

# **FACTORS INFLUENCING UPTAKE OF INSTITUTIONAL DELIVERY SERVICE BY SKILLED BIRTH ATTENDANT'S IN GHANA: REVIEW OF LITERATURE**

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50<sup>th</sup> International Course in Health Development  
September 16, 2013 – September 5, 2014

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A thesis submitted in partial fulfilment of the requirement for the degree of Master of Public Health

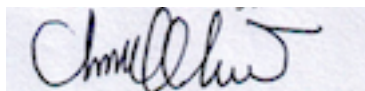
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## **Declaration:**

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The thesis "Factors influencing uptake of institutional delivery service by skilled birth attendant's in Ghana: Review of literature" is my own work.



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## **Dedication**

Evelyn; my beloved wife  
Nhyira and Nyameye; my kids  
Dr Asamoah; my best friend

## **Acknowledgement**

To the almighty God who has been my source of hope and strength in life, I say, glory is to His name.

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## Abbreviations and acronyms

ANC	Ante-natal Care
BEmOC	Basic Emergency Obstetric Care
CHAG	Christian Health Association of Ghana
CHPS	Community-based Health Planning Services
CEmOC	Comprehensive Emergency Obstetric Care
EmOC	Emergency obstetric care
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GSS	Ghana Statistical Service
GOG	Government of Ghana
MHS	Maternal Health Survey
MDG	Millennium Development Goal
MOH	Ministry of Health
NHIA	National Health Insurance Authority
NHIS	National Health Insurance Scheme
NGO	Non- Governmental Organisation
NCD	Non-Communicable Disease
OPD	Out-patient Department
PNC	Post-Natal Care
RCH	Reproductive and Child Health
SBA	Skilled Birth Attendant
SSA	Sub- Saharan Africa
TBA	Traditional Birth Attendants
UN	United Nations
UNICEF	United Nations Children Fund
UNFPA	United Nations Population Fund
USAID	United State Agency for International Development
WHO	World Health Organisation

## **ABSTRACT**

The health seeking behaviour of women in the reproductive age is necessary toward achieving the Millennium Development Goal of reducing maternal deaths by 75% in 2015. However, in most developing countries, including Ghana, uptake of health facilities for deliveries is still a challenge and the proportion of births assisted by skilled birth attendant's (SBA) remains low. To improve this, insight is needed in many factors inter-relating to influence women place of birth.

The main objective of the study was therefore to explore and analyse factors influencing uptake of institutional delivery services provided by SBAs in order to make recommendation to the Reproductive and Child Health Unit (RCH) of Ghana Health Service and other relevant stakeholders in Ghana.

To achieve this objective, literature from Ghana and other low and middle income countries were reviewed and analysed using conceptual framework of Anderson and Newman (2005). The results indicated that, in spite of the high ANC attendance in Ghana (98.2%), deliveries supervised by SBAs fell short (54.6%) in 2013. Following the framework chosen, individual factors were identified in each of the three domains: predisposing factors (e.g. maternal age and education, parity, cultural, religion and traditional practices, place of residence), enabling factors (e.g. households wealth) and need based factors (such as perception of safer pregnancy). In addition, health services related factors identified included perceived negative attitude of some SBAs, limited numbers of health facilities and SBAs, low quality of services and long distance to health facilities.

To improve utilisation of institutional delivery services by SBAs, it was recommended that factors like women's education, expansion of existing infrastructure (health facilities and training institutions), scaling up of Community-based Health Planning Program (CHPS), increasing uptake of midwives and nurses trainees, strict implementation of "train and retain" policy by Ministry of Health (MOH) and culturally sensitive health delivery services needed to be implemented.

**Keywords:** skilled delivery service, Ghana, institutional delivery services, maternal mortality, uptake.

**Word count:** 12,956 words

## **INTRODUCTION**

Maternal mortality is a critical issue confronting the world today. Approximately 800 women worldwide fall victims daily to preventable deaths related to pregnancy and childbirth (WHO Fact sheet 2014). Globally, about 139 million births occur every year and in 2013 alone, approximately 289,000 maternal deaths were recorded. Also, about 2.6 million stillbirths occur and 2.9 million infants die within the first 28 days of life annually (WHO et al. 2014; Renfrew et al. 2014). Even though the world has realised about 45% decline in maternal death since 1990, it is still far less than the MDGs of 75% reduction by 2015 (WHO et al. 2014).

Developing countries are the most affected regions contributing about 99% of maternal deaths with sub-Saharan Africa (SSA) alone accounting for 62% (WHO et al. 2014). This is partly due to low skilled birth attendance and inadequate comprehensive emergency obstetric care in the region as record shows that only 50% of women received skilled care during child birth in SSA (UN 2013). It is widely acknowledged that the majority of the causes of maternal mortality, for example haemorrhage, eclampsia, complications of unsafe abortion, obstructed labour and sepsis can be prevented when births are assisted by Skilled Birth Attendants (SBAs) in an appropriate environment coupled with a good referral system (WHO 2004).

According to joint estimates by WHO, UNICEF, UNFPA and the World Bank, the current maternal mortality ratio in SSA is 510 deaths per 100,000 live births (WHO et al. 2014). Furthermore, huge disparities also exist in the life time risk of death of women between the developed and the developing countries. In SSA, women life time risk of death from pregnancy related conditions is 1 in 38 against 1 in 3,700 among their counterparts in developed countries. In Ghana, the risk is about 1 in 66 (WHO et al. 2014).

The death of a mother during childbirth is a huge loss to the family and society at large. It predisposes newborns to early deaths as evidence has shown that children born to women who die at the time of giving birth are about 10 times more likely to die within two years (USAID 2001). In addition, the global cost of neonatal and maternal death in lost productivity is estimated as US\$15 billion (USAID 2001). This therefore indicates the negative impact of maternal death on development and social relations.

In the year 2000, leaders from 189 nations committed themselves under one vision to improve the life of humanity leading to adoption of the eight MDGs. The MDG 4 and 5 primarily seek to improve maternal and child health. The target of MDG 5 is to reduce by 75%, between 1990 and 2015, the maternal mortality ratio. Two indicators are set to measure the progress

of this target; maternal mortality ratio and proportion of deliveries attended by SBAs (UN 2003). These indicators served as a wakeup call for most countries including Ghana to increase the number of SBAs and also put maternal and child health issues on the political agenda.

Following the commencement of the global safe motherhood initiative in Nairobi, Kenya in 1987 (Starr 2006), several programmes have been designed in Ghana towards this agenda. In 1995, Ghana launched its safe motherhood program with an ultimate aim of improving quality and coverage of maternal health services (Health Research Unit/GHS 2005). Interventions targeting coverage and quality of care such as training of health workers especially nurses and midwives (MOH 2011) and retention of these cadres of staff particularly in underserved communities have been pursued by the health ministry over the years. Currently, every region in Ghana has one midwifery and nurses' training school. Graduates of these colleges are posted to communities within the region including remote areas in accordance with the "train and retain" policy instituted by the health ministry (MOH 2013; GHS 2011). Expansion of existing infrastructure and building of new health facilities to provide Basic Emergency Obstetric Care (BEmOC) and Comprehensive Emergency Obstetric Care (CEmOC) have also received adequate priority.

The overall effect is that, a high proportion of births can be attended to by SBAs in Ghana. However, the healthcare seeking behaviour of women is still limited in the area of deliveries in health facilities by SBAs and utilisation gap still exist. The findings of this thesis will help to understand why some women choose not to use institutional delivery services provided by SBAs in Ghana.

I selected this thesis topic due to my personal interest in maternal and child health issues. My profession as a nurse has afforded me great opportunity to appreciate some of the difficulties mothers encounter during pregnancy, delivery and postnatal period.

Six chapters are outlined below with the first chapter focusing on a brief background of Ghana. Problem statement, objectives of the study and methodology including conceptual framework is presented in chapter two. Chapter three describes the institutional deliveries trend in Ghana. The findings and results are presented in chapter four and some evidence on effective strategies that have enhanced uptake of institutional delivery by SBAs in other Low and Middle income countries are also analysed in chapter five. Chapter six covers the discussion and chapter seven is on conclusions and recommendations.

# CHAPTER ONE: BACKGROUND INFORMATION OF GHANA

## 1.1 Geographical location and administrative structure

The Republic of Ghana is a tropical country on the west coast of Africa and has three geographical zones; dry northern Savannah, humid middle- forest-rainfall zone and coastal savannah with mangrove (GSS et al. 2009a). It shares borders on the east with Togo, on the west with Ivory Coast, on the north with Burkina Faso. The south is the Gulf of Guinea which forms a coastline extending 550 kilometres (GSS et al. 2009a). The country has a total land area of about 238,537 square kilometres and lies between latitude 5° and 11° north of the equator and between longitudes 1° east and 3° west of the zero meridian (GSS et al. 2009a).

There are ten administrative regions in the country (Figure 1.1). These regions are sub -divided into 170 decentralized districts which make up the local government structure (GSS 2012).

**Figure 1.1:** Map of Ghana depicting the administrative regions and their capital and international boundaries.



Source: [www.mapofworld.com/ghana](http://www.mapofworld.com/ghana)

## **1.2 Population**

The population of Ghana is estimated at 26,427,760 for the year 2013 (GSS website 2014). From the 2010 population and housing census, females form 51.2% of the population and males make up the remaining 48.8%. The population growth rate of the country is 2.4%. Ghana has a very youthful population with a huge proportion of the population less than 15 years (Annex II: Population pyramid of Ghana). About 50.9% of the population resides in urban areas as against 49.1% in rural setting. However, greater Accra and Ashanti region have the huge proportion of urban population due to their commercialized and industrialized nature (GSS 2012). In 2012, life expectancy was 61 years (UNICEF 2013).

## **1.3 Socio-cultural and religion**

The population of Ghana comprises of 71.2% Christians and 17.6% Moslems. Only about 5.7 of Ghanaians belong to the traditional religion with 5.2% having no religious affiliation (GSS 2012). It is worth mentioning that apart from the Northern Ghana which has over 60% Muslims, the remaining nine regions in Ghana are predominantly Christians.

## **1.4 Economy**

Ghana is classified as a lower middle income country with gross domestic product (GDP) of US \$ 40.71 billion and gross national income (GNI) per capital of US\$1,550 (World Bank 2012). Agriculture is the most common occupation in the country with 45.8% of households involved. Crop farming and livestock rearing are undertaken by many Ghanaians in the southern and the northern part and fish farming at the coastal region. The country exports cocoa, timber and other mineral resources such as gold, diamond, bauxite and crude oil in large quantities (GSS 2012). In spite of this, about 28.6% of the population lives below the poverty line of US\$1.25 per day and total health expenditure is 4.8% of the GDP (MOH 2014)

## **1.5 Education/literacy**

According to the 2010 population and housing census, Ghana has made tremendous progress with respect to school enrolment in the country. However, there is still high school dropout particularly among adolescent girls before secondary school. It is documented that only 15.5% of Ghanaians obtained secondary education prior to the survey in 2010 and that approximately 67% of Ghanaians are able to read and write the English language which is their official language (GSS 2012).

## **1.6 Health situation**

Ghana is burdened with countless health challenges. Communicable diseases are high and they contribute to the majority of morbidity and mortality in the country (Selah 2013). Even though some decline has been observed, it is noted to account for 53% of Ghana's disease burden (Selah 2013).

Over the years, malaria has remained the leading cause of morbidity and mortality in Ghana. It contributes to 32.9% hospital admissions and 13.4% of all deaths in the country (MOH 2014). Other diseases such as upper respiratory tract infection, diarrhoea, skin diseases, diabetes and hypertension are noted to be high in the country and are considered among the top causes of morbidities resulting in Out Patient Department (OPD) attendance (CHIM 2010). Table 1.1 shows the top ten cause of out-patient morbidity in Ghana.

