safe tools for both normal vaginal and caesarean section, adequate hospital beds are among the numerous equipment's needed at any health facility that offers both antenatal and post natal care (UNFPA, 2003).

Table 4.2.4 indicates that, majority of the respondents (50.7%) were satisfied with the medical equipment at the health facilities. Thus despite their status as a health centre with the exception of Ankaful Hospital, they manage to provide the basic materials needed to

ensure the safety of both the women and their babies. This means that the status of a hospital actually plays a major role in the number of staff or basically the human resource base as well as the equipment that will be available to them. Therefore, most of the deliveries that occur at the facilities were normal vaginal deliveries; any other complication such as caesarean sections, blood transfusion, and the administration of oxygen were all referred to Ankaful or Cape Coast Hospital. It was also observed that all the health facilities had limited space and beds to keep patients who needed extra care especially at the Kissi, Agona and the Komenda health facilities. The pressure on the facilities and staff become excessive due their large catchment areas. This makes it difficult for midwives to keep mothers or their babies for further observation. Most of the women are discharged almost immediately on condition that there are no complications arising after delivery. This according to one midwife poses a problem because most of the patients refuse to report any further complication to either the child or mother and rather resort to the use of concoctions and unprescribed medications which can be harmful to their health.

A further interview with a Midwife at the Elmina health center threw more light on the issue. She explains that, they provide basic out-patient services and maternal health services such as family planning, ANC and delivery. Major operations such as caesarean sections, cancer, kidney and heart operation etc. are beyond their capability and are often referred to the District hospital at Ankaful or the Regional hospital at Cape Coast. Health centres are mostly under the supervision of medical assistants with assistance from nurses and midwives. They are therefore limited in terms of skills and equipment.

She therefore revealed that:

".....Ankaful hospital is equipped in terms of infrastructure and staff due to its status as a district hospital. The remaining five are health centres and are therefore restricted both in

terms of equipment and staff. We are therefore not able to perform major operations".

Thus, certain maternal cases that are considered risky are referred to Ankaful hospital, District, Regional or the University Hospital at Cape Coast. These hospitals are well equipped for high risk cases because Ankaful Hospital which should have been the referral point for the municipality has the facilities to perform caesarean section but has been without a doctor to perform the operation during the period of field visit. Therefore all referral cases are sent to Cape Coast (Midwife, Elmina Health Center, Elmina.).

Thus, despite the efforts of the health professionals at the facilities to provide the best of care for pregnant women, there are still challenges that affect the quality of services provided. This is due to the lack of both human resource and infrastructure at the health centres.

Table 4.2.4: Availability Of Medical Equipment

Rating	Frequency	Percentage(%)
Good	76	50.7
Average	61	40.7
Poor	13	8.6
Total	150	100.0

Source: Field data, 2014.

4.2.5 Referral and Communication Systems

In the third delay of the three delay model, Thaddeus and Maine (1994), identify inadequate referral system as one of the major factors that cause delay in receiving care within the health facility. Adequate referral measures are essential in every health care situation. In emergency cases, systems such as ambulance and proper communication are

crucial in saving lives. Emergency response to a call for help is assured if there are proper communication and transport services available at hospitals. In the case of maternal health, time is crucial in saving both the lives of the mother and child which makes the availability of such services very important (Barbinard & Roberts, 2006). For instance in Sierra Leone, the use of a two-way radio by health workers and a four wheel drive is said to have facilitated communication with other health facilities in referral cases to alert them of their arrival as well as the condition of the patient (Samai and Sengah, 1997). This program is said to have increased emergency referrals and has therefore reduced fatality rates.

Table 4.2.5: Referral and Communication Systems

Health Facility	Number Of Ambulance
Ankaful Health Facility	3
Elmina Health Facility	2 (only one functioning at the time of field work)
Kissi Health Facility	None
Agona Health Facility	None
Komenda Health Facility	None
Total	5

Source: Field data, 2014

Results from Table 4.2.5 shows that the ambulance service which aids and speed referral cases was woefully inadequate in most health facilities in the municipality. The absence of these services in rural areas is considered to be a major hindrance to the reduction of maternal mortality rate in the municipality. In their annual report, participant of the 2009 zonal meeting on maternal, neonatal and child health in the K.E.E.A identified communities such as Ponkrom, Duakyemase, Epowano amongst others as hard to reach. These communities are cut off during rainy seasons, special

agents are therefore sent to these communities during ANC, post natal care and other health seminars. Due to the lack of ambulance and communication systems to facilitate referrals from such communities, pregnant women are often rushed to hospitals from a distance of over 10km by foot or bicycle. The poor nature of the roads also makes access to commercial vehicles difficult.

A 32 year old mother of three at Abrehyia tells her experience;

".....i always rely on taxi's or other commercial transport to take me to the hospital whenever i am in labour which often takes several hours. It is very agonizing considering the nature of the roads and the state of the vehicles itself. By the time you make it to the hospital you are already stressed out".

Further interview was conducted to ascertain this fact and also to know how the situation is being tackled in some of the health facilities.

The midwife in-charge at the Komenda health facility explains;

"...the absence of transport in the facility slows referral to other hospitals when we have an emergency which is beyond our care. It is very scary considering the distance and the nature of the road.

She further added…

" ...in the case of maternal health we often advice women during ANC meetings to make appointment ahead of time with at least three private transport operators in case of emergency. Most of them do that but the cost involved is a major source of concern as most drivers have refused to heed to such calls, with the complaint that the payment thereafter becomes a problem."

This therefore brings to mind the collaboration between the Ministry of Health and the G.P.R.T.U concerning the issue above. An interview with the Heads of the transport union at both Elmina and Komenda revealed that, there has been such a discussion between them to convey women in labour to hospital with or without money. He further stated they have

instituted awards for drivers who do that. Payment in instalments by women who cannot afford to pay at once was also to be accepted. However, they were quick to add that, monitoring has not been easy because such services often depends on the kindness of the driver involved and they can only plead on behalf of the woman involved but cannot force any driver to comply with the directive.

In the study area however, interviews conducted with the various personalities shows that implementation has not been easy and there are still serious issues with the transportation of obstetric emergencies especially from hard to reach areas in the municipality to either the health centers or for referral to the regional hospitals. This situation according to the midwives at the various health facilities seriously affects maternal health in the municipality. They asserted that, this situation promotes home delivery which can be fatal in case of serious complications.

The study at this stage sought to find out the rate of antenatal attendance among respondents. This was to help find out some of the reasons that either promote or hinder ANC attendance. Thus, whether there is a relationship between the maternal health service offered at the health facilities or there are other external factors affecting ANC attendance.

4.3 Test of relationship between some variables that determines quality of maternal health and ANC attendance.

The research work sought to analyze how some indicators of the quality of maternal health care delivery affected the ANC attendance of health facilities in the Komenda Edina Eguafo Abberm Municipality. In this regard the two-way chi-square test (or cross tabulation) which is a statistical technique that is used to determine whether or not there is an association between two or more categories by analyzing their frequencies of occurrence is used. The results of the analysis are summarized in Table 4.2.6.

Table 4.2.6: Test of relationship between some variables that determines quality of maternal health and ANC attendance.

		Attendance of antenatal care			Pearson Chi-quare	
		Yes	**No**	Total		p-value
Possession of	**Yes**	48	74	122	0.127	0.722
health insurance	**No**	10	18	28		
Total		58	92	150		
Availability of	Yes	55	86	141	0.115	0.735
trained midwives	No	3	6	9		
Total		58	92	150		
Reason for	Fin. problem	9	22	31	7.577	0.056
not attending	Staff attitude	15	10	25		
anti-natal care	Poor roads	6	17	23		
	Distance	5	8	13		
Total		35	57	92		

Source: Field data, 2014.

First of all, a test was conducted to identify the relationship between the possession of health insurance and the attendance of antenatal care in the area. From Table 4.2.6, a cross tabulation between possession of health insurance and attendance returns a Pearson chi-square value of (0.127, $p > 0.05$). This p-value is not significant at the 5% significant level. That is to say that there is no significant relationship between possession of health insurance and attendance. In other words, attendance of antenatal care is not determined by the availability of health insurance or the acceptance of health insurance cards by the health facilities.

Furthermore, it is desired to investigate whether availability of trained midwives will influence health care attendance in the municipality. Again, a cross tabulation and a corresponding chi-square test obtained returns a Pearson chi-square value of (0.115, $p > 0.05$) which is not significant. The implication according to the test is that whether trained midwives are available or not, it does not in any way influence maternal health attendance in the area.

Results from respondents correspond with the secondary data from the municipal health directorate on the declining rate of antenatal attendance. Antenatal care is held on scheduled days such as first Tuesday of each month. Table 4.2.7 indicates whether pregnant women are able to attend or not and the reasons ascribed. Majority of pregnant women do not go for antenatal care as scheduled which constitute 61.3% of the sampled population while 38.7% indicated they went for ANC sessions as scheduled.

On the contrary, the test of relationship between the reasons for not attending ante natal care and ante natal attendance rate returned a pearson chi-square value of (7.577, $p< 0.05$). thus, the p-value is significant at the 5% significant level. This means that there ante natal attendance rate is influenced or determined by the reasons cited by respondents.

Based on the statistical data provided, the quality of services offered and the availability of both human resource and infrastructure pertaining in the various health facilities (except the staff attitude cited as one of the reasons for not attending ante natal) in the municipality does not necessarily affect the utilization of the services offered in the facilities.

4.2.7: ANC Attendance By Respondents

Majority of the respondents representing 33.7% cited financial problems as their reason for not attending ANC sessions as scheduled. This is followed by 27.2% respondents who indicated that the attitude of staff towards them impacted on their ANC attendance. In

addition, 14.1% of respondents stressed that the distance to health facilities is far and 25% respondents were of the view that nature of roads linking communities to the health facilities were in bad condition. Financial problems were the main reason given by respondents who could not attend ANC sessions as scheduled (33.7%). Thus, other factors such the quality of services and transport related problems were not the main barriers to ANC attendance.

Table 4.2.7: ANC Attendance By Respondents

ANC attendance as scheduled	Frequency	Percentage
No	92	61.3
Yes	58	38.7
Total	150	100.0
Reasons	Frequency	Percentage
Financial Problems	31	33.7
Attitude of Staff	25	27.2
Poor Roads	23	25.0
Distance	13	14.1
Total	92	100.0

Source: Field data, 2014.

4.2.8: Place of Delivery

The place where a pregnant woman delivers is very crucial in determining her own safety and that of the baby. Supervised delivery by skilled birth attendants (SBA) is one of the ways of promoting maternal health.

Thaddeus & Maine (1994) stated that the place of delivery has consistently been found to be associated with reduction in maternal mortality. Complication during childbirth and infection accounts for a large proportion of maternal mortality. This can be reduced by

ensuring appropriate hygienic conditions during delivery (WHO, 2015).

Health facilities are not evenly distributed across the country. According to the 2008 GDHS report, while 62% of births occurred in rural areas, less than half of births (43%) were assisted by SBA in rural areas, as against the national average of approximately 57% of births. Access to skilled care during delivery is dependent on location and income status and remains low with a significant gap existing across regions and within regions (i.e. urban and rural disparities).

In Ghana, three quarters of all maternal deaths occur during birth and the immediate post-partum period (GSS, 2008). Thus, the place where a woman chooses to deliver can be a major factor in either saving or losing her life. Hospitals are well equipped with both medical supplies as well as skilled staff to well manage pregnancy and ensure safe delivery. On the contrary, most local birth attendants lack modern equipment and skills. That notwithstanding, their role particularly in rural communities is very important when it comes to delivery and must therefore be trained accordingly.

