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The Differences of Maternal mortality rate by Region in Ghana: Reasons for High Maternal Death in Northern Ghana

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Abstract

The Differences of Maternal Mortality Rate by Region in Ghana:
Reasons for High Maternal Death in Northern Ghana

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There exists high-level maternal death in the world. Women in developing countries especially die without cause. This has led to an increased attention by Governments and other international organizations to push for a solution to curb this phenomenon.

However, In Ghana, the rate of maternal mortality differs between the southern and the three northern regions. Whereas institutional data placed the southern region as having high maternal mortality other secondary literature obtained and evaluated with Anderson framework model contend that the predisposing factors, the enabling factors and needs factor will result to low utilization of maternal health service in the three northern region in contrast with the southern region hence high maternal mortality in the three northern region.

This dissertation, therefore, sought to explore these factors and evaluate them to ascertain their effect on maternal mortality in the country. The study finds
out that education, poverty, religion, accessibility and traditional belief system and practices are link with low utilization of maternal health service.

A vital assessment and analysis of institutional data on maternal mortality rate obtained from 1997-2008 bring to light variations between the northern and southern regions. These variation were however disputed by interviewing professionals who invalidate the use of institutional data by highlighting the lack of institutional capacity in the north to record maternal mortality data hence distortion in the data and further give evidence to suggest that predisposing, enabling and needs factors accounts for high maternal death in the northern Ghana.

**Keywords:** Maternal Mortality rate, Utilization of Health Service

**Student ID:** 2016-23748
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<tr>
<td>ANC</td>
<td>Antenatal Clinics</td>
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<td>CS</td>
<td>Cesarean Section</td>
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<td>GMHS</td>
<td>Ghana Maternal and Health Survey</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<td>NDPC</td>
<td>National Development Planning Commission</td>
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<td>NGO</td>
<td>Non Governmental Organization</td>
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<td>UNICEF</td>
<td>United Nation International Children Emergency Fund</td>
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<td>PHC</td>
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CHAPTER 1: INTRODUCTION

1.1 Research Background

Every day in 2015, (WHO) noted that, about 830 women died due to a complication of pregnancy and childbirth. They observed shockingly that 99 percent of all the maternal deaths take place in developing countries. This being the case, therefore, almost all these death mostly occurred in a low resource setting and developing countries and most could have been avoided. According to the world health organization, the risk of a woman from developing country dying from maternal related causes during her first lifetime is about 33 times higher compared to a woman living in a developed country.

To this end, there is a very wide maternal mortality gap between the rich and the underprivileged, town and rural areas among countries and within them. The WHO 2015 has “identified the primary causes of death as hemorrhage, hypertension, infections and indirect causes”.

Maternal mortality is defined as the “death of a woman while pregnant or within (42) days of termination of pregnancy irrespective of the duration and site of pregnancy from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes” (WHO,2015). In other words, maternal mortality can simply be defined as death as a result of pregnancy or childbirth or within 42 days after giving birth.

Maternal mortality has been recognized worldwide as a serious public health problem that when not checked will pose a great danger to the future generation. Throughout the years, maternal mortality continued to be a top problem in the world, especially the sub-Saharan Africa and other developing countries. “The trend in maternal mortality in the African Region has
worsened from 870 deaths per 100,000 lives birth in 1990 to 1000 deaths per
100,000 live births in 2001” (Andrews, 2004). The target was to decrease
maternal mortality ratio by 75% between 2009-2015. However, although the
international community had adopted these goals and agreed to work to
achieve them in 2000, by the end of 2015 these goals were never realized.
This is due to the fact that reducing maternal mortality involves an adequate
understanding of factors affecting utilization, emergency services and better
monitoring of health care service delivery (Gabrych et al. 2012).

Moreover, another reason for not achieving the target of 75% reduction by
2015 is the fact that maternal mortality ratio differs from region to region and
from country to country. This being the case, therefore, the risk of a woman
dying as result of pregnancy or childbirth during her lifetime is about one in
six in the poorest part of the world compared with about one in 30,000 in
northern Europe. To this therefore there live large differences between
countries this implies that while few countries have extremely high maternal
mortality ratio of 1000 or more per 100,000 live births other countries have
low below this figure. There also exist differences within countries, between
high and low income people and among people living in the rural and urban
areas (WHO, 2010).

In Ghana and other part of the world, childbirth is deemed a significant
period and a blissful one as such in the lifespan of a family. The newborn
babies are often welcome into this world with lots of celebrations, smiles and
happiness by the entire family as they recognize the newborn as gift or
blessings from God who is said to continue the family tree. However such
cheerfulness becomes bitter with shock tragic death of mother and babies.
These women often died as a result of complications which occurs during
pregnancy or existed before pregnancy but became worse during pregnancy.
The WHO, (2010) has outlined some of the complications that occur during
and after delivery. They state that the main complications that account for 80
percent of all maternal deaths includes “severe bleeding (mostly bleeding after
the child is born), infections (usually after childbirth), high blood pressure
during pregnancy and unsafe abortion (WHO, 2010)”. Therefore, many of these complications can be detected, treated, manage or prevented by utilization of maternal health care services. This means that even if there are complications utilization of MHCS would help in early detection and eventually safe delivery since health solution to manage the complications are well known (WHO, 2010). This being the case, therefore, most maternal deaths are avoidable. From the above, the question to ask is why high maternal mortality in developing countries and why do mothers die if the solution to manage the complications are available.

Ghana made some strides in its efforts to curtail or decrease maternal mortality. In 2000 maternal mortality stood at 740 per 100,000 live births. By 2010 WHO organization noted that maternal mortality has reduced to 560 per 100,000 live births in the country. Although in 2008, Rajaratnam et al. (2010) reported that Ghana’s maternal mortality rate was 409 deaths per 100,000 women. This rate was however below the west African regional average of 629 deaths per 100,000 live birth in 2008 but exceeded the global average of which stands at 251 per 100,00 live births (Rajaratnam et al. 2010).

From the above therefore it can be acknowledge that Ghana has made a significant stride in reducing maternal mortality over the years for especially between 1990 to 2008 where maternal mortality decreased by 1.4 percent per year (WHO, 2010).

Despite this progress, there is still more work to do especially in the three northern regions. In rural Ghana, approximately 60 percent of births occur in the home, away from facilities equipped to deal with complications, (Ghana Statistical Service, Ghana Health Service, 2009). Northern Ghana as compared to Southern Ghana is relatively deprived in all areas of development, be it in infrastructural development, levels of schooling and poverty. This is to say that, the northern Ghana fall behind the southern in poverty reduction and the gap is widening and inequality is worsening faster in northern Ghana than the south. This difference is also evident in the unequal provisions of health care.
The soaring rate of maternal mortality in the North, therefore, reflects inequalities in access to health care services in the country. A report by GHS, (2012) concluded that the three northern regions faced the greatest challenge in terms of healthcare delivery. The report also admonishes that there was poor geographical access to referral services and facilities and lack of basic infrastructures such as theatre for emergency services, water, energy supply and blood transfusion. This is probably one of the main reasons that had lead Ghana’s failure in achieving the target of reducing maternal mortality by 75 percent. Is as part of this reason that Karima (2013) describes, “Ghana’s health outcome and maternal health as worse than those of other countries with comparable incomes and health care spending although life expectancy is better in Ghana”.

In Ghana, Africa and other parts of the world the sudden death of a mother usually leads to emotional grief. In Ghana especially families undergo emotional and psychological grief after losing their beloved ones. In other words, a mother’s death in Ghana is more than a crisis it usually leads to social and economic breakdown for the immediate family. A mother’s loss also has an overriding impact on the financial stability of the household especially in a situation where the mother contribute greatly to the growth of the household income and as such, such loss would eventually affect the family ability to access basic life necessities such as food clothing and shelter. This situation usually increases the cycle of poverty in most homes. For instance in homes where the mother is the only source of livelihood to the family, losing the mother automatically lead to opting out from school or vocation for most children. Opting out from school or vocation also increases the chances of early marriage and early motherhood and eventually leads to higher chances of poverty. Furthermore, there is enough evidence to deduce that children who lost their mothers as a result of maternal mortality have less chance of survival than those who rather lost their father. However, both groups have higher chances of maternal death than household who never experience an adult death.
Funeral is very expensive in the Ghanaian society as such losing a loved one comes with a significant burden to the family members. In most cases, the family members spend a lot of money to mourn and bury the dead. Maternal mortality therefore usually comes with a huge burden to a family. In some cases Planning for the funeral and the burial arrangements can even ruin the whole family.

### 1.2 Rational for the Study

Following the high rate of maternal death and the quest of Government to achieve the millennium development goal, numerous policies were initiated to enhance utilization of maternal service throughout the country. These policies include the free user fee, national health insurance and the safe motherhood program. However, these policies failed to live up to the expectation expected by the government. That is to say, even though the policies brought some relief to the health sector, high maternal mortality still persists especially in the northern corridor of the country.

To this effect, other nongovernmental organizations like SEND Ghana in 2015 being alarmed by the soaring increase in maternal mortality in the three northern regions trained over 50 community volunteers to help in the fight against this phenomenon (Citi News, 2015). Although there is a slight reduction in the maternal mortality rate, seemingly these policies fall short in addressing other important reasons why some women fail to access maternal health services. This is why Mechanic (1972), argues that the “characteristics of healthcare services and resources are not enough to measure entry or non-entry to health care system. Therefore, rather than concentrating on those factors alone, one must also consider the patients health-seeking behaviors and their willingness to seek care, which is influence by the social and cultural beliefs”. So rather than concentrating on the policies we should look beyond the policies and assess social and cultural factors that inhibit utilization.
McCarthy et al. (1992) noted that one factor that can contribute to the decrease in maternal mortality rate is the issue of availability and utilization of skill maternal health care. Utilization of maternal health care service is thus an efficient approach to curtailing the risk of maternal morbidity and mortality. This being the case, therefore, this paper will seek to look at the social, cultural and other factors that impede utilization of maternal health care service in Northern Ghana that had led a huge maternal death rate gap between the northern and the southern regions despite an avalanche of policy initiatives in the health sector across the country. In other words, this research will seek to give an insight into the reasons behind high maternal mortality rate in Northern Ghana in contrast to Southern Ghana.
1.3 The Objectives of This Study Are:

- To give answers to the soaring maternal mortality in northern Ghana
- Look beyond southern Ghana and to critically examine issues that impede the use of ANC in northern Ghana
- To contribute to finding lasting solution to the reason behind maternal death in the country
- To present useful analyses with insightful information aim at strengthening maternal policy formulation in the country
CHAPTER 2: LITERATURE REVIEW

The essence here is to synthesis relevant literature under the following topics. The main aim is to gather, examine and evaluate different thoughts, reactions, views and opinions of scholars, international organizations and practitioners on issues regarding maternal mortality.