HIV/AIDS still affects a high proportion of the population, particularly female sex workers, their clients, client partners and gays. However, the country has witnessed a significant decline of the disease prevalence since 2003. From a recent report, HIV prevalence is 1.35% for 2012 and antiretroviral therapy is readily available and accessible (GAC 2014)

Ghana has not been left out in the recent epidemiological transition occurring in many developing countries (Agyei-Mensah & De-Graft 2010). Diseases such as diabetes, hypertension, asthma, sickle cell and cancer are prevalent in the country. According to the WHO, 39% of all deaths in Ghana are the result of Non-Communicable Diseases (NCDs). The health ministry has developed programs such as the regenerative and nutritional programs that specifically addresses some of the causes of NCDs through health promotion and education on diet, exercise and rest (MOH 2012)



**Table 1.1:** Top ten (10) causes of outpatient morbidity in Ghana 2008

	<b>DISEASE</b>	<b>PERCENTAGE</b>
<b>1</b>	Malaria	47.4
<b>2</b>	Upper respiratory tract infections	7.5
<b>3</b>	Diarrhoeal diseases	3.6
<b>4</b>	Skin Diseases	4
<b>5</b>	Hypertension	3
<b>6</b>	Home/Occupational Injuries	1.3
<b>7</b>	Acute Eye Infections	1.7
<b>8</b>	Pregnancy and Related Complications	1.5
<b>9</b>	Rheumatic and Joint Diseases	2.4
<b>10</b>	Anaemia	1.3

Source: PPME-GHS, 2011

### **1.7 Health system**

The health service in Ghana is very comprehensive and organised in a hierarchical order. Service delivery follows the three tier system of care; primary through secondary to the tertiary level service (Adokiya 2014). The primary health services are offered at the community and the sub-district level, regional and district hospitals provides secondary care and the teaching hospitals offer tertiary care including specialised care. The teaching hospital further serves as clinical and research centre for medical training in the country.

The Ministry of Health is the policy making body and it is administratively managed by the Health Minister. However, implementation of national health policies is done by the Ghana Health Service which by itself is autonomous and headed by the Director General. Other organisations such as the Christian Health Association of Ghana (CHAG), private for profit providers and the traditional practitioners also contribute significantly to the health delivery services (PPME-GHS 2011). CHAG which is the next biggest service delivery agent after the public health institutions has about 172 health facilities throughout the country and serves a higher proportion of the rural communities. About 42% of health services are provided by CHAG and their infrastructure makes up 5.3% of the total health infrastructure (GOG et al. 2013; CHAG 2012; Appiah-Denyira et al. 2013).

Each of the ten regions in Ghana has a hospital which primarily serves as a referral centre for the lower level health facilities. The regional director of

health services is the head of the regional health administration. The next level of care is the district followed by the sub-district which comprises of the health centre, clinic and the community - based health planning services (CHPS).

Ghana has increased health services access to the majority of its population through the scaling up of the CHPS program. About 1,961 CHPS zones (Table 1.2) has been demarcated so far in the country (MOH 2013; GHS, 2012, DHMIS 2014).

**Table 1.2:** Number of health facilities in the ten regions in Ghana

	<b>CHPS Zones</b>	<b>Clinics</b>	<b>District Hospital</b>	<b>Health centre</b>	<b>Hospital</b>	<b>Midwife /Maternity</b>	<b>Polyclinic</b>	<b>Regional Hospital</b>	<b>Subdist Hosp</b>	<b>Teaching Hospital</b>
<b>Ashanti</b>	78	163	19	146	95	97	0	1	147	1
<b>Brong Ahafo</b>	220	113	17	82	14	43	1	1	130	0
<b>Central</b>	185	63	12	62	13	33	2	1	88	1
<b>Eastern</b>	456	112	14	92	17	24	1	1	168	0
<b>Greater Accra</b>	119	270	6	20	63	82	11	1	60	1
<b>Northern</b>	163	45	17	88	11	8	4	1	106	1
<b>Upper East</b>	203	44	5	45	1	1	0	1	87	0
<b>Upper West</b>	130	12	3	69	6	3	0	1	65	0
<b>Volta</b>	192	58	17	143	11	16	2	1	114	0
<b>Western</b>	215	129	19	57	15	38	1	1	102	0
<b>Ghana</b>	1961	1009	129	804	247	345	22	10	1067	3

Source: GHS, 2014

## 1.8 Health Financing

National Health Insurance Scheme (NHIS) was introduced by the Government of Ghana in 2004 under the management of the National Health Insurance Authority (NHIA). This offers financial protection against the cost of health care to the people of Ghana. About 8.2 million active members are enrolled on the NHIS representing 33% of the population with about 3,344 accredited health facilities in 2011. Maternal health care services are free and no subscription fee is required (NHIA 2012).

## 1.9 Human resource

Ghana was severely affected by the “brain drain” phenomenon which created serious shortage of critical staffs in the country especially in the district health facilities (Nyonator 2005). The introduction of new pay reform in 2006 to some extent has contributed to retention of health workers and reduced migration of highly skilled health professional in the country (Antwi & Phillips 2012). However, there is a shortage of critical staff such as nurses, midwives and doctors. Table 1.3 shows the trend of skilled personnel per population ratio.

**Table 1.3:** Three year trend of skilled personnel per population ratio

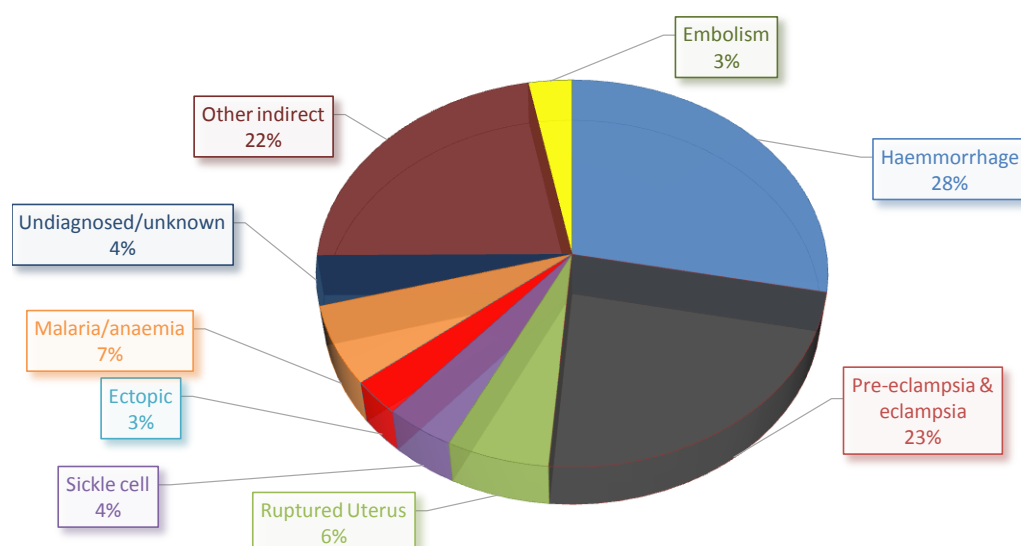
<b>CADRE</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Doctor</b>	1:11,929	1:10,423	1:10,034
<b>Midwife</b>	N/A	1:1,538	1:1,478
<b>Nurse</b>	1:1,497	1:1,489	1:1,240

Source: GHS, 2011

## 1.10 Maternal, neonatal and child health

Ghana has a high maternal mortality ratio (350 per100, 000 live births), however it is considered among countries that are noted to be making progress toward improved maternal health (WHO et al. 2014). From a recent report by the GHS/RCH (2014), hemorrhage, pre-eclampsia, eclampsia, malaria, embolism, ruptured uterus, ectopic pregnancy are the main causes of maternal mortality in the country. Figure 1.2 depicts the causes of maternal mortality in Ghana.

**Figure 1.2:** Causes of maternal mortality in Ghana



Neonatal and child health indicators have seen improvement nationwide. BCG, Measles, Polio vaccine (OPV3) coverage of 100%, 89% and 88% respectively were observed in 2007 (Antwi-Agyei et al. 2013). Table 1.4 summarises key maternal health indicators in Ghana

**Table 1.4:** Maternal, neonatal and child health indicators in Ghana

Infant mortality rate (per 1000 live births) (2010)	50 *
Neonatal mortality rate (per 1000 live births) (2010)	28 *
Under five mortality per 1000 (per 1000 live births) (2010)	74 *
Maternal mortality ratio (per 100,000 live birth) (2010)	350 <sup>c</sup>
Fertility rate ( total births per woman)	4.0 <sup>a</sup>
Percentage ANC utilisation (at least once) (2011)	98.2 <sup>b</sup>
Percentage ANC utilisation ( at least 4 times) (2011)	77.0 <sup>b</sup>
% supervised delivery (2013)	54.6 <sup>b</sup>
Unmet need for family planning	34%

Source: <sup>a</sup>GSS et al. 2009a, GSS et al. 2009b, <sup>b</sup>GHS/RCH 2014,\*UNICEF, 2012, <sup>c</sup>World Bank 2011

## **CHAPTER TWO: PROBLEM STATEMENT, OBJECTIVE AND METHODOLOGY**

### **2.1 Problem Statement**

Achieving the MDG 5 - reducing maternal mortality ratio by 75% remains a challenge for most countries (UN 2013). Ghana has made significant progress in reducing its Maternal Mortality Ratio (MMR) from 740/100,000 live births in 1990 to 350/100,000 live births in 2010, an overall decline of 44% (Beyai et al 2013; UNFPA 2011; World Bank 2011). However, achieving the MDGs 5 target of 185 deaths per 100,000 live births in 2015 is very unlikely to be realized (UNDP Ghana 2012).

Evidence has shown skilled birth attendance to be the most simple and effective intervention that can contribute to reduction in maternal and neonatal death in developing countries where resources are scarce (UN, 2013; WHO & Black 2011). It is estimated that two thirds of neonatal deaths and 13-33% of maternal deaths can be averted when all deliveries are attended to by SBAs with the required midwifery skills (WHO Fact sheet no 333 2012; Bernis et al. 2003; Graham et al. 2001).

Moreover, the critical role of SBAs in management of life threatening complications such as profuse bleeding, obstructed labour, eclampsia has shown the necessity of having SBAs at every delivery. It is also widely acknowledged that SBAs can identify and facilitate timely referral of women in difficult labour to a higher level of care when needed (UN MDG Report 2012).

According to the WHO, SBA is "an accredited health professional – such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and the identification, management and referral of complications in women and newborns" (WHO 2004). This excludes traditional birth attendants irrespective of duration of training (WHO 2007; UN 2003).

In the context of Ghana, skilled deliveries can only be accessed in health facilities and institutional deliveries therefore can be used as a proxy for skilled attendance. Births occurring outside health facilities are mostly supervised by Traditional Birth Attendants (TBA), older women in the community or by self-assisted delivery (GSS et al. 2009a).

Over the past years, uptake of ANC has remained high in Ghana. In 2011, about 98.2% of pregnant women had at least one ANC visit and 77.0%

made four or more ANC visits (GHS/RCH 2014). This therefore indicates the significance women place on attending a health facility when pregnant. However, this does not translate into proportion of institutional deliveries in the country. According to the 2008 Ghana Demographic and Health Survey (GDHS), only 57% of births occurred in health facilities (GSS et al. 2009).

Some studies have reported on disparities in proportion of births occurring in health facilities versus at home in Ghana. Akazili (2011) found that only 25% of births occur in health facilities in Northern Ghana with about 75% home deliveries.

This is worrying especially in a country where skilled delivery services can easily be accessed even at the lowest level of the health system (primary health care).