From Table 4.2.8, 48.0 per cent of the respondents said they will deliver at a health facility despite the financial challenges they were experiencing. This further confirms the comments by a midwife at Komenda in an interview when she stated that most pregnant women skip the ANC sessions but report to the hospitals when in labour thereby making the work much difficult since some come with little or no records from ANC sessions. This implies that records of supervised deliveries may increase in the municipality but that will not guarantee the safety of either the mother or the baby as there is a greater chance of losing either or both of them.

However, 28.7 per cent of the respondents stated that they prefer delivering at home with a traditional birth attendant while 23.3% of the respondents refused to reveal their place of delivery. In rural areas where access to health care is difficult, TBA's usually become

the first point of call during pregnancy and deliveries (Jansen, 2006). This usually puts the lives of their clients in danger in case of any complications since most of them lack the modern equipment and skills to deal with such situations. Irrespective of all these challenges, most people still have faith in their skills and abilities. Therefore, to gain better understanding of their choice, respondents who preferred home delivery to that of a health facility were asked to give reasons for their choice.

Table 4.2.8: Place Of Delivery

Options	Frequency	Percentage(%)
Health Facility	72	48
TBA	43	28.7
No Response	35	23.3
Total	150	100

Source: Field data, 2014

4.2.9: Reasons For Home Delivery

Table 4.2.9 shows that, 27.9% of respondents cited the attitude of hospital staff toward them as the main reason for their preference for home delivery which was followed by cost of care and transport cost to health centres with a representation of 20.9% each. The other factors included the nature of the road (11.6%), distance and religious beliefs both had 7% and traditional norms and taboos scored the least with 4.7% **(**4.2.8**)**

Table 4.2.9: Reasons For Home Delivery

Reasons	Frequency	Percentage(%)
Attitude of Staff	12	27.9
Cost of Care	9	20.9
Transport Cost	9	20.9
Nature of Road	5	11.6
Distance	3	7
Religious Beliefs	3	7
Norms/Taboos	2	4.7
Total	43	100

Source: Field data, 2014

The cost of care and cost of transport can be linked to income levels of respondents, educational levels could also influence the level of religious and traditional beliefs. Therefore a test of relationship of levels of income and education on place of delivery was conducted to find out whether there is a relationship or not.

4.4 Test of Relationship Between Income And Educational Levels And Place Of Delivery

A test was performed to ascertain whether income and educational levels could determine the choice of place of delivery among the respondents.

The results as summarized in Table 4.2.10 returns p-values that are not significant for both cases. This implies that both income and educational levels were not seen as significant determinant of place of delivery in the municipality. Stated differently, factors such as education and income could not determine whether a pregnant woman will deliver at the hospital or TBA.

Table 4.2.10: Test Of Relationship Of Income and Educational Level On The Choice Of Place of Delivery

		Place of delivery			Pearson Chi-square	
		Hospital	**TBA**	Total		p-value
Income	Less than Gh¢100	28	10	38	4.906	0.179
	Gh¢ 100-Gh¢ 200	28	20	48		
	Gh¢ 300-Gh¢ 500	10	11	21		
	More than Gh¢ 500	6	2	8		
	Total	72	43	115		
Level of education	No education	32	18	50	6.374	0.173
	Primary	15	15	30		
	JHS/Middle	13	4	17		
	SHS/O"Level	9	2	11		
	Tertiary	3	4	7		
	Total	72	43	115		

Source: Field data, 2014.

The test proves that there is no relationship between income and educational levels and choice of place of delivery in the study area. However, about twenty-one per cent of respondents cited that cost of care and transportation as second and third most important reasons given for their preference for home delivery.

Results from Table 4.2.8 on the choice of place of delivery by respondents showed that majority of the women indicated that they will deliver at a health facility (48%). However, the non health facility delivery was also high which led to further interviews and

discussions to discover reasons behind that choice. Although some participants during focus group discussions praised some of the midwives for their patience, most people however lamented about the harsh treatment they receive from most of the midwives especially during labour and delivery. The attitude of health professionals towards pregnant women is known to affect the rate of utilization of the services offered including delivery (Annual zonal report on maternal, neonatal and child care, 2009). The pressure that comes with the job of being a health professional, and for that matter, a midwife can result in stress and anxiety. In most health facilities, the inadequate human resource and equipment results in an increased nurse / midwife patient ratio (Blay, 2013). Also, most of the jobs have to be done manually in the absence of modern equipment. The harsh treatment on clients therefore results from the stress they experience. Even though, the harsh treatment may not be deliberate, it is widely accepted to affect access and utilization of maternal health services.

As indicated by a participant during a focus group discussion:

"...during labour some of the midwives use canes and other objects to spank you to push the baby. They also yell and call you names" (A 24 year old nursing mother, Ampenyi).

Participants in the focus group discussion (FDG) were very consistent and critical about the ill-treatment as the main reason for non-hospital deliveries; this is very evident when compared to the way and manner they described the treatment they receive from the TBAs. As one woman with a previous home delivery described:

"*What I like most about the home delivery is that you are allowed to lie in a position that you are comfortable with which will not harm the baby. That relieves the pain a little, but the hospital you have to lie on your back to deliver which is difficult for some of us but they will not understand, they beat or insult you"* (A 25 year old mother, Ampennyi).

Another participant added that: *"they allow our family members or relatives to come and support us through the delivery which helped me when I delivered my baby. But in the hospitals they drive them away and you are left with all those strangers (midwives) shouting and yelling at you which even worsens the situation"* (A 21 year old woman, Abrehyia).

The fee free policy for ANC and Hospital deliveries introduced by the government was to reduce the financial burden on women and promote hospital delivery which are mostly supervised and subsequently expected to reduce the rates of mortality among women during deliveries. However, there are significant hidden costs which remain in obtaining a hospital delivery. In addition to the cost of transportation, data analysed in Table 4.2.9 revealed that, the cost of care (representing 20.9%) was the second reason identified by respondents for not delivering at a health facility. The list of items that pregnant women are required to bring along for delivery at health facilities includes: sanitary pads, antiseptic, under bed sheet, Rubber mackintosh, 4-6 cot sheets, 4-6 old cloths, Bulb aspirator, parazone, cord Clamp, absorbent Cotton, surgical Gloves, etc.

The cost of purchasing these items according to participants in a focus group discussion is too much for them to bear.

"The items they demand are too many and I can't afford to buy them and I have heard that if you go to the hospital without any of the required items they mistreat you and make you feel very bad so I don't want to go and be embarrassed in front of other women like that" (A 22 year old pregnant woman, Abrehyia).

These hidden cost despite the fee free policy deter women delivering at health facilities and hence resort to Traditional Birth Attendants. Although

TBA's attend to 30.3% of births in Ghana (GSS, 2009), their inexperience in handling emergency obstetric cases often results in injury or death. That notwithstanding, their

relationship with the community members allows their client to pay far less, or accepts payment in kind and also allow pregnant women to position themselves in a way they feel comfortable during delivery. Consequently, the cost of delivering at health facilities due to the hidden charges can be said to be higher than home deliveries. Thus, the 'fee free' policy for pregnant women is not enough to get pregnant women to seek professional care. Participants during focus group discussions further added that, the TBA's are more flexible and do not require much items like the hospital and even payment is allowed on instalments without any embarrassment. As indicated by one woman who had experienced home delivery:

"...all I needed was some used cloth, bed sheets and soaps for cleaning. I also sent some of my old items that I use in the house so I didn't have to buy new ones unlike the hospital where you will be embarrassed for carrying old and used items" (A 23 year old woman, Abrehyia).

Thus, though the results from the test showed no significant relationship between income, education and the choice of place of delivery, there is no doubt that, non-health facility delivery exist in the study area and therefore should be considered.

4.2.11: Knowledge and use of contraceptive

Public knowledge of contraceptive in Ghana is high, however, its use is said to be low with rural-urban differences (GSS, 2004). Data from Table 4.2.11 show that 54.7% of respondents had knowledge of some modern contraceptive but had not used any of the methods before they got pregnant whiles 45.3% indicated that they had used at least one method prior to being pregnant. Family planning (FP) is known to be an important component of the reproductive health system. Therefore educating women to understand the need and need and importance of family planning is one of the ways of getting more

women to access the service. For some respondents, the stigma attached to the service that, promiscuous women use contraceptives is what prevents their husbands from permitting them to use. Some side effects like weight gain, loss of weight and in some instances excessive bleeding do not make the service attractive to them. This is confirmed by a lady who does not patronize the service during a focus group discussion when she stated that;

'...the excessive weight gain is what put me off. I know a lot of ladies who went for family planning after they delivered and have been struggling with overweight since then' (A 24 year old pregnant woman).

For some also, the cost of the service was what deterred them from patronizing it. Though the family planning unit is operation is all health facilities and even sent to communities during weighing days for mothers to patronize the cost involved for first time users was considered to be high for respondents. First time users are required to pay for the pregnancy test, registration and FP booklet and the subsequent payment for renewal of either the injectable or pill. The total cost, according to some respondents does not encourage them to assess the service. In interview with the midwife at the Kissi health centre, she revaled.

'....just a little fee is required for beginners, payment for subsequent visits or renewals is very minimal'

She also added that;

'... there are a lot of misconceptions on the various FP methods but we are doing our best in educating them on the importance to both the health of the mother, the children and the economic benefits. Gradually, people are beginning to accept it and we believe the numbers will grow soon'.

On the contrary, respondents who had previously patronized the service were of the view that, the service actually had more benefits than the negative effects. Though they admitted to the side effects earlier stated, the indicated that, there are different methods available and so with proper education and the necessary test one will be able to make a choice where the effects will minimal or no effects at all.

Table 4.2.11: Knowledge and use of contraceptive

Knowledge and use of contraceptive	Frequency	Percentage (%)
Yes	68	45.3
No	82	54.7

Source: Field data, 2014.

4.5 Summary of Chapter

Discussions under this chapter was basically on the demographic characteristics of respondents and the quality assessment of the services offered in the various health facilities in the study area. Key findings include the lack of adequate staff (midwives) in all health facilities. The large number of clients they attend to makes their work very difficult. This sometimes result in harsh treatment towards clients which in effect deter some women from accessing the health facilities either for ANC or delivery.

Also, ambulance service which is very important in obstetric emergencies was found to be absent in most of the health facilities. Thus, women in communities where public transport is scarce walk for hours which sometimes result in fatalities. Public health education should also focus on the use of family planning methods to eradicate the misconception surrounding its use. Cost involved should also be minimized to entice more women to utilize the service.

CHAPTER FIVE

EFFECTS OF ROAD TRANSPORT ON MATERNAL HEALTH CARE DELIVERY

5.0 Introduction

Throughout the discussions on the quality of maternal health services offered in the study area, it was realised that transport was one of issues raised by respondents particularly in the area of ANC. In addition, it was one of the reasons given by women for patronising traditional health attendants. Transport plays a crucial role in the achievement of MDG goal five. Therefore a well planned transport system within communities can either mitigate or exacerbate health related complications. Distance combined with poor roads and lack of transport constitutes a challenge to accessing healthcare in most developing countries. Thus, the subsequent subsection analyses the issue of transport in relation to maternal health care.

