

Original Article

**Factors Influencing Uptake of Institutional Delivery Service
by Skilled Birth Attendant's in Ghana: A Framework
Analysis of Existing Literature**

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Abstract

Background: Utilisation of institutional delivery service remains a challenge in most developing countries including Ghana and significant proportion of births assisted by skilled birth attendant's (SBA) remain low. To improve this, insight is needed in many factors inter-relating to influence women place of birth. This study therefore explored and analysed factors influencing uptake of institutional delivery services provided by skilled birth attendants in Ghana. Evidenced-based interventions that have helped improved facility-based deliveries by SBAs in low and middle income countries were also reviewed.

Method: Using conceptual framework of Anderson and Newman (2005), literature from Ghana and other low and middle income countries were reviewed. Articles in English language and published between 2005 to 2015 in PUBMED, PsychINFO, EMBASE, GOOGLE SCHOLAR that met the inclusion criteria were included in the review.

Result: The results indicate that, in spite of the high ANC attendance in Ghana (86.7%), uptake of institutional delivery services by SBAs was suboptimal. Several factors were identified in each of the three domains of the conceptual framework and they include predisposing factors (maternal age and education, parity, cultural, religion and traditional practices, and place of residence), enabling factors (household's wealth) and need factors (perception of safer pregnancy). In addition, health services related factors identified include perceived negative attitude of some SBAs, limited numbers of health facilities and SBAs, low quality of services and long distance to health facilities.

Conclusion: Scaling up of Community-based Health Planning Program (CHPS) in hard to reach areas will remove barriers such as distance, transportation, and further ensure culturally sensitive health delivery services. In addition, increasing uptake of midwives and strict implementation of "train and retain" policy by Ministry of Health (MOH) will make a significant impact.

Key Words: Institutional Delivery Service, Skilled Birth Attendant, Uptake

Background

Maternal mortality is a critical issue confronting the world today. According to the World Health Organisation (WHO, 2014), approximately 800 women worldwide fall victims daily to preventable deaths related to pregnancy and childbirth. Globally, about 139 million births occur every year and in 2013 alone, approximately 289,000 maternal deaths were recorded. Furthermore, 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, 2014).

Global evidence indicates that 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). Many factors contribute to this unfortunate occurrence including suboptimal uptake of skilled birth attendants (SBA) for delivery and inadequate comprehensive emergency obstetric care in the region (UN, 2013). It is widely acknowledged that the majority of the causes of maternal mortality; haemorrhage, eclampsia, complications of unsafe abortion, obstructed labour and sepsis can be prevented when births are assisted by SBAs in an appropriate environment coupled with a good referral system (WHO, 2004).

A report by WHO, UNICEF, UNFPA and the World Bank in 2014 places maternal mortality ratio in SSA at 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 (WHO et al., 2014). 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 also predisposes newborns to early deaths as 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 at US\$15 billion (USAID, 2001). This therefore indicates the negative impact of maternal death on development and social relations.

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). Nonetheless, it was unable to achieve the MDGs 5 target of 185 deaths per 100,000 live births (UN, 2012). It is well documented that skilled birth attendance is the most simple and effective intervention that can help in reduction of maternal and neonatal death in developing countries where resources are scarce [11, WHO, 2011]. This is supported by the fact that about two thirds of neonatal deaths and 13-33% of maternal deaths can be prevented when all deliveries are attended to by SBAs with the required midwifery skills (WHO, 2012; Bernis et al., 2003). The reason being that, SBAs can identify and facilitate timely referral of women in difficult labour to a higher level of care when needed (UN, 2012).