During the 2008 annual health summit, maternal mortality was declared as a “national emergency” by the health minister (MOH 2011). This has led to the implementation of several initiatives aimed at removing barriers to access to maternal health services and bridging inequalities between the rich and the poor. The free maternal and child care policy has made maternal and child health services relatively cheaper as compared to the “cash and carry” system in the past (GSS et al. 2009; Dzakpatu et al. 2012). Furthermore, the creation of CHPS compounds has increased access to maternal health services in remote areas in Ghana (GSS et al 2009a; Nyonator et al. 2005). In spite of all this, uptake of supervised delivery at health facilities still remains low in the country, a problem that needs to be researched in order to organise effective responses.

## **2.2 Justification**

There are many complications in births assisted by TBAs and other unqualified persons both in rural and urban communities in Ghana. Many women die as a result of late referrals by TBAs and some suffer complications leading to complete removal of the uterus.

The majority of these can be prevented when deliveries are supervised by SBAs in health facilities with good referral system. In Ghana, about 75% of maternal deaths occur during birth and immediate postpartum period (GSS 2012; GSS et al. 2009a). This therefore means that the relevance of institutional delivery by SBAs cannot be underestimated, hence the study to explore factors influencing the limited uptake of institutional delivery services in the country in spite of the numerous interventions pursued by the health ministry.

Understanding the reasons why women choose not to give birth in health facilities in Ghana will help in policy planning and program design of maternal services by the Ghana Health Service. Also, the findings of this study will add onto the limited knowledge on utilisation of institutional delivery services in the country and will be shared with appropriate institutions.

### **2.3 Objectives of the study**

The main objective of this study is to explore and analyse factors influencing uptake of institutional delivery services provided by SBAs in order to make recommendation to the RCH Unit of the Ghana health service, Regional and district health managers, other sector ministries and NGOs in Ghana.

The specific objectives are to:

1. describe and analyse the trend of uptake of institutional delivery services by SBAs in three population surveys in Ghana.
2. identify and discuss the socio-cultural and economic factors that influences utilisation of skilled delivery care in Ghana
3. explore and analyse health service-related factors affecting the use of skilled birth attendance.
4. review and discuss the evidence-based interventions that have enhanced the use of institutional delivery services in developing countries particularly in SSA.
5. make recommendations to the RCH unit of the Ghana health service and other relevant stakeholders in order to improve uptake of institutional delivery services in Ghana.

### **2.4 Methodology**

#### **2.4.1 Review of literature**

The objectives of the study were achieved through review and analysis of literature. Available literature from published and unpublished articles, journals, report and grey literature which answer the study questions were utilised. Search engines and databases used include Google scholar, Pubmed and Google. In addition, the websites of WHO, UN, KIT library, Vrije Universiteit, Ghana health service and Ministry of Health were also used.

### **2.4.2 Search strategy**

The key words used for the search: institutional delivery, skilled birth delivery, socio-cultural, economic, health services, Ghana, uptake, utilisation, facility-based delivery.

Inclusion criteria:

- Literature published in English language from 2003 till 2014 was included in the review; however, publications before 2003 were used when considered relevant for the study.
- The review was limited to studies which described the use of skilled delivery services nationally and internationally. Effective interventions that have enhanced the use of skilled delivery services in low and middle income countries were also considered.
- Literature from SSA and other developing countries.

Exclusion criteria:

- Studies that focused on only determinants of ANC and post-natal care (PNC) utilization were excluded

### **2.4.3 Limitations of the study**

- Only literature published in English language were used. This is because I cannot read French and therefore literature from neighbouring countries for example Burkina Faso, Ivory Coast and Togo that might have similar characteristics as Ghana were missed out in the study.
- Limited literature on effective strategies that have enhanced the use of health facility for deliveries in SSA.

### **2.4.4 Conceptual framework**

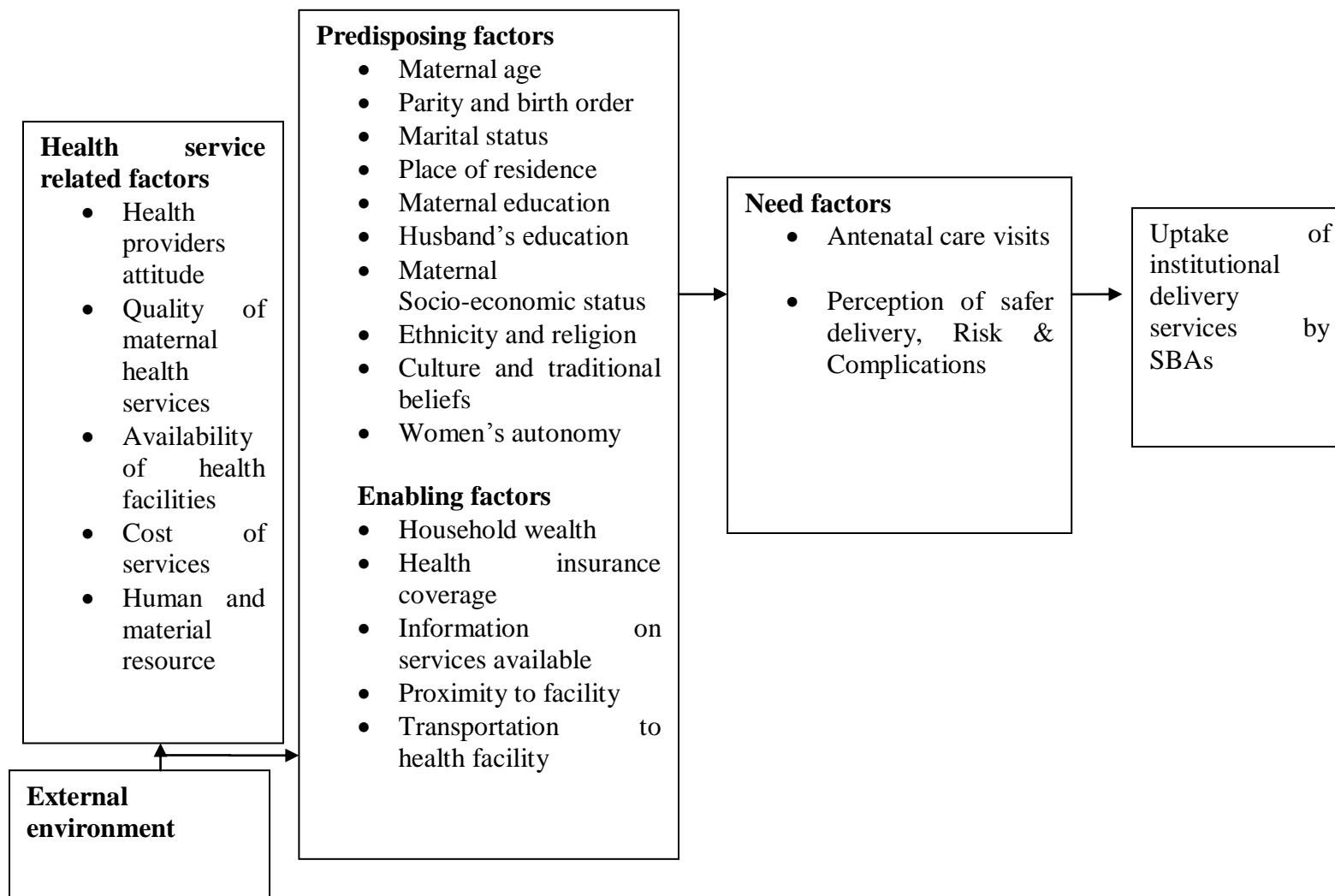
Four conceptual frameworks; Peter et al. model (2008), Health belief model, Socio-ecological model and Anderson and Newman (2005) health seeking behaviour model were reviewed. However, the final analysis of the study was done using Anderson and Newman (2005) framework. This model (shown in Figure 2.1) was selected because it falls in line with the objectives of the study and it offers a broader scope for exploration of the study area. It is based on the assumption that three sets of individual characteristics interact to influence one's behaviour to utilize maternal health services. These are predisposing characteristics, enabling characteristics and need based characteristics. A detailed explanation of the components of the conceptual framework is found below;



- **Predisposing factors:** These are the socio-cultural features of individuals that are present before illness sets in (pregnancy in this case). It comprises of demographic characteristics, social structure and health belief factors (Anderson & Newman 2005)
- **Enabling factors:** Anderson and Newman describe these characteristics as the “logistical aspects of obtaining care”. This component is still relevant even if a family has predisposing characteristics to use health services. It includes resources that an individual needs to have at his disposal in order to access services. The resources can be found both at the family and the community level (Anderson & Newman 2005).
- **Need based characteristics:** These are factors that drive an individual to seek medical care. Utilisation of health services is mostly influenced by the need of the individual. Anderson categories the need into perceived need and evaluated need. Perceive need is how an individual sees his/her own personal health and evaluated need is purely based on the judgment of the health provider (Anderson & Newman 2005). For the purpose of this thesis, the evaluated need as mentioned will not be explored since it is more centred on the perspective of the service provider. Also, some adaptation has been made to the model based on review of other literature to fall in line with the study objective.

Some relevant health services-related factors that have been documented in literature will also be reviewed and analysed.

**Figure 2.1:** Conceptual framework for utilisation of skilled delivery service



Source: Anderson and Newman (2005) with adaptation

## CHAPTER THREE: DESCRIPTION AND ANALYSIS OF INSTITUTIONAL DELIVERY TREND IN GHANA

This chapter addresses objective one of the study. It briefly describes the trend of institutional delivery uptake reported in three population surveys conducted in Ghana from 2003 to 2008.

### 3.1 Institutional deliveries by SBAs

In 2011, the health ministry in collaboration with relevant stakeholders developed a framework aimed at accelerating efforts to achieve MDG 5. Skilled delivery care was identified as one the three key priority areas that required intervention (MOH et al. 2011).

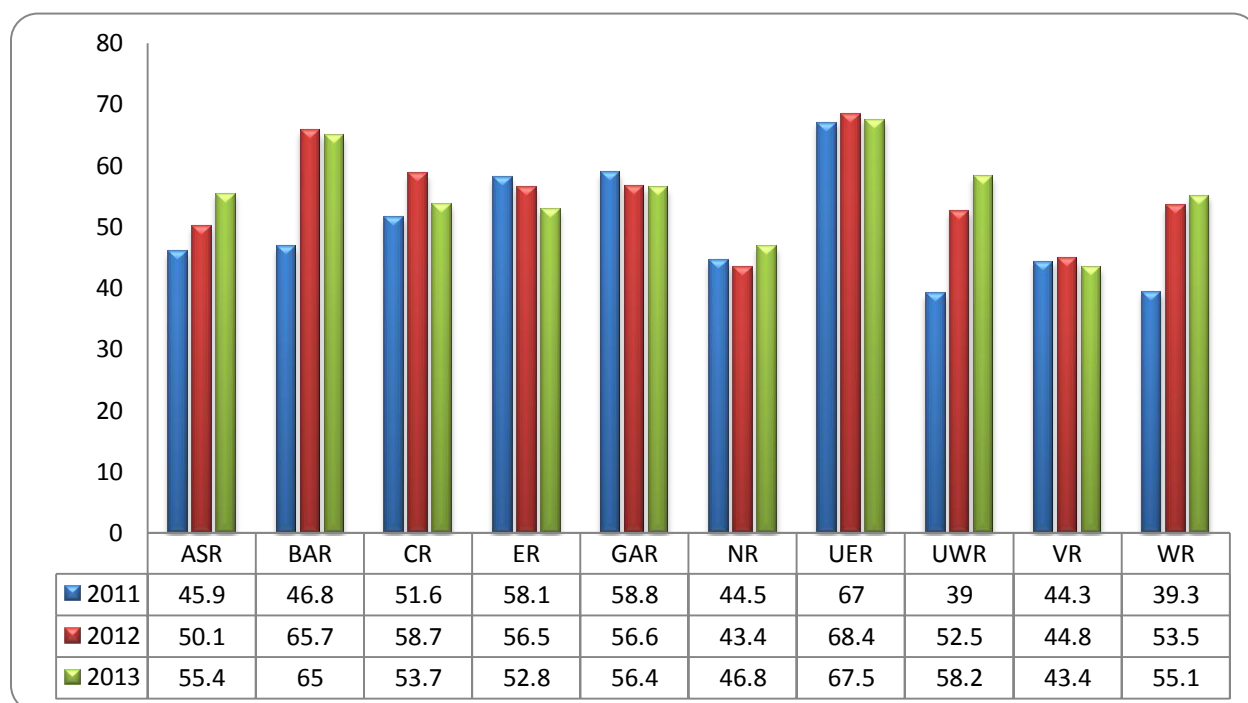
From the annual report of the RCH unit of the Ghana health services, only 54.6% of deliveries were supervised by SBAs in 2013, far less than the health service target of 80% for the year under review (GHS/RCH 2014). This figure is again lower than the global target of 85% by 2010 and 90% by 2015 (UNFPA 2008; WHO 2007). Table 3.1 shows the proportion of skilled deliveries in the ten regions in Ghana. Supervised deliveries range from 43-67% with Northern and Volta regions having the least supervised deliveries of 46.3% and 43.4%.