1. Ghana Health System
2. Safe motherhood policy
3. User Fees
4. National Health Insurance Scheme
5. Maternal mortality and Skill birth attendance
6. Maternal mortality and Distance
7. Maternal mortality and Education
8. Maternal mortality and Religious background
9. Maternal mortality and Poverty
10. Maternal mortality and Age
11. Maternal mortality and User Fees

2.1 Ghana’s Health Care System and Maternal Health Care Policies

The health care system in Ghana has two distinct parts. On one part is the Ministry of Health (MOH, 2004) and the other part is the Ghana Health Service (GHS, 2012). Each part has its unique responsibilities. For example while the Ministry of Health is responsible for policy formulation as well as monitoring and evaluation of the health care delivery in the country, Ghana Health Service focuses on the effective delivering of health service in the country. As reported by MOH (2010) the establishment of the health care system in the country was due to government effort to ensure reliable, accessible, equitable, responsive and efficient health care system within the
country as well as providing universal health coverage to all Ghanaians in other to ensure a healthy population (MOH, 2010).

To achieve the above objective health care system was decentralized and organized into three parts thus national, regional and district with coordination done at the center by MOH. However, Saleh, (2013 ) noted that planning and coordination of hospital have been poorly done in that whiles several districts have multiple hospitals other districts have none. To this, therefore, the distribution of hospitals, clinics, doctors and health personnel is uneven and as such favored the urban more than the rural and the three northern regions. This is the more reasons why the rural villages and other parts of the country lack skilled maternal health care and therefore dependant on traditional birth attendants as the main source of delivery (Witter et al.2007). This dependency on traditional birth attendance is also a contributing factor for high maternal death rate especially in the rural areas and the three northern regions.

The Ghana Health Service (2009) revealed that institutional maternal mortality ratio in the northern region stood at 147 per 100, 00 live births, upper east mortality ratio stood at 131 per 100,000 live birth and in the upper west ratio stood at 161 per 100,000 live birth all in 2009. These and more prompted the introduction of series of policy interventions to help curb the situation.

2.2 Safe Motherhood Programme (Policy)

Safe motherhood is a policy aim at ensuring safer pregnancy. The programme was launched in 1978 to help in promoting and maintaining the health of women and children. During this period it was revealed that maternal and child health was poor and maternal mortality rate was soaring and based on this fundamental reason this policy was initiated. Asante (2004) noted that “safe motherhood programme is the prevention of maternal and infant death and disability through providing access to basic
health care to ensure that all women have access to the information and care they need to go through pregnancy and child birth safely and confidently”. This policy was design as part of the national reproductive service delivery and later became a key element of national reproductive service delivery which is distributed through primary healthcare programe (PHC). As acknowledged in MOH (2004) report this policy became necessary because more emphasis needed to be given to maternal and child health since as they are the most vulnerable in the society. Throughout the years, therefore, the safe motherhood programme has undergone some changes but still receive much attention. Asante F.A (2004) outlines some of the major components of this policy as “antenatal care, labor and delivery care, postnatal care, family planning, prevention and management of unsafe abortion and health education”. In other words the safe motherhood program was initiated to ensure that members of a household are trained to offer basic support during pregnancy, influenced women to assess skill maternal health care, promoting accessible and adequate health care and ensuring that legal abortions are accessible to pregnant women who have complications (GHS, 2012).

2.3 User Fees Exemption Policy

In 1971, the government of Ghana introduced fees for health care services. This was necessitated not to improve income generation in the health service but to curtail unnecessary use of health care service in the country (MHO, 2004). As years go by new fees were subsequently implemented nationwide believe to have been push by international organizations and donors (Russell et al. 1999).

In 1992 “cash and carry” system of health delivery was introduced and this allows all health institutions to recover the full cost of drugs. This means that
individuals are expected to fund for their full cost of health and make payment before health care is rendered. This practice however eventually resulted in a decreased pattern of health care utilization in the country. In addition, Waddigton et al. (1989) in their study of the impact of the user charges in the Volta region noted that the substantially increased user fees in 1989 resulted in decrease in utilization in both the urban and rural clinics. Despite the rural areas having lower fees they rather experienced the larger decrease.

In September 2003, the government introduced exemption fees for delivery and this was meant to cater for four poorest regions of the country that is the three northern region and central region. In 2004 it was extended to the remaining six regions of the country (GHS, 2012).

However, Nyonater and Kuntzin (1999) concede that the official exemptions of the user fees were largely not having any impact on the people but rather benefitting health workers mainly. But analysis of the user fee done by Delali (2004) in her study disagree and insisted that although the introduction of user fees had improved public facilities other managers find it difficult in using it to improve quality of care. Nyonator and Kuntzin (1999) again argue that the user fees have provided some grounds for the continuity of health care provision but on the whole however it has prevented part of the population from using it.

This main aim of the free user fee is to reduce financial barriers to health delivery and to help reduce maternal mortality (MOH, 2012)

2.4 National Health Insurance Scheme (Policy)

Due to the problems associated with the cash and carry system and subsequently the free exemption fee policy, the national health insurance was initiated. The main aim is to “deliver accessible, affordable and good quality healthcare to all Ghanaians especially the poor and most vulnerable in
society” (MOH, 2004). The National Health Insurance Scheme is administered by the National Health Insurance Authority.

According to the Ministry of Health the National Health Insurance covers 95% of all health cost for an estimated 40% of the population. Pregnant women, children under age of 18 years and the elderly are registered unto the membership free of charge. Pregnant women are exempted from annual membership renewal fees, free child birth attendance and free prenatal visits to health facilities (NHIS, 2013).

2.5 Causes of Maternal Mortality/Barriers To Utilization of Health Care

2.5.1 Maternal Mortality and Skilled Birth Attendance

Having a skill birth attendance at the health center is perhaps one of the most important factors in making motherhood safer. UNICEF (2015) revealed that almost half of women in developing countries give birth without the aid of skilled birth attendance. Moreover “Increased availability of skilled birth attendant; a health worker with midwifery skills present at childbirth supported by transport in case emergency referral is required is perhaps the most critical intervention for making motherhood safer” .To add to the above statement Graham et al.(2001) opined that for a skilled maternal attendance to be highly effective an enabling environment is a prerequisite factor .This enabling environment should include drugs, medical supplies and a referral system with doctors providing emergency obstetric care (Graham et al. 2001).Therefore, the ability of a woman to access skilled maternal health care is decisive to preventing maternal death. Utilization of maternal service is,
therefore, an important factor in decreasing high rate of mortality in developing countries.

Women’s ability access these services are however crucial in curtailing maternal death. In their review paper, Mekonnen and Mekonnen (2003) argue that utilization is frequently influenced by the economic, public and intellectual background of the pregnant woman. Other reasons identified in explaining soaring level of maternal mortality include a high disease burden during pregnancy, major delays in seeking care for pregnant woman and Dollimore et al. (1993) also revealed that the lack of adequate health facilities to handle serious obstetric causes in hospitals is also a reason for high incidence mortality.

On the basis thereof it is quite clear that pregnancy is not a disease and pregnancy-related morbidity and mortality are preventable. This line of argument is also furthered by Stewart et al. (1999) who noted that most maternal deaths have been medically preventable for decades because treatments to avoid such deaths have been well known since the 1950’s. On the contrary “Deaths from common medical causes of maternal mortality such as hemorrhage, toxemia, infection, obstructed labor and unsafe abortion can be prevented if properly and effectively managed” (Elo,1992).

So the question that still lingers on one’s mind is why do we continuously have a high rate of maternal death if there is a treatment to avoid such death since 1950’s? The answer is that large percentages of pregnant women do not get access to maternal services. As Rogers (1973) revealed, rural areas are characterized by shortages of personnel and physical facilities and by the inability of the people to pay for the costs of care, therefore access to health care in these areas may be impeded by lack of sufficient and accessible number of primary care, physicians and other special providers (Rogers,1973).
Closely related to the above is the argument that, the measurement of access in terms of costs, availability of resources, and duration of appointments, waiting times and delays and interruptions in receiving the necessary services does not tell us whether those who want access to the system actually get it. In the light of the foregoing therefore it is clear that maternal mortality can be curtailed to the barest minimum with access to skilled maternal health care. However, their ability to access these services are somewhat curtailed or restricted by other factors. Hence woman’s ability to access skilled maternal health care is decisive and crucial in curtailing maternal death.

To adequately understand and appreciate menace of this phenomenon this paper delves into literature that treats subject such as education, poverty, religiosity, age, distance to hospital that could be closely related or undermining women’s ability to access and utilize maternal services or skilled maternal health care. Understanding of these characteristics will help in understanding the reasons for high maternal mortality rate especially in developing countries.

2.5.2 Maternal Mortality and Distance

Distance has been recognized as a determinant of utilization, especially in rural areas (Gabrysch and Campbell, 2009). In developing countries, the provision of health facilities are mostly cited in cities and district capitals that are often far from the communities. Even in most cases, health facilities are sometimes inadequate or nonexistence because of lack of funding. Descriptive statistics from the 2008 Ghana demographic and health survey (GDHS) support this assertion, 33% of rural mothers cite distance as the main factor for not seeking maternal service more than any other reason (Ghana Statistical Service, 2009).
For rural women, proximity to health services is important in determining health care use. Greater distance to the nearest health facility, lower the likelihood of health care use (Raghupathy, 2006). Travel time encompasses not only distance but also the mode and difficulty of travel. Closely related to this, there also exists the issue of transportation cost as high transportation to hospital and health centers are an impediment to the utilization of maternal services.

In most developing countries, health centers are located in district capitals and cities and usually closer to the people living in those areas as compared to those living in rural areas. The distance or the immediacy to the clinic or hospital plays a crucial role in women accessing health facilities. Tanser et al. (2006) in their study calculated travel times to health facilities and estimated their effect on utilization in Kwazulu-Natal, South Africa and concluded that higher travel time has significant negative effect on utilization.

In the case of Ghana and other developing countries, those in the southern part have higher visitation to health centre’s as compare to those in the northern part of the country. Pregnant mothers residing in the southern region of Ghana visit health center more than those in the three northern regions of Ghana (Addai, 2000). This situation is usually due to lack of health centers within a particular area and more importantly the inequalities with regard to putting health centers across the country. Alegana et al. (2012) in their study of the models that effect travel time on seeking treatment for fever among children in Namibia. They find out that the probability of facility attendance remains relatively high for up to 3 hours of travel time but decrease steadily thereafter.