Ghana has achieved success over the past years in the uptake of Antenatal care (ANC) services. For instance, in 2013, about 86.7% of pregnant women had at least one ANC visit and 77.0% made four or more ANC visits (GHS, 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 supervised by SBA's in the country. According to a recent report by the family health division of the Ghana Health Services, only 54.6% of births were attended to by SBA in Ghana (GHS, 2014). Moreover, some parts of the country recorded below 20% skilled deliveries (GHS, 2014). Akazili et al. 2011 also reported that only 25% of deliveries occurred in health facilities in Northern Ghana. This raises a huge concern especially in a country where skilled delivery services can easily be accessed even at the lowest level of the health system (primary health care) with relatively cheap maternal health services [18, Dzakpasu et al., 2012]. Also, with the existence of the Community-based and Health Planning Services (CHPS), access to maternal health care in remote areas in Ghana has increased (Nyonator, 2005) coupled with increased number of trained nurses and midwives (MOH et al., 2011) and retention of these cadres of staff particularly in underserved communities. Currently, every region in Ghana has at least one midwifery and nurses' training school and 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). 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. This study therefore aimed at exploring and analysing factors influencing uptake of institutional delivery services provided by SBAs using Anderson and Newman (2005) framework. The outcome of this study will contribute to policy direction which will enhance Ghana’s effort in achieving the sustainable development goals.

Table 1: Total supervised delivery by regions 2013

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

Source: GHS/RCH 2014

Study Area

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 [18]. 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 [18]. 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 [18].

There are ten administrative regions in the country (Figure 1). These regions are sub -

divided into 170 decentralised districts which make up the local government structure (GSS, 2012). The population of Ghana is estimated at 26,427,760 for the year 2013 (GSS, 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%. 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). Service delivery follows the three tier system of care; primary through secondary to the tertiary level service (Adokiya, 2014).

Figure 1: Map of Ghana depicting the administrative regions and their capital and international boundaries.



Source: www.mapofworld.com/ghana

Materials and Methods

A literature review was done to identify the predisposing factors, enabling factors, and the need factors that affect utilisation of SBAs for delivery in Ghana. In addition, health service-related factors affecting utilisation of skilled delivery services by SBA were also explored. Literature of the topic in other developing countries were reviewed and discussed within the context of Ghana. The review was done between January 2015 and June 2015.

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 a modified framework of Anderson and Newman (2005).

This framework was selected because it falls in line with the objectives of the study and it offers a broader scope for exploration and analysis. The

framework is based on the assumption that three sets of individual characteristics interact to influence one's behaviour to utilize maternal health services.

These include, predisposing, enabling and need factors. Key words used for the search include "institutional delivery", "skilled birth delivery", "socio-cultural", "economic", "health services" "Ghana", "uptake", "utilisation", "facility-based delivery". Search engines and databases used include PUBMED, PsychINFO, EMBASE, GOOGLE SCHOLAR. In addition, the websites of Ghana health service and Ministry of Health were also used. The titles and abstract of all literature found from the databases were screened and those that were not related to the study topic were excluded. The selected articles were then screened and those that met the inclusion criteria were included (see detailed breakdown in Figure 2). Only literature published in English language between 2005 to 2015 were included in the review; however,

Effective interventions that have enhanced the use of skilled delivery services in low and middle income countries were also reviewed.

Results and Discussions

Multiple factors were found to determine utilisation of health facility for delivery in Ghana

using the framework of Anderson and Newman (2005). These factors include predisposing, enabling, need factors and health-related factors. The details of articles and their key findings are included in this review are presented in table 2.