**Table 3.1:** Total supervised delivery by regions 2013

Region	WIFA	Exp Delivery	Total delivery	TBA Delivery	% skilled delivery
<b>Ashanti</b>	1,294,535	207,126	114,722	4,417	55.4
<b>Brong Ahafo</b>	612,856	98,057	64,335	5,275	65.6
<b>Central</b>	643,233	102,917	55,227	6,099	53.7
<b>Eastern</b>	700,639	112,102	59,191	8,674	52.8
<b>Greater Accra</b>	1,098,668	175,787	99,067	2,473	56.4
<b>Northern</b>	726,317	116,211	54,386	30,789	46.8
<b>Upper East</b>	271,169	43,387	29,304	1,944	67.5
<b>Upper West</b>	185,725	29,716	17,286	2,981	58.2
<b>Volta</b>	570,282	91,245	39,598	8,983	43.4
<b>Western</b>	631,365	101,018	55,836	8,135	55.3
<b>Ghana</b>	6,734,788	1,077,566	588,952	79,770	54.6

Source: GHS/RCH 2014

**Figure 3.1:** Trend in skilled deliveries by regions 2011-2013



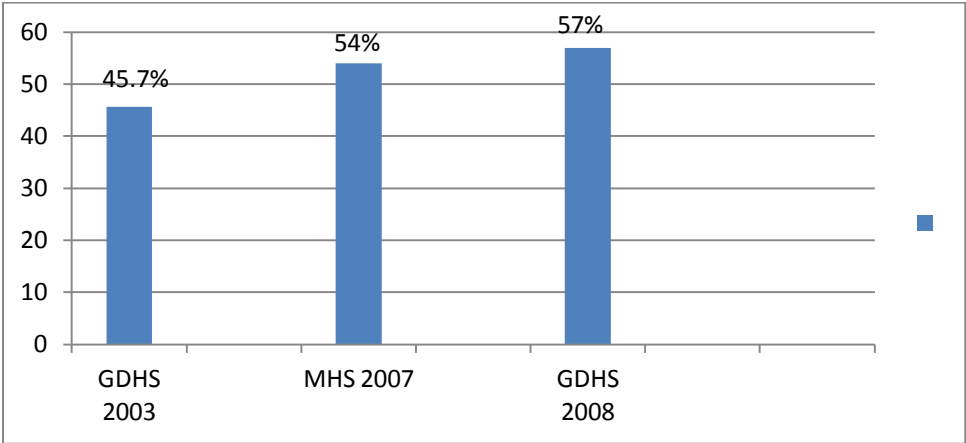
Source: GHS/RCH 2014

Figure 3.2 shows a slow progress in skilled delivery in some of the regions in Ghana between 2011 -2013. Less than 50% of births were assisted by SBAs in Northern and Volta region whiles Upper East and Brong Ahafo region had 67.5% and 65% respectively in 2013.

### 3.2 Institutional deliveries in population surveys

An increasing trend of institutional deliveries has been observed in population studies in Ghana, however the progress has been slow. The 2003 GDHS, 2007 Maternal Health Survey (MHS) and the 2008 GDHS found facility-based deliveries of 45.7%, 54.0% and 57.0% respectively (GSS et al. 2004, GSS et al 2009b, GSS et al. 2009a). According to the latest GDHS, 30% of births were assisted by TBAs in 2008. 10% of deliveries were conducted by relatives or without assistance (GSS et al. 2009a).

**Figure 3.2:** Trend of institutional deliveries in population survey in Ghana



Source: GSS et al. 2004; GSS et al. 2009; GSS 2009)

## **CHAPTER FOUR: STUDY FINDINGS AND RESULTS**

This chapter will address both the second and third objectives of the study. The findings are structured to follow the conceptual framework above (Figure 2.1) with much emphasis on predisposing, enabling and need factors described in the framework. Only perceived need (client's perspective) will be explored in this review. In addition, relevant health service-related factors that affect utilisation of skilled delivery service will be touched upon. However, the external environment as indicated in the framework will not be explored due to limited time for the study. Literature from Ghana will be reviewed first, followed by SSA and other developing countries. The various factors were selected based on the available literature

### **4.1 Predisposing factors**

#### **4.1.1 Maternal age**

Maternal at birth has been reported to have an influence on their health seeking behaviour particularly during child birth (Reynold et al. 2006). In Ghana, studies have shown an association between maternal age and the use of health facilities for deliveries. From the 2008 GDHS, pregnant women between the ages of 20 and 34 years were more likely to use a health facility for delivery (58.9%). They were followed by those between 35 and 49 years (53.8%) and those below the age of 20 years had the least uptake of 50.9% (GSS et al. 2009a).

This is not unique only to Ghana as a study by Chubike and Constance (2013) done in Nigeria also found women below the age of 19 years to be the least users of skilled birth care. It is therefore suggestive that maternal age at birth is an important predictor for an uptake of institutional delivery service.

#### **4.1.2 Parity/birth order**

Various studies have demonstrated the influences of parity on women's choice of place of birth (Moyer et al. 2013; Tey & Lai 2013; Gabrysch & Campbell 2009). A study done by Stephenson et al. (2008) in Ghana, Malawi, Tanzania and Kenya found high preference of home delivery among women with high parity. GSS et al. (2009) also identified that low parity women were more likely (69.1%) to utilise health facilities for birth as compared to women with six or more children (41.4%) in Ghana. The same study also noted a decrease in uptake of SBAs with an increasing number of births. A similar finding was reported in Uganda by Anyait et al (2012) in a

cross sectional study that, women with more than four births had less use of health facilities for deliveries.

The fewer uptakes of institutional delivery services by multiparous women has been linked to perceived maternity experience coupled with high confidence of these women (Tey & Lai 2013). This is also the case in other parts of the world, for instance in Pakistan, health facilities are mostly used by women during first birth (Agha & Thomas 2011). It is reported from the same study that more than 50% of women employ the service of SBAs during their first birth as compared with only 28% after the fifth birth (Agha & Thomas 2011).

#### **4.1.3 Marital status**

A study done in the Ga East Municipality of Ghana to identify barriers to utilisation of skilled delivery services found no associations between women marital status at birth and the use of skilled delivery services (Esen & Sappor 2013). This is similar to a study by Mulogo et al. (2006) in Uganda.

However, Stephenson et al. (2006) reported a different picture in their study carried out in Ivory Coast. From the study, women in polygamous marriages and divorcees had less birth at health facilities for their recent child as compared to their counterparts in monogamous marriages. The same study found fewer uptakes of skilled delivery services among single women and those who were separated. A similar finding was reported from Kenya demonstrating less use of maternity services among women who were single, widowed or in polygamous relationship (Byford-Richardson et al. 2013).

On the contrary, Mpembeni et al. (2007) found single women to be more likely to utilise a health facility for delivery as compared to married women in Tanzania.

From the review, it appears that there are contextual variations with respect to marital status and use of health facility for birth. A qualitative study may be helpful in finding the link between marital status and the use of skilled delivery service in Ghana.

#### **4.1.4 Place of residence**

A systematic reviews on inequalities in the use of maternal health care in developing countries identified utilisation of skilled delivery services to be

more likely among women residing in urban settings as compared to those in rural areas (Say & Raine et al. 2007).

In Ghana, 82.4% of urban residents utilised health facilities for childbirth as against only 41.7% of rural dwellers (GSS et al. 2009a). According to the 2010 Population and Housing Census, 50.9% of Ghanaians live in urban areas and 41.9% reside in rural areas (GSS 2012). Place of residence may be associated with many factors for example socio-economic status and level of education (Gabrysch & Campbell 2009).

The high use of health facilities for birth in urban areas is not exclusive to Ghana, similar findings have been reported from other SSA countries (Ononokpono & Odimegwu 2014; Mehari 2013; Babalola & Fatusi 2009). It can be concluded from the findings above that place of residence is a determinant for the use of institutional delivery service for birth by women.

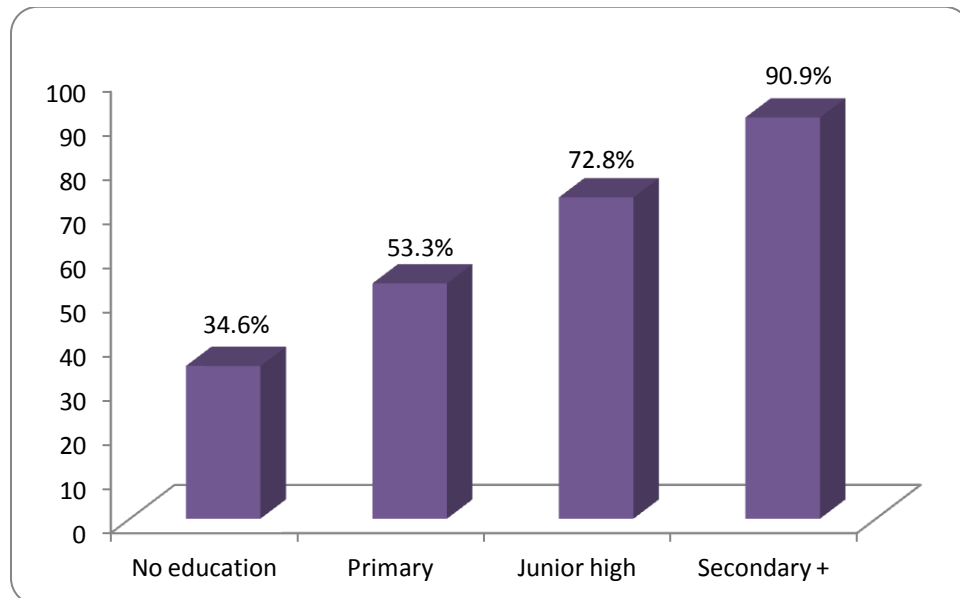
#### **4.1.5 Maternal education**

Women's educational level has been shown in systematic reviews as an important predictor for utilisation of skilled delivery service (Moyer & Mustafa 2013; Say & Raine 2007). A cross sectional study done by Esena and Sappor (2013) in Ghana found a significant association between maternal education and the use of SBAs for delivery. The study concluded that women who spent more years in school were more likely to deliver in health facilities than their peers with no formal education (Esena & Sappor 2013)

In the same country, the GDHS also reported uptake of a health facility for delivery to be high (90.9%) among women who had attained secondary education and beyond. Among those without formal education, only 34.6% utilised a health facility for birth according to the survey (Figure 4.2) (GSS et al. 2009a).