2.5.3 Maternal Mortality and Education

The relationship between women’s education and maternal mortality has been somewhat well established. This is to say, women who have had some years in class room utilize maternal health care service more than their illiterate counterparts. Graham et al. (2004), using data from 11 demographic and
health surveys showed that there exists a strong association between maternal education and maternal mortality.

In their study, Chen et al. (1974) noted that “The level of education (number of years spent in school) of pregnant woman positively correlates with health facility utilization”. Moreover, a cross country analysis conducted by Shen and Wiliamson (1999) has revealed that women’s level of education was a strong predictor of maternal mortality level, “together with other two women status variable (age at first marriage and reproductive autonomy)”. Reasoning from this fact, therefore, woman’s education can enhanced the independence of women and automatically allows them to have confidence in making the best choice decision.

Therefore government from developing countries needs to incorporate education as part of maternal health policies. This is because health policy that tends to focus on women’s education automatically add knowledge to why women must use ANC and this infect could increase utilization. (Elo, 1992). Studies also have disclosed that women education adds to their ability to cater for themselves upgrade their status better and improve their social and financial status. (Raghupathy,2006). This feature of an educated woman with evaluated status, therefore, set her apart from her uneducated counterparts and is likely to make intelligent decisions about her family (Chuks et al.2010).

Moreover, a study done by Raghupathy (2006) has identified three important results of maternal education(a) “maternal education change the traditional balance of family relationships that shift the focus of power away from the kin group and allows mothers to assume greater responsibility for their own health as well as that of their children.(b) increased self awareness and acceptance of modern medical practice and (c) a greater capability in manipulating the real world and securing the attention of doctors and nurses”..

On the basis of the foregoing, Caldwell (1979) also acknowledged that education improves the autonomy of women with the ability to take drastic measures related to her health and her unborn. Further education instills the
ability of mothers to ask the necessary questions in order to improve her health at the health centre and view the health clinics or hospital as friendlier than their uneducated colleagues.

However it is predictable that among educated women there may be differences with regards to how much autonomy they possess within their surroundings, their intelligence regarding health and their health seeking behavior. Since level of education may also differ as a result, number of years of schooling is likely to be positively correlated with health seeking behavior and the use of health care (Navaneetham, 2001).

However, a study conducted by Raghupathy,(1996) indicated that the level of education did not matter in Bangladesh and Thailand with regards to the use of ANC. To this Therefore the impact of education on the utilization of maternal and child health services depends on the culture and belief system of the people (Dharmalingnam et al.1999).

Notwithstanding the above therefore although education enhances better health seeking behavior as a result of providing information, accessibility and affordability are quiet important in the attempt to reduce maternal mortality (Ruizji et al.2015).

All these literature reviews suggest that education enhances the use of ANC and that illiteracy among women accounts for or impede utilization of ANC or health seeking behavior.

2.5.4 Maternal Mortality and Religious Background

Many scholars have reiterated the importance of religion in decision making. Numerous studies on women’s health care utilization suggested that the use ANC is lower among Muslim women than other religions. For example,
Kamal (2009) found out that Indians were more likely to access full antenatal care compared to their Muslims who are less likely to use ANC. Further on the above Singh PK et al. (2012) revealed that Muslim women normally exert less autonomy to interrelate with males outside their direct family members. This is because Muslim women are obligated to cover and hide their bodies and the physical separation of males and females may affect adolescent’s women health care behavior and therefore lower autonomy (Singh PK et al.2012). To this reasons, Muslim women are more likely to favor not to go to hospitals or utilize maternal health care services and to seek for antenatal checkups and delivery support because of the presence of a male doctor which is frequently the case in many Government hospitals (Navaneetham et al.2002).

Religion can, therefore, affect people’s attitude about what is right and wrong and what is acceptable and not acceptable and determine the direction people to pursue in their everyday endeavor. In Ghana, especially parts of Northern Ghana utilization of maternal health service are somewhat influence by women’s religion. This is usually due to pre dominant traditional belief system and practice in three northern regions. A study conducted by Addai (2000) found out that female Catholics have higher utilization of maternal healthcare service than those who practice Islam or Muslims and the traditional believers. Accordingly, this practice is due to the spiritual understanding and interpretations are known to the person based on the religious affiliation about maternal health.

2.5.5 Maternal Mortality and Poverty

The United Nation briefing on the condition of the millennium development goal in 2015 concluded that conceded “despite many successes, the poorest and most vulnerable people are left behind”. Nonetheless, it is, therefore, necessary to look at the connection and to what extent poverty has an effect on maternal mortality. (Graham et al.2004). Poverty is a key factor in shaping
affordability, accessibility and utilization health care. Ujah (2008) asserted that women may seek for pre natal care but poverty makes it complicated to purchase food needed to live in better health condition. Maternal mortality, therefore, occurs as a result of conditions associated with poverty and low socio-economic status of woman. Poverty thus prevents a woman from utilizing opportunities available in her environment including utilization of motherly health services. Evidence suggests that low-income gabs continue to be a predicament for poor health status as they as unreachable with valuable health interventions.

However, women who are well off are likely to make informed decision on use of motherly health care than their counterparts. Gage et al. (2006) argue the outcome of their autonomy in this situation is owed to their financial and economic status within their surroundings.

In Ghana, there exists some advancement by the government to reduce poverty since 1990. Between 1990-1999, poverty in Ghana decline from 37% to 27%. However, scores of poverty still persist in the three Northern region of the country. For instance 8 out of 10 persons in the three northern regions are poor.

Poverty reduction nonetheless has been uneven across the country. According to the world bank report, (2011) prevalence of poverty declined drastically from 47.9% in 1992 to 19.8% in 2006 in the south but the north experienced small changes compared to the south where poverty declined from 68% to 62.7%. The poor usually live in unsafe and overcrowded housing and more likely to be exposed to pollution and other health risks. Access to health care services is inadequate in rural and deprived areas and the poor suffer from high cost of accessing health care services.

Poverty is, therefore, an important factor which frequently renders health care unaffordable and accessible to the poor. However, Chuks et al.(2009) disagree and asserted that “A woman dying during one of the most natural processes, despite the advent of technologies, is not an outcome of poverty but the absence of priority ”. On the bases of this assertion thereof poverty alone
should not be a factor for the cause of high maternal mortality prevalence in developing countries.

2.5.6 Maternal Mortality and Age

Many literatures have expressed different views with regards to the age of a woman at the time of delivery and its relationship to utilization of maternal health care services. For instance, Chowdoby (1980) has revealed that in Bangladesh maternal mortality accounts for 5% of all the deaths of 15-18 years old and 43% of all deaths to 20-29 years old in Bangladesh. Further on this, Royston (1997) reported that more than half of developing countries have maternal mortality as a second or first cause of death of women between the ages of 25 to 35 years. In addition, the risk related to giving birth was among the 10 causes of death among women between the ages of 15 to 44 years in nearly all developing countries.

However, Magadi et al. (2007) argued that there exist no clear evidence of the relationship between the age of the mother and her approach to utilization of maternal health care. But when a women is over confident as a reason of given birth to too many children in the past is likely to affect her attitude to utilization and may delay and extend childbirth and could lead to death if the decision is to deliver herself without medical assistance (Abdullai, 2015). In contrast, Khan et al. (1986) contend that the risk of dying during pregnancy is hugely minimized among women at a safer maternal age range of 20 to 34 years who have fewer children.

Other literatures, for example Reynolds et al. (2006) emphasis that younger mothers are more likely to utilize maternal health care services especially during their first delivery as it is their first experience and therefore require extra attention by the woman. Other studies also suggest that “higher parity women were less likely to use skilled professional assistance at delivery due to the fact that they consider themselves knowledgeable and more experienced from previous birth” (Mekonnen et al. 2002).
Kenya Demographic and Health Survey 1993 and 1998 indicate that women aged 35 years and older where much more likely to deliver at home. In addition, the study also revealed that women who obtain antenatal care at from a clinic where more likely to deliver at a health facility than women who did not access health care service. Further, the study also contends that older women and women who previously had many children were more likely not to utilize maternal services. However, younger women with first birth were more likely to utilize maternal health care services.

In Nepal, a study by Niraula (1994) discovered that, the age of the mother also impede utilization of maternal health care services. Accordingly women of middle age 25-34 years were more likely to utilize the service than the younger and older ones. The reason for this is due to restriction and lack of autonomy for younger women. Older women seem more traditional and tend to distrust modern medicine (Niraula, 1994).

Also in Bangladesh, a study by Khan et al. (1986) found out that pregnancies were more dangerous in women further than 35 years of age compared to younger women. These point out that pregnancy are less safe as women grow older. Stewart et al. (1999) however found that maternal age is significantly associated with prenatal care in Kenya.

### 2.5.7 Maternal Mortality and User Fees

User fee can simply be defined as payment of service made directly by patients in response to service received at the health center. In the mid 1980, many developing countries were encouraged to introduce user fees as a response to declining health budgets. According to Yates (2009) user fees serve as a cost recovery to public health expenditure as well as increasing efficiency and fairness. But over time user fees have been rigorously criticized as an impediment to utilization, especially in low developing countries. User fees, especially in developing countries, were seen to have an effect on utilization of maternal health care services.
To that effect, some scholars believe that the abolition of health care user fee can have an immediate and important impact on utilization and as a consequence curtail maternal mortality. For instance, James et al. (2005) revealed that an abolition of user fee could increase utilization and could have an immediate impact on child mortality, preventing an estimated 233,000 death annually in 20 African countries. In addition, the abolition of the user fee can be seen to promote equality in the utilization of maternal health care services between the rich and the poor.

However, Wilkinson et al. (2001) discovered that an abolition of user fees in south Africa improved access and utilization after abolition of other charges but other provinces experience less utilization by women after the charges were abolish. He, therefore, argued that the abolishing of the charges may decrease the time patients spent with doctors and other health workers and as such discouraging women from utilizing although it’s free (Wilkinson et al.2001)

In Ghana, a study by Pentfold et al. (2007) to assess the impact of a delivery exemption fee discovered that, fee exemption for delivery care including caesareans had a small impact on access to care, with an 11.9% increase in Central Region and 5% increase in the Volta Region. He further observed that after the exemption policy in Ghana, delivering in health facility increase significantly in Central and Volta Regions (Pentfold et al.2007).

In contrast to the above view, other literatures also insisted that the abolishing of user fees on maternal healthcare services would offer financial protection to poor African household hence enhance utilization of services will be enhanced as user fee also add to other massive barriers to health care utilization such as distance.