5.1 Mode of Transport

Delay in reaching health care centers according to Thaddeus and Maine (1994), is the second form of delay likely to be experienced by pregnant women in seeking health care. This delay basically emphasizes how crucial or important the role of transport infrastructure is, to health care delivery. To them, the challenges such as the mode of transport, distance, costs of transport, nature of roads among others are very important factors that greatly impact on the accessibility and utilisation of maternal health services.

The World Health Organization (WHO, 2006) also estimates that between 40% to 60% of the people living in developing countries live more than 8 km away from a health care facility, therefore the only link between them and the health facility is transport. Although health outcomes have improved in most of these countries,

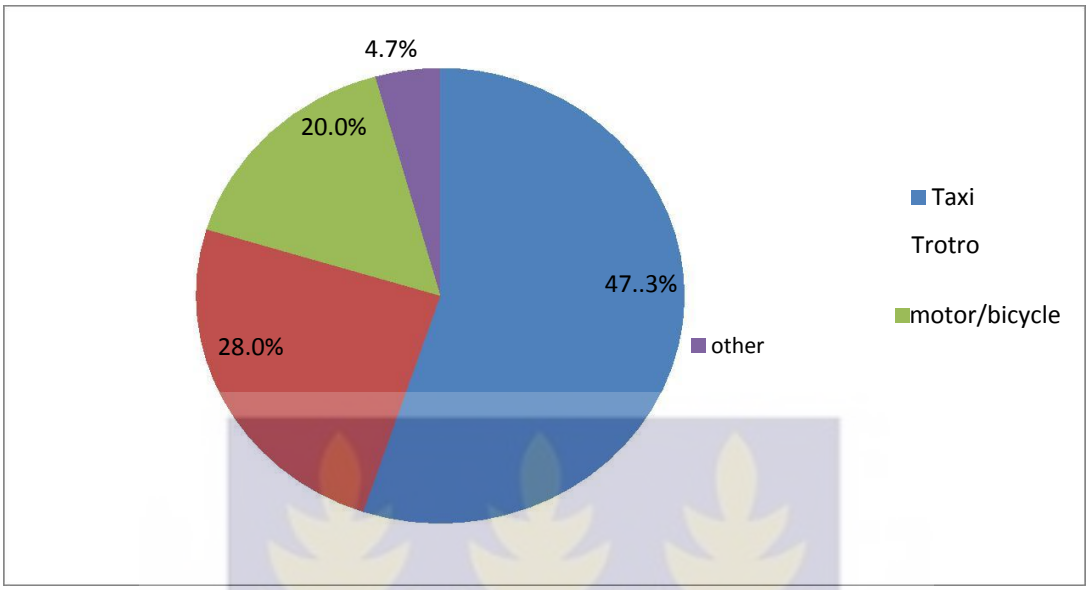
challenges in infrastructure such as transport is still a major challenge for most developing countries. In the area of maternal health, the mode of transport used plays a major role as timing proves to be critical in such situation. Road transport is known to account for over 95% of the nation's total transport supply (Ministry of roads and housing, 2010). However, rural roads in most parts of the country are of poor quality and usually unmotorable especially during the rainy seasons. This therefore has resulted in the creation of some form of local vehicles such as tri-cycle, hand-drawn carts etc. to facilitate movement in areas where access to a good transport is a challenge. In a study conducted in the Northern region by the Institute for Transport and Development Policy (2005), it was revealed that improvised ambulances are used by residents of some of the districts to convey people to hospitals. The donkey drawn ambulance was appreciated by communities as their areas are partly flooded during rainy season and therefore have no access to the main road.

The provision of rural transport is therefore important as it influences the extent of usage of other facilities such as schools, connects them to larger or urban markets for the sale of their produce and most importantly helps them seek health care and for that matter maternal health where timely access to health care is very important.

5.1: Mode of Transport used in the Communities

Majority of the respondents, (47.3%) indicated that taxis are the most common form of transport in their communities. This is followed by 28.0 per cent who use trotro/ public buses while 20 per cent use motor bikes and bicycles and 4.7% use other means of transport in their communities.

FIGURE 5.1: Mode of Transport used in the Communities



Source: Field data, May 2014

According Figure 5.1, taxi was the most common mode of transport used by respondents. However, discussions with participants during focus group discussions indicated that, the flow of these vehicles to their communities especially those with poor roads depended on the season. Thus, the taxis and the buses are more regular during the dry season but this number reduces during the rainy seasons as the roads become unmotorable. It is therefore difficult to have access to taxis and trotro. People subsequently resort to bicycles, motorbikes, and human drawn carts to convey both humans and goods. These modes of transport, they claim increase travel time which is very dangerous especially in obstetric emergencies.

The assemblyman of Abrehyia explains further:

" ..the vehicles that operate in the community are all worn out and very +dangerous. Most of them do not have breaks but we always put our lives in their hands when we travel because we do not have any choice since the ones that are in good shape refuse to come to our community due to bad roads" (The assemblyman, Abrehyia).

Another woman added that:

"... there have been instances in this community where women have delivered in taxis usually due to a break down on their way to the hospital" (A 51 year old woman, Abrehyia)

These findings further correspond with the annual report from the zonal report on maternal, neonatal and child health in the K.E.E.A in 2009. Participants at the meeting recognized the availability and accessibility to clinics and hospital as an issue to tackle if maternal and neonatal deaths are to be curtailed. It came out that some communities such as Ponkrom and other communities in the KEEA municipality would normally rush pregnant women to hospitals from a distance of 10km by foot and bicycle, because there are no taxis running in the communities. Shehu et al. (1997) also concluded in their findings that lack of ambulances and shortage of other means of transport in remote areas also delay the management of life-threatening complications,

particularly on non-market days or during the rainy season Thus the mode of transport used to convey people particularly in obstetric cases is of equal importance as other transport concerns relating to promoting maternal health and therefore reducing maternal mortality.

Table 5.1:Test of Relationship between ANC attendance and the Mode of Transport

		Attendance of antenatal care			Pearson Chi-square	
		Yes	**No**	Total		p-value
Mode of	Taxi	34	37	71	7.260	0.064
Transport	Trotro	11	31	42		
	Motor/Bicycle	9	21	30		
	Others	4	3	7		
	Total	58	92	150		

Source: Field data, 2014.

A test was conducted to ascertain the relationship between anti-natal attendance and the modes of transport within communities. The results show that statistically, there is no significant relationship between attendance and the mode of transportation in the municipality. This could be observed as the test returns a Pearson chi-square value of 0.064, $p > 0.05$. What this means is that, whether a pregnant woman attends antenatal or not is not dependent on the mode of transport that prevails in the municipality. Though the test showed no relationship between the mode of transport and anti-natal attendance, respondents during interviews and focus group discussions stated otherwise.

'……it is difficult to get a car especially on non-market days to attend ante-natal care. The use of bicycles and motorbikes also becomes difficult when you are in the third trimester of

the pregnancy, because of this i often miss ante-natal sessions'

(A 26 year old pregnant woman, Abrehyia)

Respondents claimed that, due to dilapidated nature of the taxis and buses operating within the communities, travel time is increased which prolong the journey to the health facilities. This situation according to some drivers has resulted in some women delivering in their cars. In some instances, they claimed women lose their lives or that of their babies. Walking or the use of bicycles and human or animal drawn carts in hard to reach areas also increased maternal deaths and injuries.

5.2 Reliability of transport in communities

The early detection of pregnancy related problems can save the life of both a woman and her child. The next step after the detection of the complication or labour is the decision to seek care at heath facility and once that decision is made then the issue of access to transport sets in. Access to transportation as identified in the three delay model according to Thaddeus and Maine (1994) is one of the delays experienced by pregnant women which contribute to non-facility deliveries. In addition to bearing a negative impact on service utilization, poor access and lack of reliable transport also explains why families delay seeking care in an emergency situation or arrive too late at health facilities for effective treatment. Most rural communities in Ghana experience unreliable transport system especially during the rainy season where the roads become more difficult to use by motorists. The unreliability of transport therefore means the use of other forms of transport which could not only increase travel time but can also increase the woman's chances of injuring herself or her unborn child due mostly to the undulating nature of the roads coupled with pot holes. Those who are strong have to walk for several hours to seek care. This mostly accounts for the increasing home deliveries in rural areas which are sometimes characterized by injuries or deaths. A study conducted in Zambia between the year 1998 and 2000 showed that 76% of the women had to walk to the clinic to

receive care and 50 per cent had to walk for two hours or more. While 71 per cent of those living within two hour walking distance delivered in a health institution, only 35 per cent of those living further away did (Stekelenburg et al., 2004).

5.3 Distance To Nearest Health Facility

Examining how far respondents are from the nearest maternal health care centre showed that 50.7% said it was between 1 to 5 kilometres, 30.7% claimed they had to travel between 6 to 10 kilometres while 19 per cent travelled more than 10km to seek maternal care. Thus, distance to health care facilities was within the World Health Organization's (WHO) recommended distance of 8km.

Analyzing the number of stops/transit made before reaching the nearest hospital, most of the respondents 55.4% indicated they made no stops on their way to health facilities, 27.3% stated they made one transit while 17.3% indicated they made two or more stops before they reached the nearest health care facility.

During transport service provision, priority under normal circumstances should be given to pregnant women due to their fragile condition. Analyses on the priority given to pregnant women by transport operators showed that most of the respondents (62%) had never received priority from any driver within their respective communities. However, 26% of the respondents said they had at some point received help from transport operators while 12% of respondents said they consistently received special treatment or are given priority during obstetric emergencies.

Table 5.2: Distance to nearest facility

Distance to Nearest facility	**Freq.**	**Percent**
1-5km	76	50.7
6-10km	46	30.7
More than 10km	28	18.6
Total	150	100.0
Transit Made Before Reaching The Nearest Hospital	**Freq.**	**Percent**
None	83	55.4
Once	41	27.3
2 and above	26	17.3
Total	150	100.0
Priority from public transport operators	**Freq.**	**Percent**
No	93	62.0
Sometimes	39	26.0
Yes	18	12.0
Total	150	100.0

Source: field data, May 2014.

Excessive time spent during travels due to distance can influence patients not to seek care at a health institution and can also be a contributing factor to why women choose to deliver at home rather than at a health facility. The distance decay model states that the interaction between two locales decreases as the distance between them increases. This effect can therefore be translated into consumer travel behaviour where the number of people travelling to a particular location for a good or service decreases as the distance to those locations increases. It is also true when it comes to health care utilization as asserted

by Goodman et al. (1997) in a study they conducted in northern New England, including Maine, New Hampshire, and Vermont where they found that those who lived further from the hospital were less likely to be hospitalized for medical illness. Excessive time on the road for a woman in labour is very dangerous as she could deliver on the way to a health facility and when excessive bleeding or haemorrhage occurs, it could result in death especially among women who are already anaemic.

Further studies in Tanzania also revealed that 63% of women who died after reaching a hospital had travelled 10 kilometers or more for treatment (Biego, 1995). In India, a study found that half of the maternal deaths reported occurred before the women reached a treatment facility where most of them had travelled by bus, rickshaw or bullock cart and only 9% by ambulance (Pendse, 1999).

Table 5.2 on the distance women had to travel to seek care at the nearest health centre showed that distance to health centres was not a problem to most participants as they cover a distance of 1-5km (50.7%) followed by 30.7% travelling within a distance of 6-10km. However, participants indicated that, though the distance to the health facilities is not far, the travel time is increased due to poor nature of the road and dilapidated nature of the cars that are available in the communities. They claim a journey that could last for just 15 minutes can be prolonged to 30 minutes or more due to pot holes. Others indicated that, the condition of the cars affects them greatly. Thus, most of these cars are not road worthy. But because there are no vehicles, they have no choice but to use them. For instance in Ampenyi, it was observed that only three cars were properly registered and considered road worthy which therefore permits them to cross police barriers to either Elmina or Kissi Health centre.