**Figure: 4.1:** Maternal education and use of health facility for deliveries



GSS et al 2009a

It is important to indicate that only 15.5% of Ghanaians were found to have obtained secondary education in the past with males accounting for the higher proportion as observed in the 2010 Population and housing survey. High school dropout among females at primary and junior high school are due to adolescent pregnancies and less family support (GSS 2012).

Similar findings on education and its effect on utilisation of skilled delivery services have been reported in other countries for example in Ethiopia, women with secondary education and above were three times more likely to use SBAs for delivery as compared to their colleagues with no formal education (Hagos 2014; Feyissa et al. 2014). Agha and Carton (2011) also found strong association between the use of institutional delivery services and maternal education above primary school level in Pakistan.

#### **4.1.6 Husband's education**

A review done by Gabrysch and Campbell (2009) has shown that husband's level of education is an influential factor for the spouse choice of place of birth. A more educated husband is likely to understand the essence of skilled birth attendance and may engage health providers to obtain quality maternal health care for his spouse. Also, he may be less inclined to impose a restrictive environment for his wife to decide on her reproductive and health issues.

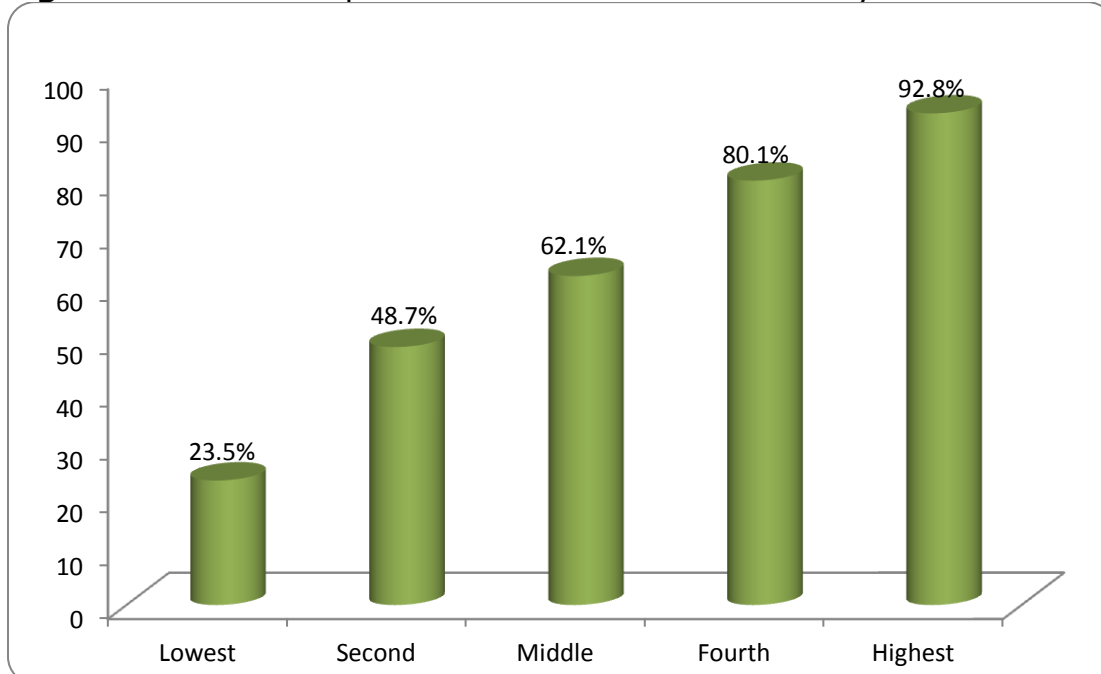
In Ghana, the roles of husbands are enormous spanning from decision making to bread winning. The choices made by women require their husband's approval and this is not different in selecting a place of birth. A multivariate analysis done in rural Ghana noted that women married to educated husbands are more likely to use SBAs for delivery (Sakeah et al.2014)

A similar finding has been reported in other SSA countries. For instance in Zambia, women who employed the services of TBAs for deliveries were found to be wives of husband's who had less than secondary education (Nwaliko 2014). However, no association was found between husband's education and the use of skilled delivery services in Nigeria (Chubike & Constance 2013)

#### 4.1.7 Maternal socio-economic status

The decision to use health facility for delivery is well known to be dependent on ones position in the wealth hierarchy (Exavery 2014; Kunst & Houweling 2001). Economic status of women is reported in many literatures to have significant influence on the use of skilled delivery service (Moyer & Mustafa 2013). A survey done in Ghana showed that a higher proportion (92.8%) of women in the wealthiest quintiles uses skilled delivery services as compared to only 23.5% of those in the poorest quintiles (as shown in figure 4.3) (GSS et al. 2009a)

**Figure 4.2:** Wealth quintiles and use of health facility for deliveries



Source: GSS et al. 2009a

This is also the case in other countries for example in India, Kesterton et al. (2010) found that women's decision to access either public or private health facility for delivery was solely dependent on her ability to pay for the cost of service.

#### **4.1.8 Ethnicity and religion**

Ethnicity and religion are to a large extent interlinked and are considered to influence cultural norms, beliefs and values (Gabrysch & Campbell 2009). Some studies have demonstrated association between ethnicity and utilisation of skilled care (Van Malderen et al. 2013; Babalola & Fatusi 2009).

Sakeah et al. (2014), in a study carried out in Northern Ghana, found ethnicity as a predictor for utilisation of skilled birth attendance. The study noted that women belonging to the Nankanas ethnic group were less likely to use skilled delivery services as compared to other ethnic majorities in the region. This was found to be due to the Nankanas strong affiliation to traditional religion (Sakeah et al. 2014). This may partly be accounting for the low supervised deliveries observed in both Northern and Volta regions of Ghana (Table 3.1) as tradition, culture and religion are more common and highly upheld in these areas.

With respect to religion, Gyimah et al. (2006) found high uptake of institutional delivery services by Christian women as compared to women who held Islamic and traditional faith in Ghana. Similar findings have been reported by Sakeah et al. (2014) and Stephenson et al. (2006) in the same country.

#### **4.1.9 Cultural beliefs and traditional practices toward pregnancy and childbirth**

The correlation between cultural norms, values and beliefs and its influence on skilled birth deliveries is well documented in literature (Moyer, 2013; Dako-Gyeke et al. 2013). Culture is deeply rooted in many societies in Ghana and more often than not pregnancy outcomes are interpreted with some spiritual connotations (Sackey 2002). In most instances pregnancies and childbirth are considered as a normal phenomenon which does not need any special care.

A qualitative study by Akum (2013) in Upper East region of Ghana revealed that women's inability to use concoctions and herbs as a means to facilitate labour in health facilities was the reason why home delivery by TBAs were

utilised for birth. Also some myths about child birth in health facilities were identified by Buzzano et al. (2008) in a study done in Brong Ahafo region of Ghana. It was reported that women who delivered in health facilities due to labour complications were perceived to have indulged in infidelity and been dishonest with the true identity of the person responsible for the pregnancy. This compelled most women to deliver at home to avoid such shame. Furthermore, in Northern Ghana, women were motivated to give birth at home because it is widely acknowledged as a sign of faithfulness to spouse. Protracted labour was believed to be a curse from the ancestors and this could only be annulled by public confession of infidelity to the extended family. This made birth at home as the most appropriate place for the performance of such rituals (Moyer et al. 2013).

Cultural influence on place of birth is not peculiar to only Ghana, similar findings have been reported in Uganda, where women were more likely to use facility-based delivery services when they had a high confidence that health workers will treat their placenta with dignity by giving it a befitting burial (Anyait 2012). This is because Ugandan women have a strong belief that the placenta is the second child and the survival of the child and outcome of subsequent pregnancies of the mother depend on how well the placenta is handled (Anyait 2012).

#### **4.1.10 Women autonomy**

Some linkage has been established with respect to women autonomy and use of skilled delivery services (Byford Richardson *et al.*, 2013; Moyer and Mustafa, 2013). Women who have freedom to make decisions pertaining to their health are more likely to utilised maternal delivery care (Ononokpono & Odimegwu 2013)

Esen and Sappor (2013) found in Ghana that, the decision of couples on place of birth was made collectively by both partners. However, a study by Moyer et al. (2013) in Northern Ghana reported that decisions on place of birth of women were made in consultation with husbands, mother-in-law and compound head. The study revealed that the compound head, usually the grandfather holds the final say and this is after he has consulted the spiritual leaders (Moyer et al. 2013). This obviously contributes to delay in decision making (Thaddeus & Maine 1994). The role of mother-in-laws and other family relatives in deciding on where women deliver has been reported in other countries such as Nepal (Baral et al. 2010).

## **4.2 Enabling factors**

### **4.2.1. Household wealth/family income**

Household wealth is indicated as an important resource that can either enable or impede utilization of skilled delivery services in many settings. In Ghana, it is evidenced from a survey finding that a more satisfactory health seeking behaviour is observed among women that come from the wealthiest households (GSS et al. 2009b). It therefore suggests that women who have the required financial support are able to afford cost of health services, transport and other opportunity cost. However, husband's employment status is important when it comes to family income in Ghana.

The relationship between household wealth and women's choice of place of birth has been shown in studies from other part of the world. In Kenya and Nigeria, studies have shown that women from the richest household were four times more likely to use skilled delivery services.

These findings are therefore suggestive of household wealth as a predictor for skilled care use across many settings and Ghana is not an exception.

### **4.2.2 Health insurance coverage**

Health insurance is documented as an effective payment mechanism that has contributed significantly to uptake of facility-based delivery. This is more visible in countries that have implemented free exemption policies for maternal health services (Hatt et al. 2013).

Ghana is one of the countries in SSA that has enrolled free maternal and child health care nationwide. Few studies have assessed the impact of health insurance on facility base delivery in the country. A study by Dzakpasu et al. (2012) in Brong Ahafo region of Ghana found an increase in utilisation of health facilities for delivery by 2.3% and 7.5% after introduction of the free maternal care policy in 2005 and 2008 respectively. The implementation of the exemption policy has also been linked to the high ANC attendance in the country (Dixon et al. 2014).

On the other hand, Chrissman et al. (2013) reported that some women still choose to give birth at home in spite of the waived user fee for delivery in Ghana. Costs that are incurred by women out of compulsion by the health facilities such as baby's clothing, soap, napkins rubber mackintosh, bed sheets, antiseptic agents were noted to be a deterrent for institutional delivery.

A similar finding on impact of health insurance coverage and the use of skilled delivery service was found in Nigeria. The study demonstrated high (72%) uptake of facility based delivery among women covered under health insurance as compared to those without insurance (Aremu et al. 2011).

#### **4.2.3 Information on available services**

Utilisation of services is more often than not preceded by awareness of the services. In Ghana, mass media is the most common means to access information. It is argued that people's lives are more likely to be influenced by the kind of information presented or made available to them. No literature was found in Ghana on influence of information on use of skilled delivery services during the review, however other studies in SSA have reported on this subject.

Worku et al. (2013) pointed out in a study conducted in Ethiopia that women who were aware of existing health facilities for delivery utilised it during child birth. On the other hand, Onasoga et al. (2014) in their study found that in spite of high awareness level of women about existing maternal health services, only few of the respondents were abreast with the main components of the service. This information gap is more likely to have an influence on utilization especially in the case of birthing. Furthermore, a study done in Mali, Kenya and Tanzania found that women who were informed about family planning through mass media utilised a health facility for delivery (Stephenson et al. 2006). There is no doubt from this review that women's awareness of existing services can influence their choice of place of birth. It is therefore important to explore the possibilities for Ghana.