Figure 2: Article selection process

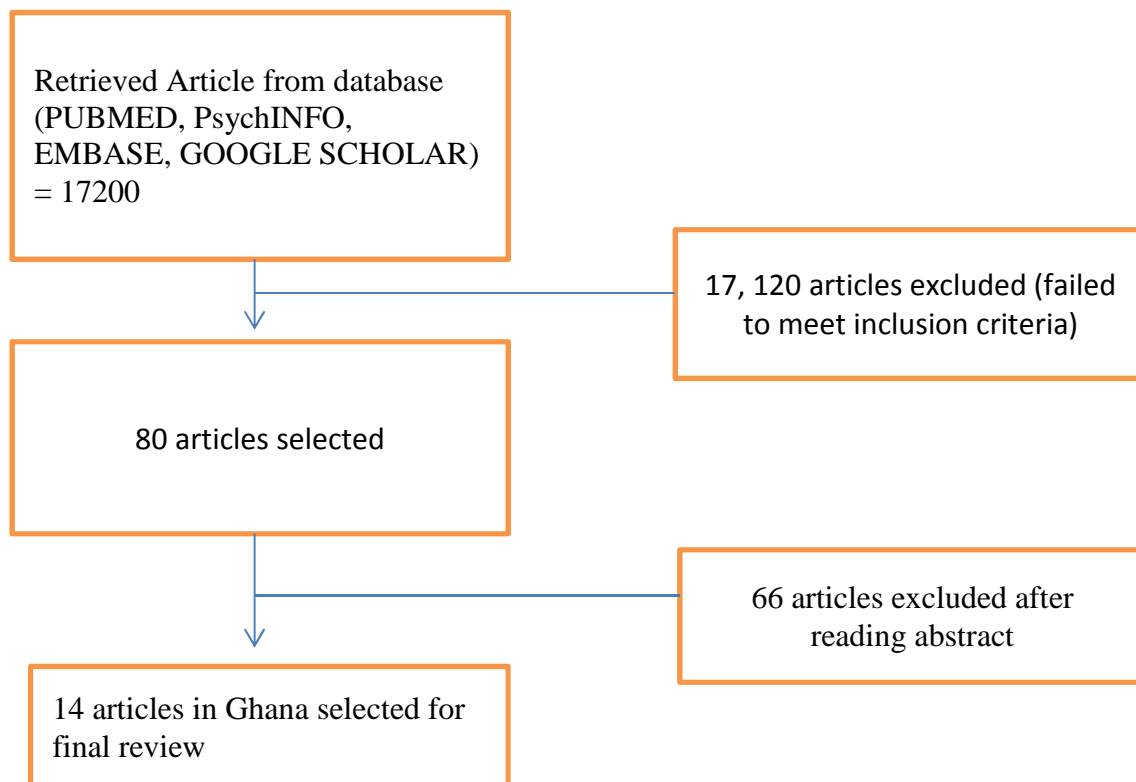


Table 2: Summary Table of articles in Ghana

Authors	Study details	Key Findings
1. D'Ambruso, L., Abbey, M., Hussein, J. (2005) [28]	Qualitative study involving 21 women in reproductive age delivered in the past 5 years	<ul style="list-style-type: none"> • Health professional attitudes was an important determinant for utilisation of health facility for delivery • Women expect humane professional and courteous treatment from health professionals • Cost, perceived quality and proximity were important predictors for uptake of institutional delivery services
2. Moyer, A.C., Adongo, B.P., Aborigo, A.R., Hodgson, A., Engmann, M.C., DeVries, R. (2014) [29]	Qualitative study involving 72 in-depth -interviews and 18 focus group discussions among women with newborns, grandmothers, household heads, compound heads, community leaders, traditional birth attendants, traditional healers, and formally trained healthcare providers.	<ul style="list-style-type: none"> • Facility delivery is considered as a prestige • Several respondents indicated that husbands, mother-in-laws, compound heads, and soothsayers may need to be consulted before a woman can go to a facility for delivery • Cost of service and transportation were mentioned by illiterate women as barriers
3. Crissman, P.H., Engmann, E.C., Adanu, M.R., Nimako, D., Crespo1, K., Moyer, A.C (2013)	Qualitative study involving 85 pregnant women	<ul style="list-style-type: none"> • Midwives shout at delivering women, and were considered to be harsh, impatient, and unhelpful • The list of items women are asked to provide for facility delivery are enormous and include: sheets, a plastic bed covering, antiseptic, a bulb aspirator, and absorptive cotton padding • TBAs were not described as requesting such items. The cost of home delivery was described as more flexible and therefore more feasible for strapped families • Difficulty or costly to get transport to a HCF at night, in rural areas where vehicles pass infrequently, on non-market days, and during the rainy season when certain roads may be rough or impassable
4. Nketiah-Amponsah, E. & Arthur, E. (2013)		<ul style="list-style-type: none"> • women with access to health insurance are more likely to deliver in modern health facilities compared to home delivery • The educational attainment of the mother was found to exert a significant effect on delivering at public and private health facilities. • Only secondary education or better increases the propensity of delivering in a private facility by approximately 8 percentage points. • Specifically, women in the highest wealth quintile (the fifth quintile) are approximately 29 percentage points more likely to deliver in a public facility • With respect to religion, followers of the Anglican faith and traditional religions are less likely to deliver at public health facilities relative to women who profess the Catholic faith.