Moreover, in Bolivia, a social insurance scheme providing free care for pregnant women and under fives has lead to increased utilization especially by the poor (Dmytraczenko et al.1998). Closely related to this, Abdul et al.(2004) found out that user fee exemption increased health service utilization, improved treatment seeking behavior and promoted early diagnosis in Sudan.
Other literatures had a contrasting view on user fees. For instance Gilson (1997) disagreed that most developing countries cannot do without user fees as they rely on user fees to fund part of their health care. He revealed in a survey of 16 African countries that user fees contributed an average of 5% of regular health expenditure (Gilson, 1997).

However, contrary to this view, other scholars on this topic insisted that the abolition of user fees or the exemption of some charges may have significant impact on the health system and as a result Government may have to search for appropriate revenue collection to pay for free service delivery, respond to changes resulted in high utilization and equally ensure quality of service is provided.

But Campbell et al.(2004) disagree with this assertion and point out that free or exemption fees may result in lack of health care professionalism. They further argued that there exists no benefit for the provision of free health care service if there are no qualified healths professional to provide care or in situations where people may queue all day only to be provided with an inefficient medical care which does not show respect, privacy and most especially patient confidentiality. “Such are the realities in many low income countries, particularly in rural and remote areas, where health workers are drastically in short supply, and often over burdened and/or under-resourced” (Campbell et al.2004)

Moreover, WHO (2007) has portrayed “ User fees as one of the regressive forms of health financing and a barrier to reducing maternal and child health”. This is the case because one of the main reasons why patients do not receive the care needed for their recovery is that they cannot afford the medical care at the time they need it.

A study by El-Khoury et al. (2012) on equity impact on user fee exemption for cesarean operation in Mali discovered that wealthier women make up a large number of those taking the opportunity for the free caesareans after five years of implementation of exemption of user fee comparative to the poor women. On the bases of this thereof, they concluded that while fee exemptions remove important financial barriers to many in terms of utilization
it may not necessarily ensure equal access among groups. This is as a result of other barriers such as lack of knowledge on the abolition or exemption of fees, poverty, distance to health facilities and religious or traditional beliefs and practices.

In contrast to this argument, other literatures also raise the question on efficiency and effectiveness of service delivery after abolition of these charges. For example, there exist situations in developing countries such as Zambia and Nepal to suggest that the exemption also brought along workload due to increase in utilization of service. On the other hand it has also affected motivation due to increased work overload and as a result leads to decreased in efficiency and effectiveness in service delivery. In addition, Galandanci et al. (2007) in a study on maternal health in northern Nigeria discovered that user fees exemption for maternal care has resulted in increased in the utilization but there was no increase in health workers to deal with the increased workload. This practice has, however, lead to overburden staffs and unmotivated staff who otherwise administer poor health care that has also lead to underutilization for reasons that quality of service also serves as a barrier to utilization (Galadanci, 2007). Reasoning from this it can be said that low quality of service offered in antenatal clinics contributes to low utilization of service.

In Ghana, especially in the three Northern regions, user fees were an impediment to utilization and accessing maternal health care services. The introduction of the exemption of user fees has significantly enhanced utilization. On the other hand, it has also resulted to decrease in efficiency and effectiveness of healthcare delivery. This is because Government failure to provide enough finance to cover the cost of health cares delivery. In view of this many health care providers have gone back to the old system of charging for service delivered. That is why Witter et al. (2007) asserted that positive maternal health outcomes are dependent on both affordability as well as reliability.

Reasoning from the above scholarly arguments, it can be concluded that exemption user fees will lessen the burden and improves utilization. However,
it can also result in underutilization since most developing nations do not have the means necessary financing power to fund health institutions and also if there are no increases in the work force to manage increase utilization. This being the case, therefore, Government needs to find other forms of funding to provide adequate and quality health care since inferior service may also be a determinant to low utilization.
2.6 Research Questions

RQ1. What is the reasons for high maternal mortality rate in the three Northern Ghana despite a decline in southern Ghana?

RQ2. What barriers hinder utilization of maternal health care services in Ghana?

RQ3. What conclusions can be drawn from the soaring maternal mortality rate in the three Northern regions?
CHAPTER 3: METHODOLOGY AND CONCEPTUAL FRAMEWORK

3.1 Sample Selection/Study Setting

I observed that many studies and report related to maternal mortality focused more on comparing the developed countries to the developing countries. However, in order to explore the reasons and impact of this phenomenon, an understanding of nonmedical factors that impede utilization is necessary. In Ghana, although some studies have assessed the reasons behind maternal mortality, they usually do so without looking at the nitty-gritty of the phenomenon with regards to the northern setting.

Ghana has ten (10) main regions. These regions are then divided into the southern part and the northern part. The southern part has seven regions namely Greater Accra Region, Western Region, Central Region, Eastern Region, Volta Region, Brong Ahafo Region, and Ashanti Region. The Northern part has three (3) main regions namely Northern region, Upper East Region, and the Upper West Region.

This study, therefore, seeks to compare the Northern and Southern part of the country to ascertain the reasons for soaring maternal mortality rate in the three northern regions. The three Northern regions are the poorest although other parts of the country are also considered poor. The North comprises of the poorest geographical area with economic growth difficult to revive. These three regions have similar resemblances as almost 56 percent of these populations engage in agriculture.

The Upper East is the second smallest of the ten (10) administrative regions in Ghana, occupying a total of 8,842 square kilometers or 2.7 percent of the total land area of Ghana. The population in 2010 is 1,046,545.
The Upper West region covers a geographical area of approximately 18.478 square kilometers. This constitutes about 12.7 percent of the total land area of Ghana. The total population of the region is 702,110.

The Northern Region, on the other hand, occupies an area of about 70,383 square kilometers is the largest region in Ghana in terms of land size. Its population in 2010 is 2,479,461. These three regions together make up 42 percent of Ghana’s land mass and are inhabited by 20 major ethnic nationalities who speak 16 different languages. Northern Ghana, therefore, is somewhat deprived in all areas of development in contrast to southern Ghana.

3.2 Data/Case Analysis

The study will mainly rely deeply on secondary information. In other words, it will mainly be literature base. The main aim of this research is to identify the social and cultural factors affecting utilization, show and analyze evidence around maternal health and maternal services in Ghana. The research will rely on data from the Ghana Living Standard Survey (GLSS). A comprehensive national household survey conducted by the Ghana Statistical Service. Ghana Mortality and Health Survey (GMHS)

Data will also be drawn from the Ghana Demographic and Health Survey (GDHS) a national representative survey which provides information on fertility, family planning, infant and child mortality, maternal, child health and nutrition. These documents are useful in this analysis because they cover a wide area of the country. To this, its makes it possible to assess and analyze data and evaluates maternal death and maternal health care utilization from different years and more especially between the three Northern region and the Southern regions. The reason for using this data is that most studies on health rely mainly on this data and that further enhances the credibility of the data.
In addition, the study will also rely on literature that investigate other topics such as education, social and economic status of women, poverty reduction and women’s empowerment as these factors are likely to impede utilization of maternal health services. Other sources include journals, publications and reports of government institutions such as the ministry of health, Ghana health Service. Ghana Education Service, Ghana Statistical Service, NGO’s and civic society organization and academic books and articles to enhance in-depth understanding of issues surrounding maternal mortality in Ghana.

Again, interviews will be conducted to ascertain the opinions of health professionals in gathering evidence to the soaring rate of maternal mortality in the country. Three health professionals will be interviewed to provide accurate information on maternal mortality. This is done to help complement the secondary data gathered and more importantly to provide deeper and better understanding of data captured by reports and journals.

Moreover, this method will also enable the health professionals to share their views and opinions about the soaring rate of maternal mortality in the country. Furthermore, it will also allow professionals to share confidential information regarding their day to day work, recall incidence, happenings and their experiences which could be difficult to get through reports and other sources.

Criteria for the interview will be base on the three delay model and other relevant questions.

### 3.3 Conceptual Framework/Model Explanations

Numerous studies have looked at the barriers that affect health care utilization in other to aid research into those areas. Such prominent studies that examine barriers to health care utilization among pregnant women are the delay model and Anderson framework of health care utilization. These theories clearly
identified factors that impede utilization. The study will rely on these frameworks to explain the difference in mortality rate between the three Northern regions and in contrast to the Southern region despite having the same policies throughout the country. The essence of using these theories is to put the study in a perspective that can be easily understood.

3.3.1 The Three Delay Model

Serene Thaddeus and Deborah Maine (1994) in their study discovered that delay emerge as an important factor contributing to maternal mortality. They identified three phases of delay. Phase 1 delay, phase 2 delays and phase 3 delays. In addition to this Peter and Liasu (2007) revealed that these three delays were the causes of high maternal mortality ratio because they shape the decision of an individual seek care or not.

- **Phase 1 Delay; Deciding to Seek Care**

  According to Thaddeus and Maine (1994) delay occurs as a result of the woman and her family member’s inability to recognize key complications during pregnancy or delivery or do not recognize or understand the significance of seeking care when complications develop. Therefore delay in recognizing a severe condition by the pregnant woman or a family member will decrease the chances that appropriate care will be administered timely and effective manner (Thaddeus and Maine 1994).

  Factors that can delay in making a decision or deciding to seek care or not by the individual the family or both include the status of the woman, previous experience or the quality of health care being provided at the health care facility.
**Phase 2 Delay; Delay in Reaching Health Care Facility**

This type of delay is mainly due to bad roads, distance or travel time, poverty or cost that can impede utilization of health care. For instance in situations where hospitals or clinics are located far away from the pregnant woman, then the mode of transport and the quality of road then becomes a significant factor or impediment to utilization and will consequently determine how soon care will be administered and overall determine the survival of both child and mother (Saundari, 1992).

**Phase 3 Delay; Quality of Care**

Thaddeus and Maine (1994) discovered that there is another type of delay which occurs at the health care facility itself. This is often due to lack of trained personnel or understaffing, equipment at a health care facility or lack of appropriate medicines. According to Thaddeus and Maine (1994) in most cases although pregnant women receive treatment at the health care facilities such treatment arrived with some delay or not on timely manner. This phenomenon is usually due to lack of skilled maternal health care staff, lack of blood and other valuable drugs at the health centre.