#### **4.2.4 Proximity to health facility**

Access to health facility that offers care at birth is of great importance, however, poor geographical access to the nearest facility can become a disincentive for most women to utilise institutional delivery services (Karnwendo et al. 2006; Anwar et al. 2008).

Gething et al. (2012) found in Ghana that, the majority of women (90%) in their reproductive age have access to health facilities that provide care at birth. However, those living in rural areas were highly disadvantaged due to poor road network, poor communication and inadequate referral system. The same study pointed out that about a third of these women spend about two hours to reach the nearest EmONC facilities (Gething et al. 2012). Also, long distance to health facilities was cited in the latest GDHS as one reason why women

do not use facility-based delivery (GSS et al. 2009a). In rural Ghana, distance to the nearest health facilities is estimated at 3-5km (MOHa 2014)

Similarly in Kenya, Mwaliko et al. (2014) found that health facilities that were within 2km from the respondent homes with EmOC services were more likely to be accessed. In Tanzania, 50% women residing within 5km from the health facility received skilled delivery service as against only 20% of women living beyond 5km from the nearest health facility (Mpembeni et al. 2007).

#### **4.2.5 Transportation to health facility**

Transportation challenges to a health facility which span from unavailability to affordability may influence the decision of women on the place to seek delivery services. A study conducted in Ghana found that 43% of respondents who failed to use a health facility for delivery cited transportation challenges as reason (Esen & Sappor 2013). Some of these challenges include lack of vehicle, high cost of transport and poor road network. This is similar to finding reported by Lerberg et al. (2014) in Zambia.

Transport cost to a health facility is estimated to be almost 50% of total expenditure for a normal delivery cost in Nepal and Tanzania (Borghetti et al. 2006). This was noted to be a barrier to access for most Nepalese women leading to introduction of cash payment policy covering the cost of transport of women in hard to reach areas (Borghetti et al. 2006).

In most circumstances, transportation challenges leads to delay in reaching health facilities even when the decision is made by the woman to access skilled delivery care (Thaddeus & Maine 1994).

### **4.3 Need factors**

#### **4.3.1 Perceived need/ Benefit**

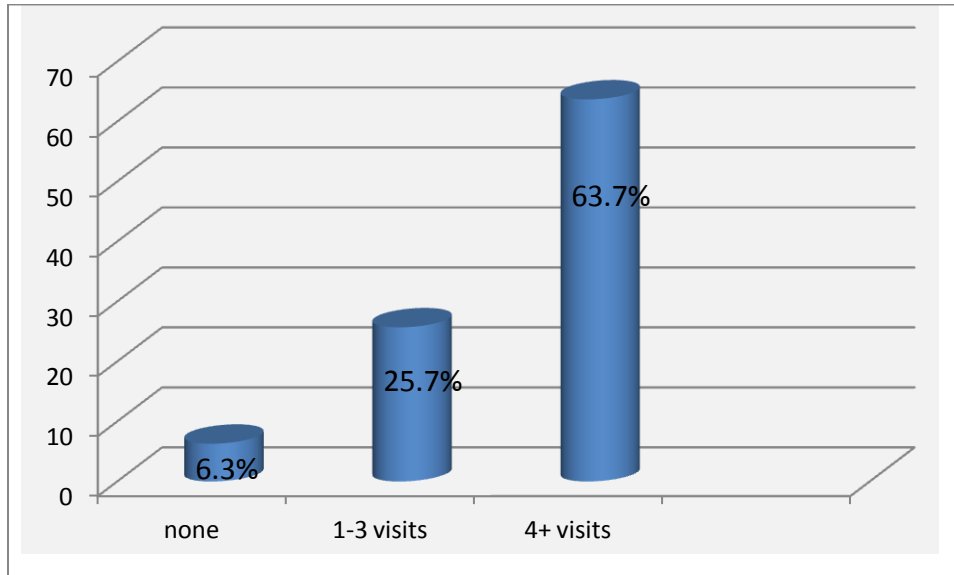
##### **4.3.1.1 Antenatal care use**

Antenatal Care visit is found to be associated with the use of institutional delivery services (Mehari 2014; Teferra et al. 2012) and also act as a window for uptake of skilled birth attendance. A minimum of four ANC visits is recommended for every pregnant woman without complications (UN 2011) and Ghana has adopted this protocol.

From the Ghana maternal Health Survey, women who had four or more ANC visits had high (63.7%) uptake of skilled delivery services. This was followed by those who had between one and three visits (25.7%). A very low (6.3%)

uptake of facility deliveries were reported among women who did not attend even one ANC visit during the entire pregnancy period (GSS et al. 2009).

**Figure 4.4:** ANC visit and use of health facility for deliveries



Source: GSS et al. 2009

Furthermore, timing of ANC registration has also been documented as a predictor for seeking skilled delivery. A study by Abeje et al. (2014) found that women who registered for ANC during the first trimester were about five times more likely to give birth at a health facility, twice as likely when registered during the second trimester as compared to those who reported in the third trimester. In Ghana, only 45.1% of pregnant women visited ANC within the first trimester of their pregnancy in 2013. The majority (>50%) reported for ANC during their second and third trimester (GHS/RCH 2014).

#### **4.3.1.2 Perceptions of safe pregnancy, risk and complication.**

In many societies, delivery is perceived as a “normal activity” with less consideration on the possible complications that could arise at any point in time during delivery process. This perception influences women to take the risk of delivering at home without SBAs. The result of the Ghana maternal health survey indicates that among approximately half of the respondents who failed to use health facility for delivery, 32% indicated that it was needless to deliver at the health facility (GSS et al. 2009a). Buzzano et al. (2008) also noted that women who had home birth in Brong Ahafo region were considered as “achievers” and were recognised and respected in their society.



It is also reported that women with perceived risk and had experienced complications during previous pregnancies, delivery and post delivery were more likely to utilise skilled delivery care (Olayinka 2013; Kebebe 2012).

#### **4.4 Health services related factors**

##### **4.4.1 Health provider's attitude**

Health provider's attitude has been documented to influence client health seeking behaviour particularly for delivery services. A Lancet series revealed that services that are offered in a respectful way with a mixture of interpersonal skills are what women need from their providers (Renfrew *et al.*, 2014). A positive attitude of the provider devoid of rudeness, shouting and demoralization but full of encouragement, reassurance and politeness has been found to increase the use of skilled birth attendance for delivery (Baral *et al.* 2010; D'Ambruso *et al.* 2005).

In Ghana, a qualitative study which explored midwives and pregnant women perspective on maltreatment during labour and delivery revealed different forms of abuse pregnant women face in labour wards. Different disciplinary actions such as yelling, beating and neglect were found to be the tool used by midwives to achieve positive delivery outcome (deliver live baby). The study noted that the relationship between client and service providers were not different from that of a mother and daughter (Yakubu *et al.* 2014).

This is not only peculiar to Ghana, similar findings have been reported in other SSA countries for instance, in Kenya, it was revealed that poor attitude of health providers offered TBA competitive advantage over them thereby increasing the number of birth at home. The study noted that TBAs were described by women as none judgemental, full of encouraging words, readiness to offer them warm bath after delivery, feed and clean their new born after delivery, hence their preferred choice (Byford-Richardson *et al.* 2013)

##### **4.4.2 Quality of services**

The care women receive at health facilities has an influence on subsequent use of the service. Maternal health service is documented to be poor in many countries according to a previous Lancet series publication (Koblinsky *et al.* 2006).

In Ghana, clinical practice was found to be below standard in most health institutions. Only 17% of primary health care facilities met the criteria for good quality (Hussein *et al.* 2004). Also, studies have shown gaps in information offered to expectant mothers during ANC visits. A cross-

sectional study by Duysburgh et al. (2013) in primary health care facilities in Ghana, Burkina Faso and Tanzania showed that one in three women interviewed never had any information on danger signs related to pregnancy. About 22% of the respondents could not mention one danger sign of pregnancy in Ghana. From the study, less than 50% of the women were offered counselling on danger signs of pregnancy during ANC (Duysburgh et al. 2013).

Lack of opportunity for midwives to update their knowledge on current maternal and neonatal health issues has been shown in Ghana to have an influence on their service provision, thus level of quality of service. Bachani and Tenkorang (2014) reported that in-service training offered to health providers in Ghana were not frequent and also fell short of quality to build participants capacity enough to reform current practice.

On the other hand, perceived quality from women's point of view is an important determinant of health service utilisation. It was revealed from a study done in Tanzania that, women were more comfortable embarking on a long journey to seek quality care in other facilities bypassing the closest local health centres to their homes. This was because they perceived the service provided at the nearby health centre as poor quality (Kruk et al. 2009).

#### **4.4.3 Availability of health facilities**

Health facility is an important and a safer environment for delivery as compared to the home particularly in low and middle income countries where resources are scarce. A systematic review concluded that the risk of deaths of neonates in low and middle income countries were reduced by about 25% when institutional delivery services were accessed (Tura 2013).

Ghana has about 5,850 health facilities (DHIMS 2014) throughout the country (Table 1.2). However most of these facilities are concentrated in the urban setting. This means that pregnant women living in rural areas have to travel long distances to access health services which more often than not serves as a barrier to access.

The introduction of the CHPS concept has made health care accessible to most rural dwellers but the scale up is not yet universal (GSS et al. 2009a). According to the Government of Ghana, the number of maternity beds per population was 26.3 per 1000 deliveries in 2010 which is almost close to the international standard of 30 to 32 per 1000 deliveries (GOG et al. 2011).

#### 4.4.4 Availability of SBAs

Workforce shortage is a major issue in most countries and Ghana is no exception (Witter 2007). WHO recommends every country to have a 2.3 essential health worker per 1000 population; however Ghana is estimated to have only 1.24 health workers per 1000 population (Selah 2013). Distribution of SBAs in Ghana is inequitable and it is more skewed in favour to the urban over rural areas and also to hospitals over clinics (MOH 2010). Greater Accra and Ashanti regions have the higher numbers of SBAs, with the three Northern regions having the lower numbers. This is due to the majority of SBAs unwillingness to accept postings to these areas coupled with staff retention challenges (Selah 2013; GHS 2011). Table 4.1 present the distributions of health professionals in the ten regions of Ghana.

**Table 4.1:** Distribution of health professional by 2008

profession	Ashanti Region	Brong Ahafo	Central	Eastern	Greater Accra	Northern	Upper East	Upper West	Volta	Western
Medical officers	499	106	76	140	820	38	34	18	72	77
Medical Assistants	85	50	38	47	70	59	34	15	29	37
Professional Nurses	1604	764	740	1009	2624	714	459	346	827	688
Auxillary nurses	731	474	644	1031	1350	509	403	251	797	667
Midwives	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: GHS 2011

Ghana has improved in the number of health workers per population ratio over the years, however, there is still much to be done. The midwife per women in fertile age ratio improved from 2010 to 2011 (Table 1.3). This can be attributed to the establishment of midwifery schools in all the regions of Ghana and the high production of these cadres every year. In 2011, midwife per WIFA population stood at 1: 1,478 (GHS 2011). In spite of these, the aging population of health workers, particularly midwives, is a challenge (Selah 2013). A recent study conducted in health facilities in Ghana revealed

that 7% of health centres lacked midwives, 9% of health clinics did not have midwives at post and 57% of CHPS compounds also lacked midwives (GOG et al. 2011).

#### **4.4.5 Cost of Service**

Cost of health services has been identified as a predictor for utilisation of skilled care in different parts of the world (Koblinsky et al.2006). Ghana has gone through policy reforms to improve financial access to maternal and child health care. In 2003, three regions were used for a pilot of free delivery care and later enrolled in the remaining seven regions in 2005. The challenge was that pregnant women were supposed to be a registrant of the insurance scheme before benefiting from the services which was a huge barrier to the poor. In July 2008, the Government of Ghana through the National Insurance Authority introduced free maternal health care program as measure to remove financial barriers to maternal services. Some of the difficulties mostly reported by health facilities accredited by the National Health Insurance is persistent late reimbursement of cost of service provided (Witter 2013).