A woman from Ampenyi who gave birth at the Kissi health centre explains her ordeal:

" when the labour started I knew I wanted to deliver at the hospital so I immediately chattered a taxi, but the driver could not drive fast enough due to the poor nature of the road, I had bled so much by the time we got to the hospital, I was unconscious" (A 31 year old mother, Ampenyi).

A driver from the same community confirms that:

"last year alone, three women delivered in my car because I could not get them to hospital on time. The road is bad so when i try to speed they complain of severe pains. I am very sad to say that one of them was pronounced dead by the time we reached the hospital. This makes me very nervous and I don't think I will ever convey a pregnant woman to the hospital again" (A 40 year old driver from Ampenyi).

It was also observed that, due to the nature of the cars used, most of them could not cross the police barrier at Ataabadze junction for fear of being arrested. Their journey therefore ends at the main junction where the woman would then have to look for another car which is good enough to cross the police barrier without any problem. Though majority of the respondents indicated they make no transit on their way to health centres (55.4%), others (44.6%) make one, two or more transits. All of these challenges put together increase travel time and hence makes the distance longer than expected.

5.4 Nature of Roads and How it Affect Maternal Health

The road on which pregnant women ply to maternal health centres was examined to know its nature as it was consistently mentioned by participants in the above discussions. Concerning this, 59.3% of the respondents indicated that the road were poor, 28.7% rated the roads as being average while 12% said the roads were in good condition. On the whole, it can be inferred that the roads in these areas are not in the best of conditions.

Table 5.3: Nature of Roads

Rating of The Nature Of Road	Frequency	Percentage(%)
Poor	89	59.3
Average	43	28.7
Good	18	12.0
Total	150	100.0

Source:Field data, May, 2014.

Nature of roads according to Thaddeus and Maine 1994 affects accessibility to health facilities. The second cause of delay (delay in reaching care) in the conceptual framework is attributed to transport related issues of which the nature of roads linking communities to health facilities play a major role.

Plate 2: A section of a sampled community and its road network.

Source: Field data, 2014.

Plate 3: A section of the Dutch Komenda road

Source: Field data, 2014.

Travel time, distance and nature of roads are interrelated. The nature of the road mostly determines travel time and the distance. Travelling for hours on a bad road can be very dangerous for a pregnant woman and hence the best option is to deliver at home with birth attendant (Bale et al., 2003). Thus, the nature of the road is very paramount when it comes to any discussion or intervention on how transport can help in accessing and utilizing health care particularly maternal health care services. Plate 3 is the nature of the road linking Dutch Komenda to the Kissi health facility. The poor nature of the road make access to transportation difficult as the roads becomes difficult to use during rainy season, this according to residents further results in increased travel time and distance as well as cost. The nature of road rated in Table 5.3 showed that, most of the road connections in the communities are in poor conditions as cited by 59.3% of the respondents. Some participants during focus group discussions shared their thought on the state of the roads in their communities:

A taxi driver explained that:

"…the road is in a very poor state now, this makes us increase transport fares due to the constant breakdown of the cars which is attributed to the poor state of the roads. (A 30 year old driver, Ampenyi).

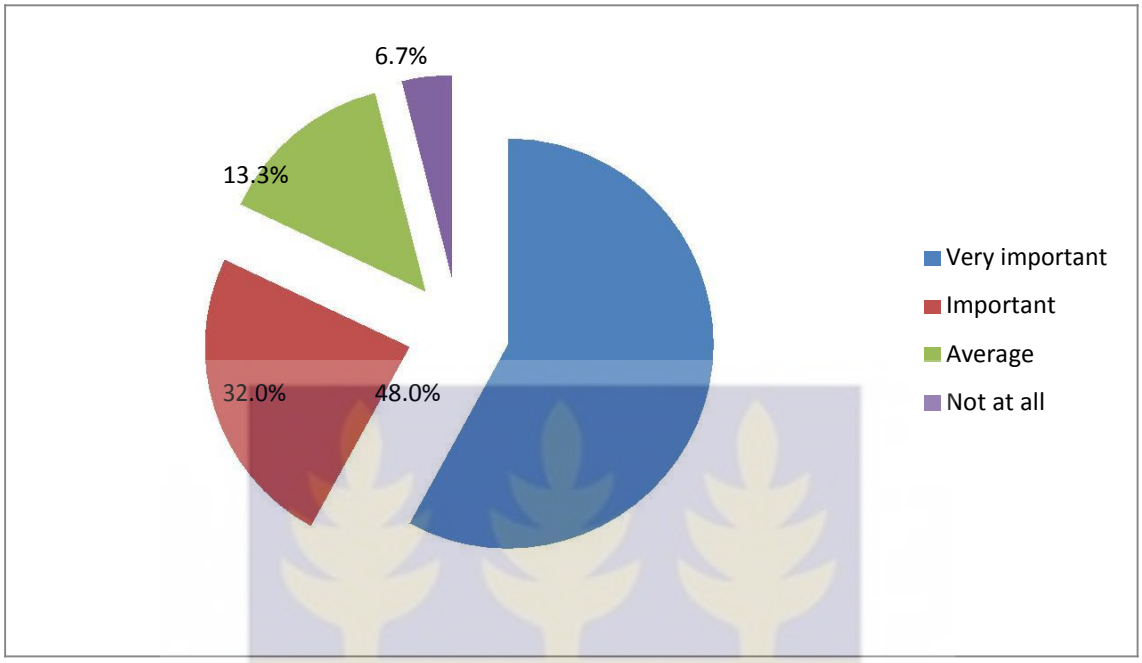
A woman observed that:

"....travelling on the road is now difficult not only has it increased travel time but also transport cost. The situation now, makes lot of people walk to Ayensudo (the next community which is about 3km) anytime they have to travel to save cost"

(A 56 year old woman, Ampenyi).

Since the section sought to find out how transportation affects maternal health and the role that nature of these roads play in the transport service provision, it would be necessary to examine whether the nature of the road has any effect on maternal health. Respondents were asked to rate them as 'Not at all', 'Very Important', 'Important' or 'Average' as indicated in figure 5.2. The analysis revealed that most of the respondents (48%) indicated that the nature of roads was very important to maternal health, 32% rated it as important, 13.3% rated it as average while 6.7% indicated that the nature of roads does not affect maternal health at all.

FIGURE 5.2: Rating Of Nature Roads On ANC Attendance And Place Of Delivery



Source: Field data, 2014.

The effect of the nature of roads on ANC attendance rate and the choice of place of delivery among respondents shows that, almost all respondent agreed to the fact that it was a very important determinant. The nature of the roads could affect maternal health mostly in two ways; firstly through ANC visits and secondly during labour periods.

Excessive travel time and distance as a result of poor roads could pose challenges to pregnant woman and they may therefore decide to deliver at home which accounts for the low rate of health care utilization. A study by Nemet and Bailey (2000) cited by Mattson (2010) in their study of the relationship between distance and utilization of health care indicated that people who had to travel more than 10 kilometers to their physician tend to go to their physicians less frequently than those who had to travel shorter distances. The situation in the study area is particularly worse in Dutch Komenda where the community is cut from British Komenda by a lagoon where the health centre is situated. Residents are

compelled to utilize the Kissi Health facility anytime the lagoon overflows its banks due to the high tides from the sea. The Kissi health facility is about 4-5km away yet residents claim the road is in a very poor state therefore most drivers do not ply the road; those who do, charge high fares which makes travelling difficult.

The midwife in-charge at the Komenda health facility throws more light on the issue;

"*.....the community (Dutch Komenda) is just about 10-15minutes walk away yet we consider it hard to reach especially during rainy seasons and high tides because of the lagoon. Therefore we experience a lot of home deliveries in that particular community. We travel on canoes to attend to them during such times or travel through Komenda Junction to Nsadwer which increases time and cost.*

Another woman added that:

"..... the nature of the road linking our community to the Kissi health facility affects us greatly because most drivers do not like coming here. We usually wait for several hours for a car to come from the next community (Nsadwer) before we can also access it. It is even more worrying at night when there is an emergency and the tide of the lagoon is also such that we cannot cross to British Komenda"(A woman in her thirties, Dutch Komenda).

Based on the above discussions, a cross tabulation between the variables: nature of roads and ANC attendance was done to see the statistical relationship that exists between them.

5.5 Test of Relationship Between Nature Of Roads In Communities And ANC Attendance

This statistical analyses was conducted to establish the relationship between nature of roads in the sampled communities and ANC attendance of pregnant women.

Table 5.4: Cross Tabulation Between Nature of Roads And ANC Attendance

		Attendance of anti-natal care			PearsonChi-square	
		Yes	**No**	Total		p-value
square p-value						
Nature of roads	Poor	31	58	89	1.668	0.434
	Average	20	23	43		
	Good	7	11	18		
	Total	58	92	150		

Source: Field data, 2014.

The test on the nature of roads against antenatal attendance is not significant at the 5% significance level. The results show that statistically, there is no significant relationship between attendance and the nature of the roads in the communities. This means that, whether a pregnant woman attends antenatal or not is not dependent on the state of the roads; be it good, average or poor. This however contradicts findings from data qualitative collected during interviews and discussions on the field. Respondents revealed that, the poor nature of the roads in the communities affects ANC attendance as well as their choice of place of delivery. Thus, the nature of the roads makes access to health facilities more expensive and time consuming and hence they often resort to traditional birth attendants.

A woman explained that:

'.....most of us wish to attend ANC sessions, but the state of the road makes travelling painful especially when you are almost due to deliver. This is also one of reasons why people deliver at home' (A pregnant woman, Dutch Komenda).

5.6 Cost of Transportation

On cost of transportation, Table 5.6 revealed that transport fares from communities to the nearest health facilities ranged between GH₵ 1 - GH₵3.50. Chattered/ hired transport cost to the nearest health facilities ranged from a minimum of GH₵ 10 to a maximum of GH₵30. Referrals to the regional hospital also presented a cost range of between GH₵ 3 to GH₵5. Chattered or hired transport cost ranged from GH₵ 30 to GH₵ 60.

Table 5.5: Cost of transportation to the nearest health facility and regional hospital

Community	Transport Fare To Nearest Health Facility	Normal Fare (GH₵)	chartered Fare (GH₵)	Transport Fare Regional Health Facility	Normal Fare (GH₵)	Chartered Fare (GH₵)
Ampenyi		3.50	30.00		5.00	45-50
Dutch Komenda		Not Applicable			3.00	50-60
Nkontrodo		2.00	15-20		5.00	30-40
Besease		1.00	10-12		3.00	30-35
Abrehyia		2.50	20-30		4.00	50-55

Source: Field data, 2014.

Transport costs can be a primary factor in deterring patients from obtaining treatment. Even when a vehicle can be obtained, costs can prevent people from accessing it. Poor patients in developing countries especially the rural poor often cannot afford to travel to a distant hospital if they have to pay high charges.

Transport costs to facilities are often highlighted as a major hidden cost for access to healthcare in most rural communities in Ghana. For example, 50% of women found within the lowest wealth quintile, mostly rural women, regarded the problem of transportation to health care facilities as their major problem (GSS, 2008) particularly with the cost involved.