In conclusions, therefore, the question is what happens when a pregnant woman overcome the first and second delay and reached the hospital or health facility. Do they get the necessary treatment? In Ghana and most part of developing countries, the answer is obvious no. Because necessary treatment here implies effective treatment delivered on timely manner which is not always the case in most developing countries.
Figure 1 Three Delay Model of Health Care Utilization

Factors Affecting Utilization and Outcomes

Phases of Delay

Socio Economic/Cultural Factors

Phase: I
Deciding To Seek Care

Accessibility of Facility

Phase: II
Identifying and Reaching Medical Facility

Quality of Care

Phase: III
Receiving Adequate and Appropriate Treatment

Source: Reference from Sareen Thaddeus and Deborah Maine (1994)
3.3.2 Anderson Framework Model

Figure 2. Anderson Framework Model (Behavioral Model) on Health Care Utilization

Reference; From Andersen’s and Newman Framework of Health Service Utilization

The Anderson framework model or the Behavioral model of health care utilization was initially developed in the late 1960s to understand why families use health service and to measure and define equality in access to health care (Anderson, 1968).
Subsequently, in the last few decades, this model was modified by Anderson and his colleagues. According to Anderson (1995), this model has gone through four developmental stages.

Phase one is the beginning or the initial behavioral model of the 1960s. This phase implies that people utilize health care service as a result of their predisposition to use the service. This predisposition, therefore, is the factors that impede or enable individuals to utilize health care services (Anderson, 1968).

Phase two of this model was developed in the 1970s by Aday and other collaborators. In this phase they included health care system as a determinant of utilization as they study the importance of national health care policy (Aday and Anderson, 1974).

In the year 1980s through the 1990s, a third phase of this model was added to include perceived health status and evaluated health status as outcomes of health services. This phase put emphasis on the importance of external environment and personal health practice in understanding utilization of health service (Anderson et al. 1994).

Anderson framework model has therefore undergone several modifications and has maintained that utilization of health care service is determined by three factors. Predisposing factors, enabling factors and needs factors. In other words, these factors either influence or impede utilization of health service.

- **Predisposing Factors**

Include demographic characteristics such as age, gender and level of educations which exist before the patient get a disease. Some characteristics such as education, social class, race, ethnicity and employment status are also closely related to enabling factors in some cases but they are placed under the predisposing factors because they seem to precede the enabling factors.
• **Enabling Factors**

Refers to resources that help people to use health care services. In other words, it can also be resources that impede the use of health care. This factor may include the type of insurance coverage available and resources such as roads and economic status of the woman.

• **Needs Factors**

According to Wolinsky, 1988 view needs factor as people’s perception of needs for health service. “How people view their own general health and functional state, as well as how they experience symptoms of illness, pains and worries about their health and whether or not they judge their problems to be of sufficient importance and magnitude to seek professional help” (Anderson, 1995). However evaluated needs “represent professional judgment about people’s health status and their need for medical care” (Anderson, 1995).

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<table>
<thead>
<tr>
<th>Education</th>
<th>Utilization of Maternal Health Care Services</th>
<th>MATERNAL MORTALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poverty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility of Care</td>
<td></td>
<td></td>
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<tr>
<td>Cultural Perception</td>
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</tbody>
</table>

*Figure 3 Authors Framework (2017)*
CHAPTER 4: DATA ANALYSIS

As mentioned in chapter four, this study seeks to analyze the soaring rate of maternal mortality within the country especially the northern part of the country. Two different frameworks had been discussed which this study will focus on to explore the answers to the high level of mortality in the country.

These models are the delay model and Anderson framework model. Interviews will be conducted and questions generated base on the three delay model whereas secondary data gathered in line with Anderson framework model to provide answers to high rate of the mortality in the country.

In other words, the first part of this chapter will carefully examine the socio economic or cultural factors and establishes how the predisposing factors, enabling factors and needs factors in Anderson framework model influence utilization of health care services using secondary data from the Ghana demographic and health Survey. Other supporting evidence would also be provided by secondary literature so as to provide adequate insight into the study. Furthermore, interviews will be conducted to validate some of the data analyzed in other to give a fair insight into the impending phenomenon bedeviling the three Northern regions.
4.1 How Anderson Framework Model Affecting Utilization in Northern Ghana

Andersen model dealt extensively with three different factors that are said to be the cause of uneven or unequal distribution of health care services. In other words, according to Anderson “an individual’s access to and use of health service is considered to be a function of three main characteristics” (Andersen et al. 1995). Here, therefore, this research will evaluate or examine each of these three broad base factors separately to show the extent each has influence to the recurring high maternal mortality in the northern Ghana.

4.1.1 How Predisposing Factors Affecting Utilization in Northern Ghana

Predisposing factors include education, religion or traditional belief system of a particular group and age of the woman. In this context however, I examine and evaluate how education and religion either enhance or curtail the woman capability to access maternal health care in Northern Ghana and in contrast to Southern Ghana.

Education

The importance of education in decision making has been acknowledged by scholars. According to the Ghana demographic and health survey (2008), education enables individuals to make an informed decision that ultimately impacts positively on their health and overall well being. Moreover, as women attain higher education, the more informed they turn to be about the use of health facilities, family planning methods and the health of their children (GDHS, 2014).
Following the importance of education on one's decision to use or not to utilize maternal health service, I examine the educational attainment of all the regions in Ghana in order to establish the relationships between the southern and northern Ghana.

Table 1 Percentage of Regional Population with No Education

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Western</td>
<td>43.6</td>
<td>17.8</td>
<td>34.1</td>
<td>11.8</td>
</tr>
<tr>
<td>Central</td>
<td>47.6</td>
<td>18.5</td>
<td>35.6</td>
<td>13.4</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>21.9</td>
<td>9.8</td>
<td>19.4</td>
<td>9.4</td>
</tr>
<tr>
<td>Volta</td>
<td>38.0</td>
<td>20.8</td>
<td>34.3</td>
<td>19.3</td>
</tr>
<tr>
<td>Eastern</td>
<td>27.6</td>
<td>16.9</td>
<td>27.1</td>
<td>12.1</td>
</tr>
<tr>
<td>Ashanti</td>
<td>30.0</td>
<td>17.4</td>
<td>33.0</td>
<td>13.2</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>42.8</td>
<td>21.7</td>
<td>30.8</td>
<td>20.4</td>
</tr>
<tr>
<td>Northern</td>
<td>81.7</td>
<td>62</td>
<td>75.9</td>
<td>63.8</td>
</tr>
<tr>
<td>Upper East</td>
<td>81.7</td>
<td>50.9</td>
<td>66.5</td>
<td>57.4</td>
</tr>
<tr>
<td>Upper West</td>
<td>81.7</td>
<td>56.9</td>
<td>67.9</td>
<td>59</td>
</tr>
<tr>
<td>National</td>
<td>39.7</td>
<td>26.2</td>
<td>38.3</td>
<td>20.6</td>
</tr>
</tbody>
</table>


Clearly, table 1 shows that the three Northern regions throughout the years have the highest population with no education in contrast to the southern regions.
Figure 4. No Educational Distribution Across the 10 Regions

Source: Adopted from GDHS, 2008 Survey.

Figure 4 on the other hand has shown unbelievable educational differences between the northern and southern regions of the country. It is quite astonishing to note that females in the three northern regions (northern region, upper east and upper west regions) are seriously underprivileged in terms of education. Furthermore, the survey has disclosed that more than half two-thirds of women in these three regions have never been to school in contrast with less than one-fifth in the Greater Accra and Ashanti regions. Again it is quiet alarming that the three northern regions have the highest percentage of women with no education with the northern region having 67.5% followed by the upper east region with 55% and the upper west region with 54%.

Closely related to education is the exposure to mass media. Exposure to mass media improves peoples perception, views and behavior and thereby increasing their awareness and knowledge to what is going on in their environment (GMHS, 2007).
Table 2 Percentage of Women Age 15-49 who are Expose to Specific Media at Least Once a Week

<table>
<thead>
<tr>
<th>Region</th>
<th>Newspapers</th>
<th>Television</th>
<th>Radio</th>
<th>All three media</th>
<th>No media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western</td>
<td>13.5</td>
<td>63.8</td>
<td>90.1</td>
<td>11.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Central</td>
<td>10.7</td>
<td>51.3</td>
<td>80.5</td>
<td>8.0</td>
<td>13.5</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>20.3</td>
<td>71.9</td>
<td>80.3</td>
<td>15.9</td>
<td>9.3</td>
</tr>
<tr>
<td>Volta</td>
<td>11.3</td>
<td>35.0</td>
<td>68.1</td>
<td>6.4</td>
<td>24.5</td>
</tr>
<tr>
<td>Eastern</td>
<td>13.4</td>
<td>44.2</td>
<td>77.2</td>
<td>8.6</td>
<td>18.0</td>
</tr>
<tr>
<td>Ashanti</td>
<td>8.7</td>
<td>55.7</td>
<td>80.7</td>
<td>6.8</td>
<td>12.8</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>8.5</td>
<td>32.9</td>
<td>74.6</td>
<td>5.1</td>
<td>20.5</td>
</tr>
<tr>
<td>Northern</td>
<td>11.1</td>
<td>31.5</td>
<td>47.3</td>
<td>6.7</td>
<td>46.7</td>
</tr>
<tr>
<td>Upper East</td>
<td>3.8</td>
<td>19.0</td>
<td>52.1</td>
<td>3.6</td>
<td>45.3</td>
</tr>
<tr>
<td>Upper West</td>
<td>4.9</td>
<td>18.1</td>
<td>53.5</td>
<td>3.8</td>
<td>43.5</td>
</tr>
</tbody>
</table>

Source: Adopted from GMHS, 2007
The above tables and figures clearly show the variation between the southern and northern regions. Whereas the southern part has improved educational background and information the northern regions throughout the years discuss above have a high level of uneducated women. This, therefore, implies that women in the southern part are well informed due to a high level of education and hence high exposure to different media. On the other hand, the northern regions remain uninformed and more so not aware of several health care policies and the system due to their lack of knowledge and information concerning the availability and accessibility of the maternal health care system. The consequences of this phenomenon are the result of high level of maternal health care utilization in the southern region and low utilization in the northern regions.
Religion

Religious faith they say believing in something greater than oneself also has consequences on maternal health care utilization. Gyimah et al. (2006) reported that Religion and cultural practices are significant in explaining factors that constrain healthcare utilization. This is because religious beliefs such as Christianity, Islam and traditional beliefs see certain medical practices as not reflecting their true faith and therefore forbids them. Moreover, religion influence people’s culture and behavior, attitude about preventive behavior or reproductive conduct and motivation to seek health care services (Addai, 1999). For example, some Muslims and traditional believers see cesarean as not the natural way of giving birth and thereby prohibit it.