## **CHAPTER FIVE: EVIDENCE-BASED INTERVENTIONS THAT HAVE ENHANCED THE USE OF INSTITUTIONAL DELIVERY SERVICES IN DEVELOPING COUNTRIES**

This chapter reviews effective strategies from developing countries that have improved uptake of facility based deliveries by SBAs. Only interventions that are not been done or done with some gaps in Ghana are reviewed.

### **5.1 Maternity waiting home**

One “old” but popular concept that has received much attention and funding as a mechanism to improve access to skilled birth attendance and use of health facility for delivery in many developing countries is maternity waiting homes (MWH) (Wild et al. 2012). These are residential facilities built closer to health centres where EmOC services can easily be accessed (Lonkhuijzen et al. 2014).

Expectant mothers with bad obstetric history and those living far away from nearest health centre arranged to stay in these facilities prior to onset of labour and days after deliveries (Lonkhuijzen et al. 2014; Satti et al. 2013). Success stories have been documented in many countries on the effectiveness of MWH in bridging the geographical barrier to access for women in remote areas.

In Eritrea, MWH is a part of a comprehensive package of essential obstetric care services. This has contributed to high skilled birth attendance rate with some health facilities realising 70% increase in health facility deliveries between 2010 and 2011 (UNFPA 2012).

MWH increased the use of health facility for delivery by approximately six fold in Zimbabwe, even though challenges such as overcrowding, water shortage and poor wash rooms were reported (Lonkhuijzen et al. 2009).

In Peru, the MOH introduced MWH “Mamawasi” in 2004 to increase access to health facility for rural dwellers. Women were allowed to bring their children to the MWH and some cultural adaptations were made allowing women who preferred vertical delivery to do so. In 2007, attended birth increased from 59% to 72% in urban areas and from 24% to 48% in rural areas (Fraser, 2008). Other countries such as Ethiopia, Cuba and Nicaragua have also benefited from maternal waiting home (Lonkhuijzen et al. 2009).

In Ghana, MWH is not a new concept. One MWH was established at Nsawam district in 1994 but failed to achieve the intended result. Out of a total of 25 clients referred in a period of one year, only one person complied with the

referral and spent only one night at the MWH. Wilson et al. (1997) attributed this failure to the higher estimated cost of staying in the MWH as compared to home delivery by TBAs (Wilson et al. 1997). Even though Ghana have a successful CHPS program that offers health services in remote areas, the unavailability of CEmOC services in the CHPS zones still poses a challenge for women who are likely to have obstetric complications that may need CEmOC services. MWHs can be feasible interventions in areas where access to hospital service impossible because of poor road network to augment the effort of the CHPS program. However the success of this intervention can be achieved when community members, leaders, women in reproductive age, TBAs and safe motherhood support groups are engaged from the planning to implementation stage and also when pre-delivery cost such as feeding and cost of stay are waived through community support or by government as it was done in Peru.

## **5.2 Financial incentive for maternity care and transport**

India introduced Janani Surksha Yojana (Safe motherhood scheme) in 2005 as incentive for women in low socio-economic background to use health facility for delivery. Women residing in urban settings were entitled for 600 Indian rupees (US\$ 9.81) and 700 rupees (US\$ 11.44) for those in rural areas (Lim *et al.*, 2010). Community workers who facilitated the use of a health facility for deliveries by pregnant women were also paid 200 Indian rupees (3.27). Five years after introduction of the conditional cash transfer, institutional delivery increased from 20% to 42% (Randive et al. 2013)

The health ministry of Bangladesh introduced a voucher scheme with support from international donors. This scheme offered pregnant women free access to ANC, delivery, emergency referral and PNC services (Hatt et al. 2010). Additionally, women were given incentives in cash and kind plus stipends which covered transportation cost. Health care providers were also entitled to incentives for identification of eligible pregnant women. This was implemented in 33 sub-districts in Bangladesh in 2006 as intervention to increase deliveries assisted by SBAs and also to remove financial barrier to access. After two years, deliveries by SBAs were 64% in district with voucher scheme as compared to only 27% in the control sub-districts. This evaluation was done in twenty one districts. Institutional deliveries were also higher in the program sub-district (38%) than the control sub-districts (19%) (Hatt et al. 2010)

The Cambodian government introduced incentives for SBAs as a strategy to increase the number of facility based deliveries. SBAs were rewarded with US\$ 15 for every assisted birth in health facilities. Referral facilities were given a bonus of US\$10 per client. Deliveries supervised by SBAs increased

from 46% in 2007 to 70% in 2010 with an improvement in institutional delivery from 26% to 59% the same period (WHO 2014).

Ghana has a very successful national health insurance package which exempt all pregnant women from paying cost of maternity care, however, stipend for transportation and incentives for SBAs as mechanism to increased facility-based deliveries has not yet been explored. Ghana can draw lesson from what is being done in Bangladesh and Cambodia to support rural poor and with stipend for transport which is major barrier to access. Providing incentives for SBAs for every assisted birth can also lead to creation of social marketing strategy by SBAs to get more women to give birth at the health facilities. This can be feasible in remote communities with extremely low facility deliveries but will require political will.

### **5.3 Community involvement and participation**

In 2006, the Malawi government committed itself to achieve equity in skilled birth attendance by scaling up a number of interventions, chief among them, community mobilization and awareness programme. The programme capitalized on the influence of village chiefs, health committees and health surveillance assistance in three districts in the South to educate women on importance of facility-based deliveries. Between 2006 and 2011, institutional deliveries rose from 67% in 2006 to 92% in 2011. This led to a massive scale up of similar intervention nationwide (James & Collins 2012). According to the 2010 Malawi DHS, the proportion of women that utilize health facility for delivery increased from 54% in 2006 to 73% in 2010 (National Statistical Office 2011).

In rural Tanzania, safe motherhood promoters (SMPs) were engaged to reach out to pregnant women, spouses and other key members in their community with educational messages regarding danger signs and complications related to pregnancy. A twelve-day capacity building training was done for the SMPs using participatory adult learning method (Mushi et al. 2010). After two years of the program, 79% of pregnant women received the educational message and institutional delivery uptake rose from 34.1% to 51.4%. Also, first ANC visits (4-16 weeks) increased from a baseline of 18.7% to 56.9% within the same period (Mushi et al. 2010). These promoters were members of community groups such as village committees, religious organisations, TBAs, community health workers and opinion leaders and 50% of the educators were men.

The interventions in both Tanzania and Malawi are feasible in Ghana. To the best of my knowledge, there are safe motherhood support groups in Ghana. However, what may be needed is capacity building to deliver health messages as done in Tanzania.

## 5.4 Training

The Indonesia government launched the village midwife programme in 1989 to increase proportion of births assisted by SBAs, especially for the poor. The high commitment from the government led to training of 50,000 midwives seven years down the line (1996) meeting 96% of the number needed (Hatt et al. 2007).

Malawi increased the nurse /midwives population by 39% (from 3,456 in 2004 to 4,812 in 2009) in order to boost the number of skilled providers in the country (James & John 2012)

Sri Lanka, in its quest to increase SBAs introduced the training of two cadre of midwives; institutional midwives and public health midwives. Institutional midwives were specially trained to provide midwifery care at health facilities whereas public health midwives stayed and practiced within the community in which she served. This intervention led to a universal coverage of skilled attendance with 98% deliveries occurring at health facilities (Arulkumaran 2011)

Ghana has expanded the infrastructure of health training institutions and increased uptake of nurses and midwives students over the past years, however there is still shortage of these critical staff in rural areas and the three northern regions. Lessons can be learnt from the Indonesia village midwife program by Ghana to support the CHPS program which serves the rural communities. Midwifery admission should be opened to only student who will be willing to sign a bond to serve rural communities after training. This will help to bridge the gap of SBAs shortage in rural Ghana.



## **CHAPTER 6: DISCUSSION**

This study sought to explore and analyse both individual and health services-related factors that affect utilisation of institutional delivery services in Ghana. It aims at identifying and analysing the socio-cultural, economic and health service-related factors that influence an uptake of institutional delivery services. This chapter discusses the findings of the review in chapter 4 and it is structured to follow the objectives of the study.

### **6.1 Analysis of Socio-cultural factors**

This study has shown a consistent high ANC attendance over the years (>90%) with a non corresponding increase in the proportion of births occurring in health facilities (57%).

Many interrelated socio-cultural and economic factors for instance, maternal age and education, parity, birth order and place of residence, household wealth, ethnicity, cultural and traditional practices were identified as important determinants of place of birth for most women in Ghana.

Maternal age at birth has been shown to be a predictor for uptake of maternity services. Women under 20 years and those between the ages of 34 and 49 years were the least users of skilled delivery services as compare to those between the ages of 20 and 34 years. Different factors may be interplaying especially in the context of Ghana. Possible explanations could include the fact that pregnant women less than 20 years are very unlikely to be in a stable relationship, lacked employable skills and may be stigmatised in society. The overall effect is that, they may not be able to afford the cost associated with deliveries in health facilities such as transportation cost, opportunity cost and other unofficial charges. This may influence their decision to opt for a more affordable home delivery.

Furthermore, stigmatisation of adolescent pregnancy in Ghana leads to their seclusion from home. They usually end up in villages in order to avoid public ridicule, embarrassment and shame. Two possible issues may emerge; lack of skilled delivery service at the village and influence of grandmother's preference of place of birth on the adolescent thus often leading to home delivery.

Conversely, this study identified less utilisation of SBAs by older women to be due to perceived maternity experience and confidence gained from past deliveries (Tey & Lai 2013).

Women above 34 years are more likely to be multiparous with a large family size giving an indication of possible financial and resource constraints on the family income and it is compounded when the woman has no source of income.

With respect to place of residence, two important issues were identified in this study; low uptake of facility based delivery among women residing in rural areas and those living in Northern and Volta regions. In Ghana, a large proportion of the population (50.9 %) currently resides in the urban areas. The inequity in terms of distribution of resources in the country is partly contributing to the urban migration (GSS 2012). Also, limited number of health facilities and unwillingness of SBAs to accept postings to these areas contribute to less facility-based deliveries. As shown from this study, critical cadres of staff and health facilities are skewed to the urban settings and commercialised regions such as Greater Accra and Ashanti with limited numbers in the three northern regions of Ghana (Selah 2013).

Maternal education was observed as important factor that influences women's healthcare seeking behaviour on the use of health facility for birth. Educated women had high institutional births as compared to their peers with no formal education in Ghana. This is suggestive that women's educational status affects their socio-economic status and further play a role in parity, age at pregnancy and subsequent health seeking behaviour. It is assumed that more educated women are better able to know where to seek services and as well being able to internalise health information and counselling provided by midwives at ANC and therefore appreciate the importance of skilled birth attendance. This is an important finding that puts forward the significance of girl child education on matters that border on reproductive health.

Uneducated women may be less empowered because of poverty and dependency. This is an important factor that affects the use of skilled delivery service. It is also worthy to add that uptake of health facility for birth further increases when husbands are also educated especially in the context of Ghana where societies have ascribed many roles such as decision making and source of household income to the husband.

This study identified some interconnection and interrelation between ethnicity, culture, traditional beliefs and religion and the use of SBAs for childbirth. It was noted that uptake of facility-based deliveries were low among some ethnic minorities in Northern Ghana. The influence of religious belief on use of skilled delivery services is deeply embedded and women who hold traditional beliefs like the Nankana and Moslems were observed as the most common group with limited uptake of SBAs for deliveries. For some Moslems, this may be due to the religious restrictions that restrain women from accessing health facility alone or to be attended to by opposite sex health care provider (Ghuman 2003). This is important for consideration as

about 60% of the indigenes in Northern Ghana and 17.6% of the general population are Moslems. It is therefore important to identify the underlying causes to help in the design of programmes for behavioural change.