In order to ascertain whether transport cost affects maternal health, respondents were asked whether or not transportation affects maternal health. Majority, (68.7%) of the respondents claimed they have been affected because they have not been able to attend ANC regularly and this also contributed to home deliveries. However, a few (31.3%) claimed it does not affect them with respect to maternal health (Table 5.6).

Table 5.6: Effects of transport cost on maternal Health

Does transport cost affect maternal health?	Frequency	Percent
Yes	103	68.7
No	47	31.3
Total	150	100.0

Source: Field data, 2014.

The normal range of transport fare between GH₵ 1-GH₵ 3.50 to the nearest health facilities according to some participants was affordable as the ANC sessions were usually held once in a month, unless those with some diagnosed complication and for monitoring sake are asked to make weekly appearance at the facility. Other than that, most people said they were comfortable with the fares as confirmed by one expectant mother at Ampenyi:

"...I used to go for the ANC meetings once every two months, until the third trimester when I was asked to come monthly for check- ups. But I'm still comfortable with it because I have a month to prepare for that"(A 25year old expectant mother, Ampenyi).

Some respondents were however of a contrary view that the fares charged by drivers was too expensive and were therefore not able to go for ANC sessions on scheduled date as another expectant mother lamented:

"...I am not able to go for the ANC sessions on scheduled date as I am supposed to

because, there are times I even find it difficult to feed myself. So the money I am supposed to use for transportation, I would rather use it to feed. If I eat well nothing will happen to the child" (A 19 year old pregnant woman, Abrehyia).

A study carried out in Burkina Faso and northeast Brazil showed that transport costs accounted for 28% and 25%, respectively, out of the total patient costs of using hospital services (Ensor and Cooper 2004). A study in Bangladesh also suggested that transport was the second most expensive item for patients after medicines (Ensor and Cooper 2004). Obstetric emergencies like labour or any form of complication will normally require a chartered transport to either the nearest or regional hospital since normal transport could cause further delay and risk losing the lives of both the mother and her baby.

The cost of transport constituted a major concern in deciding referrals as indicated in an interview with a midwife:

" clients often complain of the cost of transport whenever we have to transfer them to cape coast for immediate attention, there is usually delay in getting money to pay as most of them rely on the decision of their partners to decide whether to go or not. However, there are times the drivers agree to take them and then make payment later" (Midwife, Elmina health center).

This therefore brings the issue on gender and transport as well as women empowerment to the forefront. Ghana's Demographic and Health Survey suggests that in some parts of the country, men make decisions about household healthcare choices and practices. This often includes decisions about the healthcare practices of their wives or female partners (GSS, 2004). Therefore, should a man decide not to pay the transport cost to the health centres or referrals and the woman is also not economically empowered, then she would deliver at home amidst all the complications. This is also further confirmed by some participant in

the zonal report in 2009 by the Alliance for Reproductive Health in K.E.E.A 'that in families where the husband is such an autocratic decision maker, women don't get the chance to choose which hospital they want to access during delivery. It was discovered that, some men do not allow their wives to go to hospital because they do not have money to access the hospital even when there is some complication during delivery'. This implies that in situations where women are not economically empowered, health care utilisation may be affected when the men decide not to take on the cost of care. Therefore, in ensuring a holistic access and utilization of health care for women, medical and other social infrastructural development alone will not curb this problem but also social education and economic empowerment should also be promoted.

5.8 Summary of Chapter

Transport related variables analysed under this chapter includes; the mode and reliability of transport in communities, travel distance from communities to health facilities was also considered. Lastly, the nature of roads linking the communities to health facilities and the cost of transport was also looked at to find how they affect maternal health delivery in the study area. The findings revealed that taxi's were the most popular form of transport in the study area. However, 59.3% of respondents cited the nature of the roads in their communities to be in poor state. This affects their ability to access health care due to the increased travel distance and cost of transport resulting from the nature of the roads. Therefore, traditional birth attendants became the next alternative to skilled professional care.

CHAPTER SIX

SOCIO-ECONOMIC AND SOCIO-CULTURAL FACTORS AFFECTING MATERNAL HEALTH

6.0 Introduction

Although pregnancy and delivery are biological events, they are significantly influenced by economic, religious as well as societal norms and practices. There is significant evidence on the various social and cultural practices across the globe that affect health seeking behaviour of people and for that matter maternal health care services by pregnant women. For instance, Aina (2007) asserted that pregnant women could experience psychological stress and in some cases deaths from complex social and cultural influences of the various taboos and practices they have to follow. These practices vary across societies. Whereas some are dietary based, others are in the form of spiritual practices or observances that pregnant women are sometimes forced by elderly family members to endure in order to ensure safe delivery of the baby and also protect the life of the woman. Socio-economic factors like education, income and occupation of women are widely known to influence decisions that women make concerning their health seeking behaviours. This chapter therefore discusses the various socio-economic and socio-cultural factors and how they influence maternal mortality. Socio-economic factors such as education, occupation and income levels of respondents will be discussed to assess ways in which they affect maternal health in the K.E.E.A municipality.

A statistical test on some of the variables was conducted to verify the outcome of the descriptive analyses done. This helps to better understand the relationship that exists among some of the variables and the utilization of maternal health services such as antenatal care.

Table 6.1.1: Cross Tabulations On The Relationship Between ANC Attendance, Occupation, Income And Level Of Education

		Attendance of anti-natal care			Pearson	
		Yes	**No**	Total	Chi-square	p-value
Income Level	Less than Gh¢100	21	27	48	3.154	0.368
	Gh¢100 – Gh¢200	20	45	65		
	Gh¢300 – Gh¢500	12	15	27		
	More than Gh¢500	5	5	10		
	Total	58	92	150		
Level of Education	No education	25	41	66	3.712	0.446
	Primary	19	23	42		
	JHS/Middle	6	15	21		
	SHS/O"Level	3	9	12		
	Tertiary	5	4	9		
	Total	58	92	150		
Occupation	Fish monger	20	19	39	8.519	0.074
	Unemployed	8	13	21		
	Artisan	6	12	18		
	Formal	6	3	9		
	Trader	18	45	63		
	Total	58	92	150		

Source: Field data, 2014.

It could be observed from the p-values on Table 6.1.1 that income level, education and occupation did not significantly affect ANC attendance. For instance, not so much income disparities were observed in the responses.

6.1.2: Level of education

Education is one of the powerful tools that is used in empowering women across the world. In Africa, especially Sub Saharan Africa, where women empowerment is very low, educating the girl child has now become the agenda of most governments to bridge the socio-economic gap between males and females. In Ghana, the adult literacy rate is estimated to be 64% where females have a lower literacy rate (55%) compared to males (73%) (GSS, 2004). Literate population are able to seek information better and make decisions that are best for their well-being. Thus low literacy has an influence on access and use of health information and for that matter maternal health information, especially on modern medical treatment (Sari, 2009).

Analysis of educational levels of respondents indicated that majority (44%) had no formal education. It is however an undisputed fact that, there is a relationship between women's education and health care utilization. Caldwell (1979) affirms that education empowers women and enables them to make informed decisions on their health and that of their children. Thus educated women are more likely to seek health care information on their own as compared to their uneducated counterparts. Access to health information has been made easier with the internet and other health books and published articles. Therefore, most educated people can access this information for basic health tips without necessarily going to the doctor or the hospital. With such an easy access to information the ability to make informed decision is increased. In an interview with the midwife at the Agona health centre, she revealed that the illiteracy among the women does influence their ability to make certain decisions especially in the area of family planning. She stated that instead of seeking information from the right sources, they usually listen to the experience of other women and based on that shun the service. This, according to her, results mostly in unwanted pregnancies and abortions mostly among teenagers. In contrast, the midwife in-charge at the Elmina health facility indicates that, though most of their clients have no or limited educational levels they are encouraged to seek any information at any time on their

health, which she states, has improved the use of the facility by women over the years. She further attributes this to the relationship they establish with clients which makes them comfortable when they come to the hospital.

A nursing mother who is also a high school graduate explains how her educational level helped her in her pregnancy:

"I always attended antenatal care when I was pregnant but it was difficult to do all what I was told because my mother and grandmother kept bothering me about some practices like the use of some local herbal concoctions they claim will help me have an easy delivery. But because I read about the medicines given at the health facilities, I didn't adhere to their advice and I had a safe delivery when my time was due for delivery. (A 27year old nursing mother, Abrehyia).

Thus, education can be said to empower women both socially and economically. Based on the interviews conducted and the views from participants during focus group discussions, one can also say that, health seeking behaviours especially reproductive health of women is mostly influenced by their educational levels. However, the interview with the midwife at the Elmina health facility revealed that, the relationship with these illiterate women will also determine their ability to seek information at health facilities.

She explained that:

'.....that most of the nurses at the facility are able to speak the local language (Fante) quite fluently which makes communication and interaction among clients and staff easy'.

This, she says, makes them comfortable enough to ask questions pertaining to their reproductive health. There is therefore no doubt that formal education gives women upper hand over their own health care but also communication and proper relationship from hospital staff towards the uneducated women will also help them in the decisions concerning their health and that of their children.

6.1.3 Occupation of Respondents

Though economic empowerment through employment enhances the health seeking behaviour of women, the nature or type of job should also be considered especially when pregnant. A hazardous and stressful job for women can be dangerous to their health especially during pregnancy as this can have an effect not only on their personal health but could also have damaging effect on their unborn child. However, the benefit that comes with empowering women through employment is known to far outweigh the challenges. The ability to take decisions on reproductive care and access quality health service depends on a sound financial backing which is only possible when one has a source of income. Empowering women economically therefore reduces their reliance on men which has been known to be one of the factors impeding women from taking control over their own reproductive health.

A study in Kenya reported that antenatal care visits tend to start earlier for women in paid employment as they are likely to have greater knowledge about pregnancy and childbirth due to freedom of movement outside household (Magadi et al., 2000). They also tend to seek information on services available for pregnancy care. The data from respondents showed very little rate of unemployment at 14%. Therefore, by assumption, it can be concluded that most women in the study area should be able to access health care with ease. However, data from Table 4.2.7 on antenatal attendance by respondents showed that majority of the respondents (representing 61.3%) did not attend anti-natal care on schedule. Therefore, employment alone cannot be used as a measure for the utilization of health care services by women. The income associated with the type of employment plays a major role in accessing health care. Monthly income of respondents was therefore analyzed. This is because employment status alone may be misleading if it is not juxtaposed with the levels of income generated from that economic activity. Therefore

further questions were asked to know the income generated from the activities of respondents.

6.1.4 Income Levels of respondents

Results on the income levels revealed that 43.3% of respondents earned between GH¢ 100 – 200 while 6.7% earned GH¢ 500 in a month. Though majority of the respondents are engaged in some form of economic activity, the income generated from their economic activity is not enough to sustain their families and also pay for some hidden charges of the health facilities. This was revealed by some participants in a discussion.

A 42 year old woman stated that:

"....of course we make some money out of our business, but cost of living has gone up lately so it has become difficult to feed, pay the fees of our kids and also access health care" (An elderly woman, Ampenyi).

A midwife at the Kissi health centre also observed that:

'....it is very difficult for most rural women to even get transport fare to either attend antenatal care or delivery. They also complain of the lack of money to purchase some of the items required during delivery'.