Fagbamigbe et al. 2015 in a study concluded that Muslim faith is characterized by certain factors that form a barrier to women use of maternal health care services. For instance, the obligation to seek permission from husbands and family heads such as parents or leaders and guardians and their refusal to be attended to by male physician often delayed utilization. He, therefore, reveals that these characteristics form the bases for women decision making and will otherwise affect their form of decision. As such these characteristics lower autonomy of women and may in effect cause delay in the utilization of health care services. In view of this Caldwell, (1986) revealed that this lack of autonomy and education by Muslim women is quietly interrelated to their special location and for that matter, this lack of autonomy is the crucial reason effecting their poor demographic outcomes.
Table 3 Percentage Occurrence of Religious Distribution

<table>
<thead>
<tr>
<th>Religion</th>
<th>Western</th>
<th>Central</th>
<th>Greater Accra</th>
<th>Volta</th>
<th>Eastern</th>
<th>Ashanti</th>
<th>Brong Ahafo</th>
<th>Northern</th>
<th>Upper west</th>
<th>Upper east</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christians</td>
<td>81.4</td>
<td>81.5</td>
<td>85.3</td>
<td>72.4</td>
<td>83.7</td>
<td>79.8</td>
<td>70.4</td>
<td>14.0</td>
<td>39.6</td>
<td>46.6</td>
</tr>
<tr>
<td>Islam</td>
<td>9.2</td>
<td>11.4</td>
<td>11.6</td>
<td>17.8</td>
<td>8.0</td>
<td>12.2</td>
<td>20.7</td>
<td>83.6</td>
<td>55.7</td>
<td>48.0</td>
</tr>
<tr>
<td>Traditional</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>No religion</td>
<td>9.4</td>
<td>7.0</td>
<td>2.9</td>
<td>9.3</td>
<td>8.4</td>
<td>7.9</td>
<td>8.9</td>
<td>2.5</td>
<td>4.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Others</td>
<td>0.0</td>
<td>0.1</td>
<td>0.2</td>
<td>0.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Data on traditional religion were few so the values did not reflect. Source
GDHS

Table 3. shows that the Islamic religions clearly dominate the three northern regions although a large proportion of the country practice Christianity. In other words fig 3…shows 83.6% Muslim in the northern region, 55.7% in the upper west region and 48.0% in the upper east region. Furthermore 70% of Ghana’s population are Christians, 15% practice Islam and 8.5% practice traditional religion. Furthermore the traditional believes system also make a large proportion in the three northern regions than in the southern region (Embassy of the republic of Ghana, 2009).

However, Addai, 1999 discovered that some religious teaching such as Islam and traditional believes system teachings in Ghana do not encourage women to visit or utilize maternal health care services during pregnancy. Gyimah et al.(2006) agree with this assertion and revealed that maternal health care service utilization is higher among Christian women than those practicing
Islamic or traditional beliefs. They observed that in the traditional setting is the belief that illness is caused by sin evil spirits and ancestral spirits and therefore their teaching is based on divine healing which subsequently restricts individuals from using modern health care services. These women who believe in the divine healing were not only less likely to utilize antenatal care but also less likely to deliver at health care facility or use delivery services (Gyimal et al. 2006).

With regard to Muslim in northern Ghana, Reeve (2009) discovered that the belief in Allah or God was positively correlated with increased maternal mortality and child mortality. This consequences is basically based on some of their teachings which somewhat tend to lower autonomy of women and otherwise delay utilization. For instance one of the doctrine of Islam is the Hadith (the recordings and preaching’s of prophets Mohammed peace be upon him) “a woman should not travel except with a Dhu-Mahram (her husband or a man with whom that woman cannot marry all according to the Islamic jurisprudence), and no man may visit her except in the presence of a Dhu-Mahram”. Clearly compliance to such a religious teachings among Muslims in northern Ghana may delay utilization or prohibit utilization of maternal health care among Muslim in northern Ghana and hence high maternal mortality in northern Ghana.

Again, a study by Julliard et al. (2008) in their study concluded that 83.3% of health care professionals have responded to having problems whiles administering care to Muslims women and 93.8% of Muslim women also reported to having problems with their health care providers because of their inability to understand their religious needs and faith.
4.1.2 How Enabling Factors Affecting Utilization in Northern Ghana

Here we consider enabling factors such as poverty and distance in northern Ghana and how these factors impair women’s ability to access maternal health care services in northern Ghana hence high maternal mortality.

Poverty

As debated above in the literature review and settle on conclusions based on relevant review about the impact poverty on utilization, below shows the occurrence of poverty in Ghana from 1992-2013. Reference to this table, its quiet evidence that poverty existed between the northern and southern regions of the country. However, whiles poverty is low in the southern regions extreme poverty engulfs the three northern regions. For example, in 2013 the northern region was reported to have 50.4% of its population very poor that is 1.3 million people. The upper east region however has its poverty line dropped from 72.9% in 2006 to 44.4% in 2013. On the bases of these figures and other analysis, the Ghana poverty and inequality report 2016 concluded that the highest level of poverty and inequality in Ghana are found within the three northern regions.

Table 4 below also highlights the depth and severity of poverty across the ten regions of the country with the three northern regions having the severity and largest number of its population being poor. Throughout these years, many policies have been instituted to curtail poverty in the country and this has subsequently improved poverty rate from 51.7% in 1992 to 28.5% in 2006 (UNICEF, 2013). However UNICEF, 2013 again reported that income inequalities have worsened and deepened especially in the three northern region. Moreover the number of poor in these areas have also arisen (UNICEF, 2013). This income disparities and poverty resulted in social
inequalities and increasing disparities with regards to access and utilization of health care service between the north and the southern regions (NDPC, 2009).

Table 4 Poverty Occurrence by Regions from 1992-2013

<table>
<thead>
<tr>
<th>Region</th>
<th>1992</th>
<th>1999</th>
<th>2006</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western region</td>
<td>59.6</td>
<td>27.3</td>
<td>22.9</td>
<td>20.9</td>
</tr>
<tr>
<td>Central region</td>
<td>44.3</td>
<td>48.4</td>
<td>23.4</td>
<td>18.8</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>25.8</td>
<td>5.2</td>
<td>13.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Volta region</td>
<td>57.0</td>
<td>37.7</td>
<td>37.3</td>
<td>33.8</td>
</tr>
<tr>
<td>Eastern region</td>
<td>48.0</td>
<td>43.7</td>
<td>17.8</td>
<td>21.7</td>
</tr>
<tr>
<td>Ashanti region</td>
<td>41.2</td>
<td>27.7</td>
<td>24.0</td>
<td>14.8</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>65.0</td>
<td>35.8</td>
<td>34.0</td>
<td>27.9</td>
</tr>
<tr>
<td>Northern region</td>
<td>63.4</td>
<td>69.2</td>
<td>55.7</td>
<td>50.4</td>
</tr>
<tr>
<td>Upper east</td>
<td>66.9</td>
<td>88.2</td>
<td>72.9</td>
<td>44.4</td>
</tr>
<tr>
<td><strong>Upper west</strong></td>
<td><strong>88.4</strong></td>
<td><strong>83.9</strong></td>
<td><strong>89.1</strong></td>
<td><strong>70.7</strong></td>
</tr>
</tbody>
</table>

Source: Adopted from Ghana poverty and inequality report 2016

Table 4 .Is comparison of levels of poverty and inequality in Ghana. Songore (2003), reported that inequalities between the regions arisen as a result historical phenomenon which can be attributed to post colonial policies. A key observation of this phenomenon is that once region moves ahead of other regions, its draw new socio economic investment and people and subsequently grow (Aryeetey et al. 2009).

This has led Aryeetey et al. (2009) to conclude that inequalities and poverty in the three northern Ghana came as a result of lack of several direct and indirect investment and opportunities in contrast to the southern regions which saw numerous economic opportunities.
Moreover, it is a known fact that poverty makes it quiet impossible for women to acquire the food they need and afford a better living conditions for their health as well as the well being of their fetus. In other words poverty in northern Ghana has resulted in low levels of education, poor living condition and poor nutrition. UNICEF, (2013) observed that nutrition was poor in three northern regions where almost two in every five children and more than 80% of children suffer anemia.

High poverty in the three northern regions and in contrast to the southern region reveals inequalities in access, inequalities in consumption, and inequalities in distribution and hence inequalities in health care utilization and health outcomes between the southern and the northern region.
Accessibility of Maternal Health Care in Northern Ghana

Poor access to quality health care service affects health care utilization. As notice in the literature review having access with skill maternal health care service curtail maternal mortality. However Ghana is lagging behind with respect to doctor to patient ratio in the country. The country has an unacceptable doctor to patient’s ratio of one doctor to 10,452 and one nurse to 1,251 according to the annual report on the Ghana shared Growth and Development Agenda 2012.

This condition makes health delivery in the country very difficult. At a point in 1998 it was reported that vacancy in the health system was 72.9% (Dovlo,1998).This has resulted in increased workload of the few doctors and health personnel who otherwise provide ineffective treatment due to overburden and stress.

The recommended doctor to patient ratio by Common Wealth is 1 doctor to 5,000 patients and that of World Health Organization is 1 doctor to 1,320 patients (Ghana web news, 2017).This implies that Ghana’s ratio of one doctor to 10452 is way off the mark or way below the standard recommended. Significantly with this number, there also exist uneven distributions of health personnel in the country. Ghana Shared Growth and Development Agenda 2012 reported that the bulk of doctors are located in the Greater Accra region (48.5%) and the Ashanti region (20.9%).

The northern region, upper east and upper west regions have the smallest proportion of doctors. However the upper east and upper west have the worse recorded doctor to patient ratio in the country. That is 1 doctor to 39,697 and in 2012 recorded a ratio of 1 doctor to 40,502. The northern region however perform abysmal recording nurse to population ratio of 1 nurse to 1,601 (GSGDA, 2012).

This makes effective health delivery in the three northern regions very complicated. For example health report 2012 revealed that in some areas in
the northern Ghana shows inadequate skill personnel and equipment and as a result forcing one doctor to work in six (6) health centers.

However this shortage according to Ghana web article of sturday, 23 April 2011 is mainly as a result of migration of health personnel within the country as most of the health workers refuse posting in the three northern regions and some rural areas as they prefer staying in the southern regions. Furthermore, Helman (2007) revealed that many areas in the three northern regions got hospitals just recently in 2012 forcing women to make do with traditional birth attendants who are not equip with the relevant skills and hence high maternal mortality ratio.