Also, differences between traditional practice and modern medicine were revealed by this study. Whiles some women preferred the use of concoction and herbs to facilitate labour, the restrictive nature of the health system to these practices influence their choice for home birth. This clearly suggests that, women want to have a degree of self determination and a health system that is sensitive to culture which is not currently offered.

## **6.2 Analysis of economic factors**

Household wealth and health insurance coverage were the economically related findings identified from the study.

This study has demonstrated that women's decision to use health facility for delivery depends on their position on the wealth hierarchy (Kunst & Houweling 2001). It was found that fewer proportions of women belonging to the lowest wealth quintiles utilised institutional delivery services in Ghana because they are unable to afford the cost involved. The situation is worsened when their husbands are unemployed and cannot offer any financial support.

Furthermore, poor households resort to traditional ways of doing things and consider some practices out of their means as modern and are more likely to utilise the service of TBA's for delivery care even when health facilities are available. The high cost of living may also compel people to opt for a more affordable service.

This study also found financial protection through NHIS as an enabler to uptake of institutional delivery services. Every pregnant woman is entitled to free maternal care in Ghana, however, it is an undeniable fact that some NHIS accredited private and mission health facilities charge extra cost on services such as deliveries and caesarean sections which are described as "top up" fees. This is done on the presumption that NHIS tariffs are low. Additionally, the persistent withdrawal of service by private and mission hospital providers due to delay in reimbursement of fund by the NHIS also act as barrier to financial access for women as most of these health institutions serve greater proportion of the rural communities in Ghana (Ghanaweb 2014).

### **6.3 Analysis of health service -related factors**

This study has shown that health service-related factors such as health provider's attitude, quality of service, availability of health facilities and SBAs play a significant role in the use of skilled delivery services in Ghana.

Unsatisfactory attitude of some SBAs particularly midwives were found to be a deterrent to the use of facility-based deliveries. Approaches adopted by some SBAs to obtain positive birth outcome were noted to be inhumane and unfriendly. Beating, neglect, insulting and shouting and the use of abusive languages were cited in literature as some of the experiences women had with SBAs. It is a known fact that SBAs work under unfavourable conditions especially in rural Ghana. These include attending to a large number of clients and in most cases, one SBA working both day and night. These conditions may influence the negative attitudes of SBAs in the context of Ghana.

Furthermore, the failure of clients to comply with lessons learnt during ANC and the negative behaviours of some clients' relatives can frustrate midwives who are already stressed by the high work demand. This is demonstrated by the health provider in anger and negative expressions which are interpreted as "cruelty". Undoubtedly some SBAs naturally have poor provider-client relationship, however it is important to establish the underlying causes influencing attitudes of these providers particularly nurses and midwives in environment such as Ghana.

Additionally, this study has demonstrated that quality of service in health facilities is important to change the perception of women that equate institutional delivery services by SBAs to home deliveries by TBAs. A major finding of the study was that some women perceive the services of TBA's as quality because of the love and care they offer them during labour. This care giving by TBAs cause clients to overlook the non-professionalism associated with their practices. This is a very important finding as it suggests that some positive attitude of the SBAs can improve institutional delivery uptake.

Proximity to health facilities was shown in this study as a predictor for utilisation of skilled delivery services. Distance to health facilities becomes more important when maternity services are unavailable in the communities. In rural Ghana, women have to cover a distance of about 3-5 kilometres in order to access the nearest health facilities (MOH 2014). This contributes to delay in reaching health facility for delivery. The situation is worsened when there is a poor or no accessible road network and women have to walk in their pregnant state for long hours. In situations where the roads are accessible, high cost of transportation alone makes it a disincentive for most

women in rural settings who are poor. This may be the rationale for their preference for TBA's who may deliver them in their home environment.

#### **6.4 Analysis of need factors**

This study found that women who perceived the benefit of ANC and attended the required number of four or more visits had a high uptake of skilled birth delivery care. However, high proportion (50%) of expectant mothers delayed till the second trimester before attending ANC (GHS/RCH 2014). This is more common among multiparous women as a recent report indicates that only 10.3% of women with five or more children visited ANC in 2013 (GHS/RCH 2014). The effect is that the benefits of ANC are not fully derived by these users leading to limited understanding of the importance of using health facility for delivery.

Also, perception of delivery as a normal phenomenon was also found to be an influential factor for uptake of skilled delivery care. The study found that women failed to use a health facility for delivery because they deemed it less important. In Ghanaian societies, TBAs have been the main birth attendants over the years and their achievement is well recognised by the majority particularly in rural areas. The new trend of care (skilled birth) is therefore considered by some women to be for the affluent and the rich in society. Lack of awareness on risks associated with pregnancies and the possible complications that could arise at anytime during childbirth may be influencing this behaviour. This therefore suggests the importance of maternal education and improved socio-economic status of women.

## **CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS**

### **7.1 Conclusion**

Supervised deliveries in Ghana are low (54.6%) in 2013 as compared to the WHO target of 90% by 2015 in spite of high ANC attendance (98.2%).

This study identified socio-cultural factors such as maternal age and education, parity, cultural, religious and traditional practices and place of residence as predictor for utilisation of institutional delivery services in Ghana. Economic factors for example, household's wealth and need based factors including perception of safer pregnancy were also found to be influencing place of birth for women in this study. In addition, health services-related factors including perceived negative attitude of some SBAs, limited numbers of health facilities and SBAs, low quality of services and long distance to health facilities were also identified. Lessons can therefore be drawn from evidenced-based interventions discussed in chapter five of this study. For example maternity waiting home for remote areas where access to road network is poor as done in Peru, incentives for poor pregnant women in remote areas where cost of transport serves as a barrier to the use of health facility for delivery as done in Bangladesh and incentives for SBAs as done in Cambodia. Other community involvement and training interventions as discussed in chapter five of this study can also be explored by Ghana.

### **7.2 Recommendations for practice**

General long term socio-economic improvement resulting in more education, expansion of health centres, and more roads access etc will have an impact on uptake of institutional delivery services by SBAs. However these recommendations are limited to those that can be achieved within a short term by the health ministry, the Ghana Health services and other relevant stakeholders.

#### **Policy level**

- Considering the huge distance between the nearest health centres and rural communities, scale up of CHPS program in areas far from health facilities will help to reduce the long distance women embarked before reaching delivery centres.
- Expansion of infrastructures to increase training of more midwives and nurses. This will help to improve the shortage of these cadres of staff and reduce the workload on the few.
- Enforcement of "train and retain" policy to improve number of SBAs in remote areas where inequity exist. In addition retention strategies such as incentives and educational opportunities can also be provided

for SBAs in rural settings and deprived regions including the Northern and Volta regions of Ghana.

- Establishment of maternity homes in districts where needed with waived fee by local government through the district common fund. Community leaders, community members including women in reproductive age, TBAs and the district assembly must be engaged from the planning to the implementation stage.

### **Health facilities level**

- Provision of culturally responsive health services in communities inclined to traditional and cultural practices. Lesson can be drawn from the "Azokor" initiative where a midwife engaged the community in dialogue on importance of facility-based delivery and provided women with "zomkom" flour drink after birth resulting in an increased in facility delivery from 14.3% in 2003 to 66.4% in 2005 in Ghana (UNFPA 2014).
- Ensuring quality assurance by monitoring SBAs attitude and conduct to identify gaps for sensitisation workshop. This will improve the client-providers relationship.
- Ensuring men involvement in ANC to improve their awareness on importance of facility delivery before labour start.
- Midwives must seize the opportunity of the first ANC visit to offer a tailored-made comprehensive education, counselling on birth preparedness and benefits of facility based deliveries to the expectant mother.

### **Community level**

- Income generating activities for women by NGOs. This will improve their financial capacity to pay for cost of other services with less reliance on husband's income.
- Sensitisation program on importance of delayed pregnancy, making early and four or more ANC visits and facility-based deliveries by SBAs. Women must be educated on danger signs of pregnancy in women group meetings.
- Involving community leaders to engage local transport unions in areas where transportation is a challenge to lobby for subsidised fee for pregnant women who may need their services
- Sensitisation program on importance of girl child education.

### **7.3 Recommendations for future research**

1. Actionable research in specific communities that are strongly inclined to certain practices such as Moslems communities in Northern Ghana to qualitatively explore their specific needs.

2. A qualitative study to find the challenges of SBAs in providing skilled delivery services in Ghana in order to find appropriate response to the negative attitude of some SBAs in Ghana.

### **Reflection on conceptual framework**

The framework was very useful in exploring most of the important factors that influence women health care behaviour. The adaptation was made because health services are broad and this study was only focusing on one component out of the lot, which is institutional delivery service.



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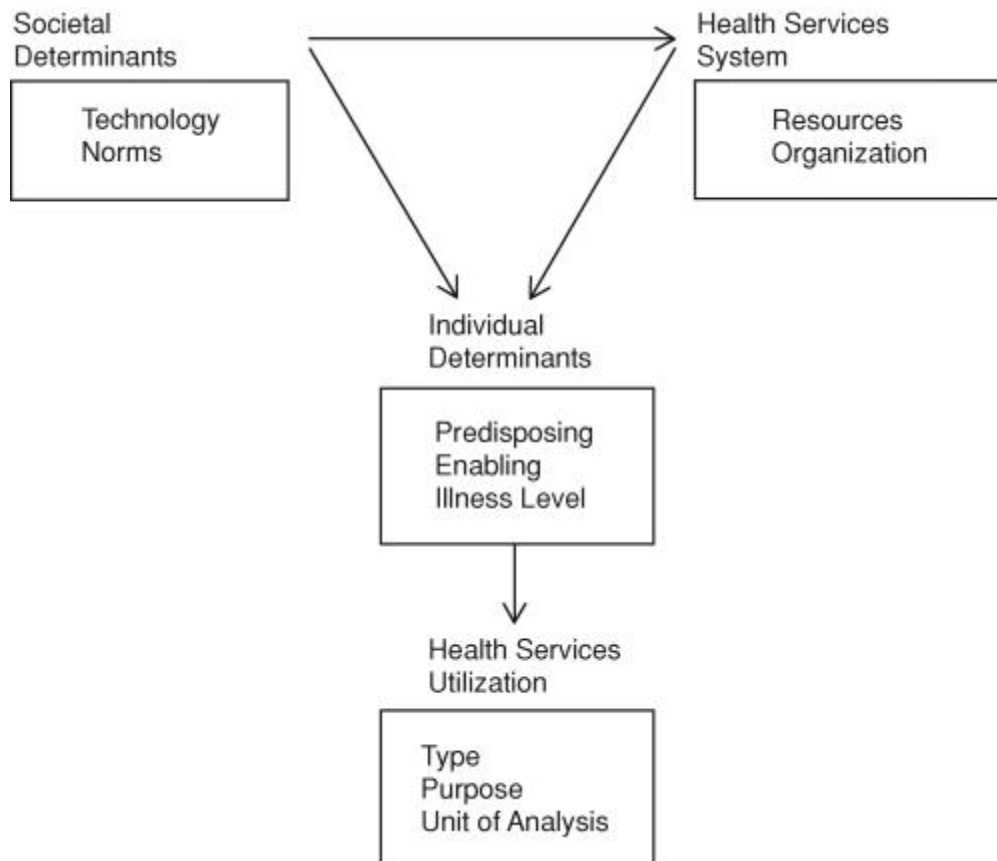
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## Annexes

### Annex I: Conceptual framework by Anderson and Newman (2005)



Annex II: Population pyramid of Ghana