Thus, being employed does not necessarily mean that one is economically sound to access the basic needs of life. Maternal health care in Ghana by virtue of the NHIS is free but it was revealed that charges on some drugs and other items which are not covered by the scheme make access a little difficult for some women. The Demographic and Health Surveys in 2008, reports that about 45% of women mentioned money for treatment and the availability of drugs as one of the factors influencing their health care accessibility. Apparently, the cost of required items listed by the hospital for delivery is very expensive and also most of the expensive drugs are either out of supply or not available at all and

therefore they end up paying a lot more money than they expect. Therefore the inability to provide those items or the needed money for certain drugs and other hidden charges in the hospital compels some of them to seek traditional care from traditional birth attendants which is relatively cheaper.

6.2 Socio-Cultural Factors

Variables analyzed under this section includes religious affiliation of respondents and also some of the pertaining societal norms, beliefs and taboos in the study area.

6.2.1 Religious Affiliation

Maternal health can be affected to some extent, by religion. There is therefore the need to examine the religious affiliations of the various respondents. The religious affiliations cut across the three main religious spectrums in Ghana such as Christians, Muslims and Traditionalists. Majority of the respondents were Christians.

There are laws and practices governing any human organization. These laws and practices are what make each organization different from the other. Even among the dominant Christian groups, there are different opinions and doctrines when it comes to issues concerning women's reproductive health. For instance, the Roman Catholic Church has strong teachings against abortions and the use of birth control measure as it is also considered to be an act of abortion (Catechist, Catholic Church. Ampenyi). Such religious doctrines can affect the decisions on birth spacing of women. This is confirmed in an interview with a young lady at Besease when she indicated that;

".....the teachings of the church prohibit such actions therefore any true member of the church will desist from it. I believe in the church and therefore do not commit abortion or use contraceptives" (A 25 year old woman, Abrehyia).

Birth control measures do not only give the woman the power over her reproductive health in terms of when to have children, the number of children and how to space child birth but

also enables them to engage in other socio-economic activities like education, which empowers them. Birth spacing for example allows the woman to recoup and regain her strength before the next pregnancy. Therefore, denial of such a practice due to religious beliefs puts the woman at risk of having a larger family which puts economic stress on the family and also weakens the woman and in some instances results in death (Midwife, Komenda Health Center). The USAID (2008) indicates that other causes of maternal deaths in developed countries are what it calls the "other direct causes" (8%), which includes ectopic pregnancy, embolism and complications during interventions related to caesarean section and anaesthesia. These conditions are also known to be common among women 35 years and older who are at a higher risk of delivering through caesarean section. In Table 4.2.11, 54.7% of respondents indicated that they were not on any of the family planning methods prior to their pregnancy. This means that majority of the respondents did not patronize the service.

In Islam, there is a division on the issue of the use of contraceptive by women. In an interview with the head of the Islamic community at Ampenyi, he indicated that, in some sayings of the prophet Mohammed (Hadith), he is believed to have encouraged his followers on the natural method of birth control and therefore some group of modern day followers believe that if modern methods were available at the time of his teachings, he would have recommended its use as well. Another faction believes and interprets another saying (Hadith) that *"marry and procreate for i shall be proud of you on the day of judgement"*. Believers of this doctrine on the other hand do not believe in the use of contraception as confirmed in a statement of a pregnant Muslim woman:

"...the holy Prophet commands us to marry and generate because i believe children are a blessing to the family and Allah himself will help us take care of them"

The traditional religion however does not have any laid down rules with respect to the use

of birth control measure or the general reproductive health of women. However, there are certain practices which motivate women to have more children. During marriage ceremonies among the Akans and Ga's, libation is poured to ask for the fruit of the womb from the mother earth for the couples. Ga's are known to specifically ask for ten kids (Sarpong, 1974). A sheep is then also slaughtered for a woman upon arrival of her tenth child to praise and honour her. Thus, various religious doctrines and cultural practices on the reproductive health of women can impact on the services offered by health facilities such as family planning which is one of the best ways of birth pacing and prevention of unwanted pregnancy which goes a long way to improve women health.

6.2.2 Social Norms And Taboos

Examining whether or not there are taboos that may influence on maternal mortality, Table 6.2.2 indicated that most respondents (68.7%) said that there were some traditional norms that they knew of. About 32.0 per cent indicated they knew not of any such thing.

Table 6.2.2: Social norms and taboos

Presence of Taboos/Norms	Frequency	Percent
Yes	103	68.7
No	47	31.3
Total	150	100.0
Norms and Taboos	Frequency	Percent
Hiding of pregnancy until after 1st trimester	22	21.3
Forbidden foods	74	71.9
Bathing at dawn	7	6.8
Total	103	100.00

Source: Field data, 2014.

Some cultural practices and prevailing norms can serve as a barrier for a woman to seek care. In some societies for instance, it is forbidden for a woman to show early signs of

pregnancy until after the first trimester since it is believed that evil spirits could attack the feotus at that stage of pregnancy and cause miscarriage. This means that early report for ANC sessions will not be achieved thereby avoiding early detection and treatment of any danger signs. As confirmed by the K.E.E.A zonal report by the Alliance for Reproductive Health Right (2009), some in-laws choose other delivery homes such as the traditional health camps and shrines, the 12 Apostolic church camps and other spiritual gardens. Pregnant women who use these camps expose themselves to avoidable dangers. When complications arise during delivery, these camps try to remedy the situation by seeking 'divine intervention' until they realize they cannot do anything before they rush the pregnant woman to the hospital. In most cases, by the time they get there, the woman may have already passed away (Midwife, Agona Health Centre). The 12 Apostle camps and spiritual gardens are very common in the K.E.E.A Municipality, especially in the rural communities. The priestesses at these camps mostly double as TBA's and therefore most of their followers deliver at these camps. As priestesses, they are believed to see spiritual happenings and also possess the power of healing diverse diseases. These reasons coupled with the various superstitions associated with pregnancy often make pregnant women patronize the services of these priestesses to secure their lives and that of the unborn child from any spiritual attack. The spiritual forces or attacks, according to some respondents, cannot be seen by the hospital staff, which according to them is the cause of the death of some of those who deliver at the hospitals.

However, by far, the most prevalent restrictions on pregnancy from the Table 6.2.5 relate to dietary taboos (71.9%) with the exception of the practice of hiding pregnancy until after the first trimester and bathing at dawn. Among some of the foods mentioned include milo, palm nut soup, and snails. An elderly woman in one of the communities explains how each affects maternal health:

"...the milo makes the babies grow fat while in their mother's womb. This makes delivery difficult especially for first timers. If you take palm nut soup on the day your contraction begins, you will be feeling sleepy during labour and that is why some nurses have to beat them to push the babies" (A 67 year old woman, Ampenyi).

This corresponds with a research by Senah (2003) among the Kassena and Nankana of the Upper East Region, where pregnant women are not allowed to eat meat and groundnut lest they give birth to 'spirit children'. Some participants however strongly stated their disapproval of such practices due to the education they have been receiving at ANC sessions as explained by one expectant mother:

" ..I am constantly told by some people not to take snail, but the midwife says it is rich in proteins and whatever myth surrounding it is not true so I don't pay attention to them" (A 21 year old pregnant woman, Abrehyia).

Therefore the presence of traditional norms and some other religious beliefs could have negative impacts on maternal health as some of the forbidden foods serve as a major source of protein and other important vitamins that could help to increase haemoglobin levels of the women.

6.2.3 Test of effects of socio-cultural factors on maternal health.

The study found it desirable to test whether socio-cultural factors such as taboos and spiritual practices had any significant influence on maternal health care delivery in the municipality.

Again, a cross tabulation followed by a corresponding chi-square analysis is used to ascertain any such relationship (Table 6.2.3)

Table 6.2.3: Cross Tabulations on Taboos And Spiritual Beliefs On ANC Attendance

		Attendance of anti-natal care			Pearson Chi-square	
		Yes	**No**	Total		p-value
square p-value						
Taboos	Yes	33	70	103	6.089	0.014
	No	25	22	47		
	Total	58	92	150		
Spiritual	Yes	0	2	2	1.270	0.260
	No	50	78	128		
	Total	50	80	130		

Source: Field data, 2014.

A significant relationship could be observed between taboos and attendance. This is because the Pearson chi-square value on the cross tabulation between attendance and spiritual practices is observed to be 6.089, $p < 0.05$ which is significant at the 5% significance level. The cross tabulation shows that the number who did not attend anti-natal is higher (68.7%) in areas where taboos prevailed.

One could conclude, based on the results as presented on Table 6.2.3 that, socio-economic and socio cultural factors, quite apart from taboos did not significantly affect maternal health in the Municipality.

6.3 Summary Of Chapter

Socio-economic and cultural variables were analyzed under this chapter to identify how they affect maternal health. Economic variables like education, occupation and income levels of respondents were considered. The findings of the study revealed that majority of

the respondents had no formal education (44%). Though education, is known to have a strong association with maternal health care, there were split views from midwives concerning the level of education of women in the municipality. To some, education offered at ANC sessions are done in the local language and so, education does not play any role in the attitude of clients towards ANC and the choice of place of delivery. Others were of the contrary view that, uneducated clients are difficult to convince to accept new methods and drugs which they are not familiar with. For instance, they claim most of them have some misunderstanding about family planning methods which they are not willing to let go no matter how hard they try to educate them.

Also, majority (42%) of respondents were engaged in trading, however, income generated was not enough to enable them access health care. With respect to the socio-cultural factors, forbidden foods was the dominant factor identified by respondents as prevalent in their respective communities.

CHAPTER SEVEN

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.0 Introduction

The study sought to assess factors affecting maternal health in the K.E.E.A Municipality. The study relied on the "three delay model" to conceptualize the factors that affect maternal health which results in maternal mortality or injuries. Specifically the study sought to assess the quality of maternal health care in the municipality, thus issues such as the quality and availability of the human resource and infrastructure such as beds, drugs, other medical equipment's that are necessary in ensuring a good and efficient maternal health service were discussed. The transport system comprising ambulance services and also the community transport system such as modes and availability of transport, distance, nature of roads and the related cost was assessed to know how they affect maternal health. Socio cultural and socio-economic factors which affect maternal health were also considered. This chapter presents a summary of the main findings of the study, conclusions and recommendations.

7.1 Summary of findings

7.1.1 Assessing Maternal Health Care Services In Health Facilities

Assessing the quality of maternal health service provided in the sampled health facilities revealed that there has been a steady fall in antenatal care patronage between the periods of 2011 to 2013. The percentage of clients visiting the facilities fell from 86.7% in 2011 to 78% in 2012 and declined further to 72.1% in 2013. Some of the reasons accounting for this decline were financial reasons followed by the attitude of the hospital staff. The financial burden, according to the data collected, results from transport cost, as well as some charges at the facilities which may not be covered by the National Health Insurance

scheme. However, interviews with some midwives revealed that most of the services offered at ANC sessions are basically free except for some few instances where drugs required by clients are either out of stock or not available at the hospital pharmacy. They however attributed the declining rate of attendance to inability of most of the women to get money for transportation to the facilities.

According to the midwives, the large catchment area for the health facilities poses a huge challenge for them. This therefore makes it difficult for hard-to-reach communities to access health care. Though there were measures in place to cater for those areas, difficulty in getting transport especially during rainy seasons coupled with the bad nature of the roads makes accessibility much difficult for such areas.

The study also revealed that, though all health facilities had well trained and qualified midwives, their numbers were not enough to cater for the large client base. This usually resulted in clients having to wait for several hours before being attended to. This results in stress to both clients and health workers which does not only prevent clients from seeking health care during pregnancy, but also during labour. The stress on the staff, according to some participants in focus group discussions, translates into harsh talk and impatience from the midwives which makes them uncomfortable sometimes. This problem was mostly said to pertain more at the Elmina Health centre. This was however denied by the midwives at the facility. There was an improvement in clients who visited at the facility in the third trimester of their pregnancy. The fall in the percentage from 15% in 2012 to 10.3% in 2013 was mainly attributed to the constant education offered to clients on the importance of reporting pregnancy early to the hospital.