Again the availability of health centre in the country is questionable. While most of the health centers are situated in the southern region, the three northern regions have an inadequate health centers. On top of this the distance between the health centers is also a problem as most of the roads are in bad shape and far away from the people. These conditions also lead to maternal deaths in case of emergency (Ghana web-News 2011).
Table 5 Percentage of Deliveries Attended by Trained Health Workers by Region in Government Hospitals 2010-2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Ashanti</th>
<th>Western</th>
<th>Brong Ahafo</th>
<th>Central</th>
<th>Volta</th>
<th>Eastern</th>
<th>Greater Accra</th>
<th>Northern</th>
<th>Upper East</th>
<th>Upper West</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>47.1</td>
<td>46.6</td>
<td>53.1</td>
<td>48.2</td>
<td>31.1</td>
<td>47.1</td>
<td>50.1</td>
<td>36.3</td>
<td>58.8</td>
<td>44.8</td>
</tr>
<tr>
<td>2011</td>
<td>51.4</td>
<td>53.5</td>
<td>62.4</td>
<td>56.9</td>
<td>39.9</td>
<td>52.0</td>
<td>54.5</td>
<td>42.8</td>
<td>66.3</td>
<td>51.3</td>
</tr>
<tr>
<td>2012</td>
<td>50.3</td>
<td>57.6</td>
<td>65.9</td>
<td>60.1</td>
<td>46.5</td>
<td>55.3</td>
<td>57.2</td>
<td>49.9</td>
<td>68.7</td>
<td>56.4</td>
</tr>
<tr>
<td>2013</td>
<td>55.3</td>
<td>55.0</td>
<td>64.2</td>
<td>56.8</td>
<td>53.1</td>
<td>52.8</td>
<td>56.4</td>
<td>49.9</td>
<td>67.7</td>
<td>58.2</td>
</tr>
</tbody>
</table>

Source: MOH/GHS, 2013

Although table 5 shows the three northern region having improved percentage of deliveries under skill personnel most of the southern regions rely on private hospitals for their deliveries which are thought to be better equipped which this table did not capture.

4.1.3 How Need Factor Affecting Utilization in Northern Ghana

Here the focus will be on socio cultural and traditional beliefs system which impedes utilization in the three northern regions

Cultural Perceptions

The three northern regions have peculiar traditional setting in contrast with the southern region. In the northern setting, family system and belief system are highly encouraged and practiced. These family and belief system then highly influence and shape individual perception in utilizing maternal health care services.
A study by Senah (2003) titled the other side of maternal mortality revealed that especially in the three northern region most society prescribe certain food, taboos or ceremony and behavior that pregnant women must comply with in order to deliver safely or have healthy normal babies. He discovered that in one of the northern region of Kasena and Nankana of Upper east region, pregnant women are not allowed to eat meat and groundnut and are only limited to vegetarian food. These taboos are mostly popular in the northern regions than the southern regions and they eventually affects the wellbeing of the mother and the fetus as they are both deprived of the nutrients required for their well being.

Moreover, the three northern region are also dominated by traditional midwives (Senah 2003) than the southern region. These traditional midwives although not trained but are highly regarded in issues of health, pregnancy, child birth and treatment of infertility and other issues related to family planning or child bearing (Senah, 2003).

Most of these traditional midwives are utilize because of the traditional belief system associated within the northern society. As noted by Helman (2000) the way of life of a group of people may persuade people’s behavior and belief about the meaning of healthy life and their views and opinions about the utilization of modern health practices. These beliefs and perception may then influence actions and may results in poor health outcomes.

Again, some characteristics of traditional midwives that push people of the north to utilized them are that they usually charge less fees, speaks the same language of their clients and offer emotional and psychological support during and after delivery (Helman,2000). Because of this they are seen as being important aspect of the family system and are the first point of contact in case of any misfortune. This unique characteristics most of these traditional midwives are being trained to work hand in hand with health personnel as an attempt to reduce high maternal mortality however majority still remain untrained and are regarded as the other options to turn to because of the lack
of health facilities in some areas of the north or the far distance to the health facilities and as such complications are sometimes unnoticed or not being adequately managed by these traditional birth deliveries hence maternal mortality. In some Ghanaian society, termination of abortion is frowned upon and it is considered murder (Gyeke, 1996). It is therefore resorted in great secrecy.

4.2 Analyzing Maternal Mortality Data from 1997-2008

In this chapter maternal mortality data will be analyzed by excel using scatter and linear regression analysis to plot graph. The essence is to find out the relationship and to compare maternal mortality with education, poverty and religion.

Table 6 shows regional maternal mortality rate from 1997-2008. This institutional maternal mortality figure will be used for the analysis.

Clearly from this figure the three northern regions has lower maternal mortality rate in contrast to the southern regions. This is however in contrast to the above framework and evidence which depict that predisposing factors, enabling factors and needs factors enhance utilization hence lower maternal mortality rate.
### Table 6 Regional Institutional Maternal Mortality Rate 1997-2008

<table>
<thead>
<tr>
<th>Region</th>
<th>Year</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>MM</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western</td>
<td>2002</td>
<td>86</td>
<td>83</td>
<td>104</td>
<td>53</td>
<td>82</td>
<td>63</td>
<td>92</td>
<td>126</td>
<td>101</td>
</tr>
<tr>
<td>Central</td>
<td>2001</td>
<td>86</td>
<td>100</td>
<td>103</td>
<td>93</td>
<td>71</td>
<td>71</td>
<td>44</td>
<td>85</td>
<td>92</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>2000</td>
<td>83</td>
<td>91</td>
<td>63</td>
<td>49</td>
<td>120</td>
<td>114</td>
<td>125</td>
<td>118</td>
<td>149</td>
</tr>
<tr>
<td>Volta</td>
<td>2007</td>
<td>91</td>
<td>94</td>
<td>88</td>
<td>60</td>
<td>84</td>
<td>71</td>
<td>78</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Eastern</td>
<td>2006</td>
<td>92</td>
<td>139</td>
<td>108</td>
<td>93</td>
<td>71</td>
<td>71</td>
<td>44</td>
<td>85</td>
<td>92</td>
</tr>
<tr>
<td>Ashanti</td>
<td>2005</td>
<td>172</td>
<td>184</td>
<td>177</td>
<td>128</td>
<td>173</td>
<td>161</td>
<td>181</td>
<td>175</td>
<td>179</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>2004</td>
<td>102</td>
<td>110</td>
<td>62</td>
<td>89</td>
<td>84</td>
<td>104</td>
<td>75</td>
<td>116</td>
<td>88</td>
</tr>
<tr>
<td>Northern</td>
<td>2003</td>
<td>49</td>
<td>59</td>
<td>60</td>
<td>39</td>
<td>77</td>
<td>66</td>
<td>70</td>
<td>91</td>
<td>113</td>
</tr>
<tr>
<td>Upper East</td>
<td>2002</td>
<td>59</td>
<td>52</td>
<td>56</td>
<td>42</td>
<td>34</td>
<td>46</td>
<td>34</td>
<td>43</td>
<td>29</td>
</tr>
<tr>
<td>Upper West</td>
<td>2001</td>
<td>17</td>
<td>42</td>
<td>30</td>
<td>33</td>
<td>16</td>
<td>19</td>
<td>21</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>

Source:Adpoted from Centre for health information management (CHIM)

Figure 7,8,9,10 and 11 below are graph constructed based on the institutional data on table 6. These figures has however shown quiet an intriguing observations regarding maternal death in the country.

Although various degree of evidence in the country and the world has shown that poverty, education and religion influencing maternal mortality, these figures has shown a contrast observation.

Figures 7 and 8, has shown that although the three northern regions have low level of education maternal mortality is low in these part of the country in
disparity to the southern regions with high level of education but having high maternal mortality.

**Figure 7 Maternal Mortality Rate and Education in 2000**

![Graph comparison of maternal mortality and education](image)

Source: Authors construct
Figure 8 Maternal Mortality Rate and Education in 2008

Figure 9 and 10 below seek to compare the two dominant religions (Christianity and Islam) to see its association with high maternal mortality in the country. However, this graph based on the above institutional data has disclosed that Christianity, which is more dominant in the southern region, is more associated with high maternal mortality than Islam, which is more dominant in the three northern regions.
Figure 9 Comparing Maternal Mortality and Christianity

![Maternal Mortality and Christianity](image)

Figure 10 Comparing Maternal Mortality and Islam

![Maternal Mortality and Islam](image)
Figure 11 below seek out the to what extent poverty in the country influence maternal mortality. Base on the analysis it turns up the three northern regions with high poverty level tend to have lower maternal mortality in contrast with the southern region with high maternal mortality although with lower poverty level.

**Figure 11 Comparing Maternal Mortality and Poverty**

![Maternal mortality and poverty graph]

Figure 11 using dummy regression analyses to check the relationship between education and maternal mortality. In the below table it is observed that significant F (p value) is not less than 0.05 hence this model is not statistically significant and that there exist no relationship between the dependant variable (maternal mortality) and the independent variable (education, poverty and Religion).
ANOVA

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7</td>
<td>12716.81</td>
<td>1816.69</td>
<td>2.01</td>
<td>0.37</td>
</tr>
<tr>
<td>Residual</td>
<td>2</td>
<td>1811.29</td>
<td>905.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>14528.10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 12 Relationship between Education and Maternal Mortality (Dummy Regression Analysis)

4.3 Interviews

The essence of this part is to collate information from professionals to ascertain their views in order to make definitive conclusions on the qualitative data analyzed. All interviewees were maternal health professionals in various fields in delivery and other maternal cases. These persons have enough knowledge and experiences with regards to maternal health issues.

Several questions were asked about the social and cultural impact of maternal mortality. Among such questions included why do some women not utilize maternal health care services, what is the differences in terms of utilization of ANC between the educated and uneducated women, why do the three northern region still have high maternal mortality, does poverty affect utilization of ANC and why and why do some women choose to deliver at home instead of going to hospital.

The essence of these questions is to assess whether the factors identified in the analysis and observed in the literature review are aligned with the information gathered through the qualitative data above.
Respondent #1.

Attitude of some midwives are factor preventing some women from using ANC. Moreover ignorance about their delivery date and sometimes not being prepared for delivery because of some items that most hospitals demand from them. Educated women use ANC more because they have the knowledge and are familiar with the importance of ANC to both the mother and the unborn baby. Illiteracy rate is also high in the northern region. Most women live far away from the hospital and poverty makes it difficult for them to attend ANC. In other words no money for transportation to the hospital therefore preconception care should be given to women in their child bearing year and midwives should treat women uniquely. Most of the maternal deaths that occur in this part of the region (the three northern regions) are mostly not recorded so I cannot say for sure that this place has low maternal mortality than the southern regions.