The financial problem indicated by respondents as one of their main reasons for attending antenatal care prompted the next question on their knowledge of the National Health

Insurance Scheme. It was revealed that, majority (92%) of the respondents were registered with the scheme. This however did not translate into the use of the scheme as participants during focus group discussions claimed they are made to pay some fees when they go to deliver. These hidden charges, despite their possession of the health insurance, deterred some women from utilizing health facilities. This has become one of the reasons influencing some respondents to resort to traditional birth attendants. Though only 39.7% made this confession compared to 52% of the respondents who indicated they will deliver at the hospital, the figure is still considered high as stated in an interview with some midwives at some of the health facilities.

With respect to the availability of physical infrastructure at the sampled health facility, respondents indicated their satisfaction at some of them (medication and other equipment) but equipment's aiding referral and communications in the health facilities was discovered to be inadequate. 64.3% of the respondents indicated they were satisfied with the medication given at the facilities. On the contrary, some respondents also stated that, there were some instances where they were told to purchase drugs despite the health insurance. This was either due to the fact that the hospital was out of stock or it was not covered by the insurance. More rooms for delivery and beds to accommodate more clients were discovered as one major challenge faced by all the health facilities. This, according to the midwives at the Kissi and Komenda health centres, makes monitoring of clients after delivery more difficult. Thus, clients are often discharged mostly after some hours of delivery if there were no complications. But they indicated that, they would have loved to at least keep and monitor both mother and child for at least 24hrs because most clients often do not come back to report further complications.

Referral and communication systems in hospitals aid in the transfer of not only medical equipment's but most importantly, the transfer of patients to hospitals or from one hospital to the other for treatment. However, all health facilities did not have hot lines that people

could call instantly when they needed direction or information. With the exception of Ankaful hospital, Elmina health centre at the time of the field work had only one functioning ambulance with the rest having none. They therefore relied on public transport to transfer clients when necessary, which according to the midwife at the Kissi health center sometimes delay referrals.

Family planning or contraceptive use is regarded to be a very important component of the reproductive health system. the service though available in all the health facilities within the municipality, data collected revealed that, the majority (54.7%) did not patronize it prior to their pregnancy. This was mainly attributed to the misconception about the service, the negative side effects and the cost of registration mostly for first timers.

This leads to the next objective of assessing the role of transport in maternal care delivery. Under this objective, the following findings were made;

7.1.2 How Road Transport Affects Maternal Health Care Delivery

The popular mode of transport in the study area was taxi and 'trotro'. Taxis were the most utilized means used from one community to the other whereas 'trotro' was usually available in Komenda and Elmina. Despite this, majority of the respondents (64.3%) indicated that access to transportation was difficult mostly during rainy seasons due to their poor state. The nature of the roads according to participants also attracts rickety cars which to their deplorable state are not able to cross police barriers for fear of being arrested by the police. Therefore health facilities such as Kissi and Elmina Health facilities which are situated along the Cape Coast –Takoradi highway and therefore have police barriers at Komenda junction and Atabadze respectively are not easily accessed by these drivers and patients as well. In emergency cases, another car which can cross the barrier has to be sought, thereby increasing travel time which can be fatal in emergency obstetric cases.

It was also found out that, though 69.4% of respondents stated that health facilities were within 1-5km reach. However, the earlier issue of poor roads coupled with rickety cars made travelling such short distance to health facilities lengthy, expensive and stressful. The poor nature of the roads according to respondents (63.7%) affected mostly their ability to go for antenatal care regularly and most importantly during labour.

The cost of transport particularly chartered transport to health facilities was also identified to determine the place that women chose to deliver. The lack of adequate transport (ambulance) in most of the health facilities resulted mostly in the use of taxi's to transport emergency cases either from homes to the facilities or from one hospital to the other. The fares charged according to some participants, were high and therefore resulted in most people delivering at home.

7.1.3 Socio-economic And Socio-cultural Factors Affecting Maternal Health

Socio-economic and socio-cultural factors were also assessed by the study to find out how they affect maternal health specifically in the study area. Socio-economic factors such as education, occupation and income of respondents were assessed.

The level of education of a woman is known to affect her health seeking behaviour and for that matter, reproductive health. With the majority of respondents having no educational background and primary education, thus 35.7% and 27.4% respectively, accessing health care information by themselves and making informed decisions was limited. An interview with the midwife at the Agona health centre revealed that most uneducated women preferred seeking information among their colleagues who mostly did not have the right information. She cited the area of family planning as one aspect of reproductive health mostly misinterpreted by women. It was discovered that most of the misconception of family planning was due to the miscommunication between clients and the hospital staff.

Most of the uneducated preferred seeking advice from friends who often deterred them from using the service. However, it was realised that, proper communication such as speaking the local language of residents and establishing a relationship with the clients helps those with little or no education to have confidence and feel comfortable in seeking information on their health and that of their children.

The occupation and income levels of respondents revealed that most of the women were engaged in petty trading (53.4%) as source of income. It can therefore be assumed that most of them therefore had the financial backing to seek health care especially in the area of maternal health. However, the amount of income generated from the kind of economic activity engaged in, play a major role in the decision to seek care. Income generated by respondents was found to be generally low which makes it difficult to afford the cost of seeking professional care. With respect to place of the delivery, the long list of delivery items and its associated cost required at the health facilities made traditional birth homes the preferred choice for women who could not afford to purchase the items or pay for the extra charges.

Socio-culturally, there are some religious beliefs, practices, norms and taboos that also influence maternal mortality in various societal setting. The study found that religion had an influence on the reproductive health and for that matter maternal health of women. Christianity was the most popular form of religion among respondents. It was revealed that there existed different denominations with different beliefs as regards reproductive health. For instance, the study found that faithful's of the Catholic church and some faction of the Islamic religion desist from the use of contraceptives or other forms of family planning methods as it was against the doctrines of the church. This therefore resulted in unwanted pregnancies which sometimes led to unsafe abortion usually among teenage girls.

Societal norms and practices which could influence maternal mortality in the study was

usually about dietary taboos. About 90.0 per cent of respondents indicated they knew of some form of taboo pertaining in their communities. Most of them included nutritious foods like snails, palm nut soup, eggs and some vegetables. Despite their existence, it was found that most of the respondents did not adhere to them due to constant education and awareness on the importance of some of these foods during pregnancy.

7.2 Conclusion

The gradual fall in antenatal attendance and delivery can basically be attributed to the hidden charges associated with both services despite the use of the health insurance scheme by clients. These extra charges such as the cost of items to be bought and used by clients during delivery have pushed most women away from utilizing the health facilities. These financial implications, according to the first delay, (delay in seeking care) are one of the socio-economic barriers that women encounter in their decision to seek care. Thus, the other alternative is traditional birth attendants, who accept payments either in cash or kind.

The lack of both physical and human resources in health facilities according to the third delay (delay of receiving care within health institution) of the three delay model, also influence maternal mortality. These resources come together to ensure quality and efficient care within health facilities. However, most of the health facilities within the study area lack both physical and human resources. Considering the number of communities that each facility caters for, and the staff strength (trained midwives), it can be concluded that they lack the needed support and assistance required to provide quality service and reduce maternal mortalities.

Communication and referral systems affect accessibility and the subsequent utilization of health facilities. Delay in reaching care, caused by the lack of services such as ambulance, especially in rural areas contributes to poor maternal health or death. The lack of these

services within health facilities in the study area has resulted in most women choosing traditional birth attendants over health facilities even if they would prefer to deliver at the health facilities. Inadequate beds and space in delivery rooms creates congestion which compels midwives to discharge women earlier than usual. Proper supervision of both mother and child is therefore limited.

The role that transport plays in maternal health care cannot be underestimated. In this study, the major transport issue in the communities had to do with the nature of the roads linking communities to health facilities. Poor road networks, according to the second delay (delay in reaching care) have a strong link with the type / mode of vehicles that ply the roads, the availability and the cost of transportation. It can therefore be concluded that, the poor nature of the roads in most of the communities have impacted greatly on the utilization of maternal health service in the health facilities. It became obvious that distance to health facilities was not a problem in the sampled communities. However, increased travel time, cost and the non-availability of vehicles especially during the rainy seasons, attributed to the poor nature of the roads, made access to health facilities very difficult especially during obstetric emergencies.

Most of the women in the study area were engaged in some economic activities. However, their incomes are not enough to support their families and hence seek health care. The cost involved in seeking health care despite the health insurance was realized to be high for some of them who resorted to home deliveries or attended antenatal care irregularly. This financial burden according to the first delay of the 'three delay model' (delay in seeking care), can cause a woman to delay in her decision to seek professional care. Subsequently, they resort to traditional birth attendants who often lack modern skills and equipment's to handle obstetric emergencies. Thus, government policies intended to improving maternal health and reduce mortality rates by relieving women of the financial burden of seeking

care at health facilities should be monitored to ensure efficiency.

Norms, taboos, religious beliefs and practices prevailing in a given society affect the health seeking behaviour of the people. The first delay (delay in seeking care) of the 'three delay model' identifies socio-cultural factors such as traditions, norms, taboos, religious beliefs and practices as some of the obstacles that can delay a woman to seek professional care. Thus, the decision to seek care by a pregnant woman can be impeded by her belief in some of these practices. Majority of the women indicated they had knowledge of some foods which are forbidden to pregnant women. However, most of them were not adhering to them due to the education they receive from health professionals.

7.3 Recommendations

Based on the findings of the study, the following recommendations are made to the government, stake holders, women and traditional authorities of the study area.

- The National Health Insurance Authority must ensure that the fee free policy for pregnant women under the Health Insurance is strictly enforced. Measures should be put in place by the municipal directorate to monitor and supervise services offered to ensure that no unnecessary fees are collected from women. This will go a long way to improve antenatal care and health facility delivery.

- Also, the municipal health director in collaboration with other stakeholders in the health sector should put in place measures that will help improve the limited number of staff in the health facilities especially midwives. This could help reduce the pressure and improve work efficiency.

This might encourage health professionals to be more patient with client and treat them well when they come to the facilities for ANC or delivery. Therefore, an increase in the number of midwives within health facilities is also recommended.

- It is further recommended that the Municipal Health Directorate, the Municipal Chief Executive, Chiefs other opinion leaders of the municipality put in place measures that will help in upgrading the Elmina health facility to the status of a district hospital. This will go a long way to improve maternal health in the municipality. Elmina serves as the business district of the municipality and is easily accessible by all the communities due to its location and booming economic activities. This will help reduce referrals to the regional hospitals which is expensive and not affordable to majority of the people. When well-equipped, the travel distance, transport cost and the pressure on the regional hospitals.
- Collaboration between transport operators and health facilities must be strengthened. Midwives or relatives of patients patronize the services of transport operators during emergencies should ensure that payment are made in due time to ensure continuous support to women in labour. Private ambulance operations should also be encouraged to help in referral cases as most of the hospitals do not have ambulance. The G.P.R.T.U should assist with moderate mode of payment for the cost transport for obstetric emergences to help save lives.

- Rural road infrastructure should be improved within the municipality to ensure access to transport. The transport unit of the municipal assembly should put in enough effort to provide good rural road infrastructure because the poor nature

of the roads linking most of the communities to health facilities increases travel time and cost which is very uncomfortable and dangerous in obstetric emergencies.

- Economically, the Municipal Assembly in collaboration with financial institutions within the Municipality should come up flexible terms of loans and other support for small scale business owned by women. This will empower them with more profitable ventures to increase their earnings and also improve their social and reproductive lives.

- Reproductive health education should be intensified by the health directorate in rural areas on the importance of attending ante-natal, family planning and hospital or professionally supervised delivery. These factors play important role in the improving maternal health and consequently reduce maternal injuries and mortality. It is therefore important that community health workers, traditional leaders and opinion leaders should work together in educating women on the measures to take to promote maternal health.
- Myths surrounding certain foods as well as some cultural practices that can affect maternal health in any way should be eliminated through constant education by community health workers for both the women and their partners.

- Training seminars should be organized by the Municipal Health Directorate with the help of midwives at least yearly to educate TBA's on ways of handling some complications and equip them with some basic equipments especially in areas that are considered hard to reach.

7.4 Areas for Future Research

- Family planning is considered to be one of the most important measures in the prevention of unwanted pregnancies and also helps in birth spacing. Therefore its importance to the reproductive health of women and for that matter maternal health cannot be underestimated. However, there are many myths and misconceptions about it which have it its patronage. A future research in this area will therefore help to unravel these myths and also bring to fore measures that can be put in place to address it and make it attractive to women.

- The fee free policy for pregnant women under the health insurance policy is also another area that can be researched in the future. Findings can help policy makers in assessing the impact that it has on maternal health in the municipality. The weaknesses in the scheme will also be highlighted which assist in the restructuring of the scheme to better can promote quality maternal health care delivery.

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APPENDICES

Appendix I: Questionnaire

DEPARTMENT OF GEOGRAPHY AND RESOURCE DEVELOPMENT

UNIVERSITY OF GHANA, LEGON

This study is being carried out by a post- graduate student from the **Department of Geography and Resource Development, University of Ghana, Legon.** As a partial fulfillment of the degree of Master of Philosophy in Geography and Resource Development, the study seeks assess the factors affecting maternal health care delivery in the **Komanda Edina Eguafo Abbrem Municipality.** Your view and opinions on the topic is strictly for academic purpose only. Your anonymity is assured and any information provided will be treated as confidential. I hope you will cooperate by providing the right responses to the question posed.

Date of interview……/……../2014 Community…… Questionnaire nunber…

PART I – RESPONDENT'S SOCIAL AND DEMOGRAPHIC BACKGROUND

1. Sex

   a. Male [ ] b. Female [ ]

2. Age

   a. 10-19[ ] b. 20-29 [ ] c. 30-39 [ ] d. 40 and above [ ]

2. Level of education

   a.No education [ ] b. Primary [ ] c. JHS /Middle [ ] d.SHS/O"Leve[]

   e.Tertiary [ ]

3. Religious affiliation

   a.Christian [ ] b. Muslim [ ] c. Traditional [ ]

d. Other (please specify) …….

4. Marital status

a.Single [ ] b. Currently married [ ] c. Divorced [ ] d.Widowed [ ]

5. Number of children

a.1 [ ] b. 2 [ ] c. 3 [ ] d. 4 [ ] e. 5and above [ ]

6. Occupation

a.Unemployed [ ] b. Artisan [ ] c. Formal [ ] d.Trader [ ]

e.Other……

7. Income level?a. < Gh¢ 100 [ ] b. Gh¢ 100 – 200 [ ] c. Gh¢ 300 – 400 [ ] d. > Gh¢ 500 [ ]

8. How old is your pregnancy?

a.1st trimester [ ] b. 2nd trimester [ ] c. 3rd trimester [ ]

PART II : ASSESS THE QUALITY OF MATERNAL HEALTH SERVICE

9. Do you have health insurance?

a.Yes [ ] b. No [ ]

10. Do you attend antenatal care?

a. [Yes] b. [No] 11. If Yes, which facility do you often visit?

a. Elmina Health Center [ ] b. Komenda Health Ceenter [ ] c. Agona Health Center [ ] d. Ankaful health center [ ] e. Kissi Health Center [ ]

12. Why do you visit that particular facility?

a. Nearest [ ] b.Cheap [ ] c. Best medical care [ ] d.Medical Facilities [ ] 5.Skilled Staff [ ] 6.Attitude of Staff [ ]

13. How would you rate the equipments atthe health facility?

a.Very Good [ ] b. Good [ ] c. Fairly Good [ ] d.Average [ ] e. Poor [ ]

14. How would you rate the availability of medication at the health facility you visit?

a.Very Good [ ] b. Good [ ] c. Faily Good [ ] d. Average [ ] e. Poor [ ]

15. Is there an ambulance at the health facility that you visit?

a.Yes [ ] b. No [ ]

If no, how do you contact the health facilites during obsteric emergency?

a. Commercial transport b. Call a nurse/doctor [ ] c. Go for TBA [ ] d.Other……

……

17. Are there trained midwives at the health centre?

a.Yes [ ] b. No [ ]

18. How would you rate quality of maternal health service offered at the health center?

a.Very good [ ] b.Good [ ] c.Fairly Good [ ] d.Poor [ ] e.Very

Poor [ ]

19. Where would you deliver?

a. Health facility [ ] b. TBA [ ] c. Prayer Camp [ ]

d. Other (please specify).....

20. If not health Facility, Why?

.....

21. Does the health facility/ hoapital you attend offer family planning services?

a. Yes [ ] b. No [ ]

22. Have you receive any information on family planning from your midwife?

a. Yes [ ] b. [ ]

23. Were you on any of the family planning methods / contraceptive prior to your pregnancy?

a. Yes [ ] b. No [ ]

PART III : HOW TRANSPORT AFFECTS MATERNAL HEALTH CARE DELIVERY

24. What mode of transport is usually used in your community?

a.Private car [ ] b.Public transport/ trotro [ ] c.Taxi [ ] c. Motorbike [ ]

d.Bicycle [ ] e.Walk [ ]

f.Other…….....

25. How reliable is your community transport system

a. Very Good [ ]b. Good [ ] c. Fairly Good [ ] d. Average [ ] e. Poor [ ]

26. How many kilometers do you travel from your community to the nearest health center?

a. 1-5km [ ] b. 6-10km [ ] c. Above 10km [ ]

27. How many transits do you make before you reach the hospital?

Please specify ……

28. Do you receive any priority from public transport operators during emergencies?

a. Yes [ ] b. Sometimes [ ] c. Never [ ]

29. How would you rate the natur of the road in your community?

a. Good [ ] b. Average [ ] c. Poor[ ]

30. To what extent does the nature of the roads affect maternal health?

1. Very important [ ] 2. Important [ ] 3.Average [ ] 4. Not at all [ ]

31. How much do you spend on transport to access health care in the following facilities:

1. nearest facility(normal fare)……

   nearest facility (Chatered)…….

2. Regional hospital (normal fare)……..

   Regional hospital (Chatered)…….

32. Does the cost of transport affect maternal health?

a.Yes [ ] b. No [ ]

If yes, how……

PART IV: SOCIO-ECONOMIC AND SOCIO-CULTURAL FACTORS INFLUENCING MATERNAL MORTALITY

33. Do you take reproductive health decisions on your own?

a.Yes [ ] b.No [ ]

34. Are economically empowered enough to seek health care by yourself?

a. Yes [ ] b. No [ ]

35. If No, who supports you?
Specify

please.....

36.Does the economic activity you engage in affect your health seeking behaviour in any way?

a. Yes [ ] b. [ ]

37. If yes, how?

Specify

please.....

.....

38. Do you think the economic status of women affect their health seeking behaviour?

a. Yes [ ] b. No [ ]

39. Do your educational level affects your health seeking bebaviour?

a.Yes [ ] b. No[ ]

40. If yes, how?

……

……

41. Are there certain taboos in your community that affects pregnant women?

a.Yes [ ] b. No [ ]

42. If Yes, what are they?

a.……

b.……

c.……

d.……

43. Are there certain spiritual practices for pregnant women in your community?

a. Yes [ ] b. No[ ]

44. If yes what are they?

a.……

b.……

c.……

45. Does these practices and taboos affect maternal health in your community?

a.Yes [ ] b. No [ ]

46. If yes, How?

a.……

b.……

47. Do you practice force marriages in your community?

a.Yes [ ] b. No [ ]

Appendix II: Interview Guide for Focus Group Discussion

1. Do pregnant women in the community often seek care at health facilities?
2. If not, how and where do you seek care until you deliver and why?
3. Do you have health insurance?
4. Are you satisified with the staff and medication you receive receive at the health facilities?
5. Does the hospital have enough infrasructure to ensure a safe and comfortable environment for ANC and delivery?
6. Have younever been treated in a way you did not like at a health facility?
7. Does hospital you attend have ambulance?
8. If no, how do you cope in referral cases?
9. What are the modes of transport available in the community?
10. What are the challenges you face with the transport system in the community?
11. How do you cope with those challenges?
12. How does the transport system (nature of road, distance and cost) affect the health seeking behaviours of pregnant women in the community?
13. In emergency obstetric cases, what are the coping strategies?
14. Have the transport system ever contributed to any maternal mortality?
15. What economic challenges do you face and how do they affect maternal health?
16. Are there certain cultural practices and taboos that are hazardous to maternal health, if there are how do you deal with them?.

Appendix III: In-Depth Interview Guide for Midwives

1. Are you a trained midwife?
2. How many midwives does the facility have?

2. How long have you been working here?

3. Do you offer ante-natal and delivery?

4.What has been the trend for antenatal care, maternal mortality rates, supervised deliveries and other complication for the past five years years

1. How would you describe the attendance level for antenatal and delivery?
2. How equipped is the health center with regards to maternal health services (ante natal care services and delivery)
3. How accessible are these health facilities to the communities?
4. What are some of the challenges women face in accessing the health facility?
5. Do you have vehicles and telephones to facilitate referral cases
6. How important is infrastructural development in transport affect maternal health in the communities.
7. In the absence of ambulances, what type of transport means do pregnant women use in referral cases?
8. If there are ambulances" available, who provide funds for its maintenance?
9. What is the most transport management challenge you do face?
10. Are there some socio-economic challenges that women face which affect their health seeking behaviour?
11. Are there certain cultural practices and taboos in the communities that prevents the women from seeking care at the facility.
12. Do you think the MDG Goal 5 can be achieved in the Municipality by 2015?

Appendix Iv: In-Depth Interview Guide for the Municipal Health Director

1. How many health facilities are there in the municipality?
2. How equipped are they they in terms of human resource and other infrastructure to deal with obstericem emergencies?
3. What are the challenges you face with maternal health care in the municipality?
4. How do you deal with those challenges?
5. What measures do you have in place for places that are hard to reach in terms of health are accessibility?
6. How will rate the performane of the municipality with respect to achievement of the MDG 5.
7. Do you think MDG goal 5 is attainanble in the municipal area?

Appendix V: In-Depth Interview Guide for the Gprtu Head and Drivers

1. How would you rate the nature of roads in the municipality?
2. Does the nature of a road in a community determine the transport cost and how often you ply the roads?
3. Do you think rural communities have tranportation prolems and why?
4. Is there any collaboration between the GPRTU and the municipal health directorate to assisst in obstetric emergencies?
5. If yes, how effective is it?
6. Have you ever given priority to a woman in obsteric emergency?
7. Do you think the transport system system affects maternal health in the community?