Respondent #2

Not all the women in this part of the country are enrolled with the NHIS and because of that they lack the amount of money needed to afford drugs. Poverty ignorance, bad roads and family heads delay in making decision are some factors leading to high maternal death in these regions. Moreover, lack of basic infrastructure especially hospitals and bad roads leading to the hospitals are some reasons why some women do not use ANC. Education is important factor here. Due to high illiteracy rate its sometimes difficult for some women to schedule their time and to follow the right prescription prescribed by the doctors. Thank God education is now free in the country this will eventually lead to women recognizing the essence and the importance of using ANC. I don’t agree that maternal mortality is low here compared with the southern region. I think is higher than the southern regions.
Respondent # 3

The third respondent shares her experience with a case involving maternal mortality. She recalled a pregnant woman who was delayed at the hospital due to her inability to enrolled and have the NHIS. According to her such delays at the hospitals and travel time due to the distance to the hospital are fatal to most of the women in these part of the country. Because of poverty, distance and lack of knowledge most of the women use the traditional birth attendance for their delivery which are quiet dangerous and as such in most of the cases results in emergency and sometimes they are rush to the hospital after such cases. I think most of these problems of high maternal mortality are as a result of lack of knowledge and understanding of the use of ANC. Most of the women view the hospital as set up for the educated and the rich. This is also due to the bad attitudes of some midwives who treat patient bad because they are not educated. Hospitals needs to be nearer to the people in some case although some wants to utilize ANC, the distance makes it impossible since there is lack of transportations in most villages to town and a such needed to walk far distance which is also additional burden. Definitely, maternal mortality is high here than the southern regions because they have all the infrastructure, educated and they can afford prescriptions prescribed by doctors and moreover understand the essence of ANC.

All three respondent professionals have highlighted the importance of education, poverty and accessibility to maternal survival. Their response is therefore consistent with the information gathered through other secondary sources. They all have agreed that maternal mortality is higher in the northern regions than the southern region. However, one key revelation observed in this interview section is the attitudes of some midwives which also drive utilization down.
CHAPTER 5: DISCUSSIONS AND CONCLUSION

5.1 Discussions

Maternal mortality continues to take the lives of women especially those in the developing countries. There is a huge effort being put by the international community to decrease maternal mortality. However, in most developing nations like Ghana, the realities of maternal mortality are still nonexistence with contrasting views on the reasons for high maternal death between the northern and southern sector of the country.

This study, therefore, sought to delve into the factors accounting for high maternal mortality rate in the three northern regions in contrast to the southern region. The study after intense literature review and deliberations reveals that educations, poverty, accessibility, distance, age, socio-economic status of women have an impact on women utilizing maternal health service and the outcome may reflect high maternal mortality. To these reasons, therefore, this study aligned these factors to the three northern regions and evaluates and explores their effect on high maternal mortality in the country. The Anderson framework model helped in putting together these factors into context to reflex the larger picture of maternal mortality in the three northern regions.

With regards to education, the study finds out that there is a high disparity between the northern and the southern regions of the country. While the southern regions have a higher level of education the northern region lag behind with low education. This difference in terms of educational level is a contributing factor behind maternal mortality in the three northern regions. The conclusion drawn from the analysis implies that where educational level is high utilization of maternal health care service is also high because of the knowledge in the benefits of utilizing maternal service.
However further analyses concluded that the southern sector in contrast with the three northern regions has a high level of maternal death although educational level is high in this part of the country. This conclusion, however, was based on institutional data.

With reference to religion this study finds out that there is no relationship between religion and maternal mortality in northern Ghana. The Islamic teachings have been faulted for causing maternal mortality in the northern part of the country. However, base on the information gathered there seems to be two contrasting views. Institutional data put the southern region as having high maternal mortality although fewer numbers of people practiced the Islamic religion in the southern region. This is situation can therefore be a reason for Mc Quillan (2004) who reveals that three conditions must be present before religion can influence human behavior. According to him, first, the religion must communicate behavioral norms that are links to the outcomes. Secondly, members of these religious groups must feel a strong sense of belonging to the religious group before they can be the influence and thirdly, the religious doctrine must have the ways to communicate effectively its teachings to its members and above it enforce compliance to its teachings.

The autonomy of northern women can perhaps be explained by the deeply patriarchal and patrilineal systems which are linked to the role men and women should play that is men being the breadwinner and women nurturers of children (Kamil et al.2015). To this, therefore, men do not interfere in women’s activities until the actions or activities of women challenge their responsibilities in the household (Kamil et al.2015). This can, however, be the case of northern Ghana. In Nigeria (Hollos 1991) found out that women that are a disadvantage of factors such as educational attainment had considerable domestic autonomy.

Poverty is seen to be a considerable factor for maternal mortality in the three northern regions of Ghana. This study finds out that there exist high poverty rate and inequality in the northern region. This phenomenon is seen to be the
reason for high maternal mortality in the northern region. Evidence surrounding maternal mortality has shown that poverty makes it impossible for people to live in better health condition moreover it also makes it difficult for them to purchase food which will increase their nutritional abilities and help to develop their fetus in case of pregnancy. UNICEF (2013) reveals that children health and development is inseparably connected to the well being and health of their mother.

However, this study finds out a contrasting argument with regards to the link between poverty and maternal mortality in the three northern regions. The first evidence clearly concludes that due to the high level of poverty and inequality differences in the region, there is a relationship between poverty and maternal mortality and as such poverty is one of the causal factors to high maternal mortality in the three northern regions. In contrast to this evidence comparing maternal mortality in these regions in contrast with the southern regions although the three northern regions have the higher level of poverty and inequalities compare to the southern regions.

With regard to the accessibility of maternal health care in the three northern regions, this study finds out that the patient to doctor ratio is way off the mark with some district having only one doctor to take care of over 30,000 patients. This reason account for underutilization in some district with patient making do with the traditional birth attendance as a substitute to well trained doctors. Their availability and their authority on traditional medical practices within the northern sector encourage their utilization. However lack of access to maternal health care and the shortage of medical professional which thereby encourages the use of traditional birth attendance have been found to be one of the factors leading to high maternal mortality.

Closely related to the accessibility of maternal health care is the issue of socio-cultural practices or the traditional beliefs system associated within the northern part of the country. Women in this part of the country wield less authority and as such dependant on their male counterparts, family heads and
leaders for permission before seeking health care. This usually causes a delay in seeking care. Moreover, other traditional belief system does not encourage women to visit ANC during pregnancy.

5.2 Conclusion

The Anderson framework model helps to gain a better understanding of why mothers lose their lives in three northern regions. Not only do they lose their lives because of some medical factors but more so often due to socio-cultural factors that deny them utilization of health care service during pregnancy. The Anderson framework model helps in putting together these factors into contextual framework for better understanding of the Ghanaian society. This study reveals that maternal mortality is as a result of certain factors which impede utilization of health care. These include education, poverty, age, religion, accessibility of health service, cultural perception of women and traditional belief system. Base on these findings the study contextualize them into Anderson framework model of utilization (predisposing factors, enabling factor and the needs factor)

The first part of the study clearly identified these factors as the cause of high maternal mortality in the three northern regions in contrast with the southern region. In other words, within the first part of the analysis, the study reveals that the differences that exist with regards to education, religious belief system or cultural perception and practices, accessibility and poverty level between the northern and southern regions are the contributing reasons for the high maternal mortality in the three northern regions. Whereas the southern region has a higher educational level, low poverty level, high access to maternal health service and high percentage practices Christianity in contrast to the northern regions utilization of maternal health care service is higher and hence low level of maternal mortality.
However using institutional data for the second part of the analysis put the northern sector as having a lower maternal mortality ratio in contrast with the southern region even though most studies and evidence gathered from other literature were not consistent with the outcome. This unexpected finding was however invalidated by the use of interviews. Three professionals were interviewed to give their opinion regarding the causes and regional differences in maternal mortality ratio between the southern and northern region. All three professional have revealed that these institutional data should be taken with a grain of salt and as such do not reflect the real situation on the ground. On their part, the three northern regions have the higher maternal mortality because of reasons of poverty, low educational level and lack of trained medical professionals. Moreover, revealing the fact that most maternal death in these regions is unrecorded because of lack of hospitals and medicals facilities and poor data keeping.

The limitation of this study is the over-dependence on secondary data. The outcome of these institutional data which implies that these factors do not necessarily influence maternal mortality in the three northern regions may have been modified if the data obtained reflects not only institutional data but an overall number of maternal deaths within the regions. In other words, the data used may not have been a true reflection of what is happening since there remain a high number of deaths unrecorded in the northern part of the country because of lack of institutional capacity in data collection. Again more professionals need to be interviewed in other to have an in-depth analysis of their views and understanding of the controversy.

However, this study explores the untouched story of maternal mortality in the three northern regions and helps to understand and appreciate the vitality of these variables towards implementing maternal policies in the country. Moreover, it also adds to resources available and makes an input to the issue of maternal mortality in the country.
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국문초록

가나의 지역별 모성 사망률 차이 분석:
가나 북부의 높은 모성 사망률 원인 분석

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세계에는 모성 사망률의 수준이 높은 국가들이 있다. 특히, 개발도상국 여성들은 특별한 원인없이 사망한다. 각국 정부와 국제기구는 이러한 현상을 막고, 사망률을 낮추기 위해 많은 관심을 기울이고 있다.

그러나 가나에서는 남부와 북부 세 지역의 모성 사망률에 차이가 있다. 남부 지역에서 높은 모성 사망률을 보이는데, 이는 엔더슨(Anderson) 모형을 적용한 다른 선행연구에 따르면, 남부 지역과 달리 북부 지역의 경우, 선행요인, 가능요인, 수요요인으로 인해 모성보건서비스의 이용률이 낮기 때문이다.

따라서 본 연구에서는 위의 요인을 탐색하고 모성 사망률에 미치는 영향을 분석하였다. 연구 결과, 교육, 빈곤, 종교, 접근성 및 전통적인 신념체계와 관행이 모자보건서비스의 낮은 활용과 관련되어 있음을 발견했다.

1997-2008 년 사이의 모성 사망률에 대한 데이터를 바탕으로 한 평가 및 분석을 통해 남부와 북부 지역 간의 차이를 확인할 수 있었다. 그러나 전문가 인터뷰에 따르면 이러한 차이는 모성 사망률 데이터를 기록하는 북부 지방의 역량 부족에 기인한다고 한다. 이는 가나 북부의 높은 모성 사망률에 대한 데이터의 왜곡 및 경향을 예측할 수 있는 증거가 된다.

주제어: 모성 사망률, 보건서비스 활용
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