5. Akum, F.A. (2013) Qualitative study involving four focus group discussions of Nine (9) women in each
 - urban dwellers have a greater propensity to utilize private and public health facilities over home delivery as compared to their rural counterparts
 - Women perceived pregnancy, labour and delivery as a secret and prefer to deliver quietly without the knowledge of many for fear of being bewitched
 - Long waiting time in clinics or health care facilities acted as a barrier
 - Women mentioned poor attitude of health workers as a major deterrent for the utilisation of health services including poor interpersonal relationship and poor reception
 - Inability to use traditional things (herbs or concoctions) during labour and restrictive policies in health care facilities and not being culturally sensitive or competent were viewed by women as deterrent to using medical facilities for delivery
 - Distance to a facility, lack of availability of transport and cost of receiving care served as a barrier.
6. Atinga, R. A., Across sectional survey involving 363 expectant mothers
Baku, A. A.,
Adongo, P. B., (2014)
 - Uptake of supervised delivery services was high for women aged between 35 and 39 years.
 - women with at least junior high education had high uptake compared to those with primary level of education
 - Living close to the health facility and in their second and third trimester were facilitators
7. Reuben Kwasi Across sectional study involving 395 participants
Esen, R. K.,
Sappor, M., (2013)
 - Transportation difficulty 43%, high cost of care 27.7%, high cost of transport (25.3 %)
 - Influence of family decisions, poor attitude of health workers and poor quality care as some of the challenges.
 - Traditional / cultural or religious reasons were cited as determinant.
 - Out of the 268 non-professional (15%) delivered at home whiles (53%) delivered at the health facility. Out of the 100 unemployed mothers, almost 19.2% of them delivered at home with 6.1 % delivering at the health facility
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8. GSS et al. 2009 b Ghana demographic and health survey
 - Uptake of a health facility for delivery high (90.9%) among women who had attained secondary education and beyond. Among those without formal education, only 34.6% utilised a health facility
 - Pregnant women between the ages of 20 and 34 years were more likely to use a health facility for delivery (58.9%) as compared to those between 35 and 49 years (53.8%). Women below the age of 20 years had the

- least uptake of 50.9%
9. GSS et al 2009a 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.
 10. Stephenson et al. (2006) Analysis of Demographic and health survey report from 6 African countries
 - Women with a secondary education or higher were more likely to deliver in health facilities than those with no education
 - Women who were Moslems were more likely to deliver outside health facility as compared to catholic women
 - Women living in urban Ghana are more likely to deliver in health facility compared to rural counterpart
 - Antenatal service utilisation increases skilled birth
 - High parity women likely to deliver at home
 11. Sakeah et al. (2014) Cross-sectional survey involving 407 pregnant women delivered three years prior to the study
 - Women in the Nankana ethnic group less likely to use skilled birth attendant for delivery
 - Women with uneducated husband more likely to deliver outside health facility
 12. Buzzano et al. (2008) Cross sectional survey involving 2878 participants
 - Home delivery raises women's status in their communities
 - Women perceived delivery as a secrete exercise and therefore preference for home delivery
 - Health workers attitude was abarrier
 - Expensive delivery supplies were cited among the barriers
 13. Gyimah et al. (2006) Analysis of Demogrphic Health Survey
 - Moslem women and those that holds traditional belief were less likely to use health facility compared to women who were Christians.
 14. Speizer, I.S., , Story, W.T., Singh, K. (2014) Cross sectional survey involving 1,606 women who had birth three years prior to the survey
 - Women who are autonomous are more likely to use health facility for delivery
 - On the other hand, women with low decision making autonomy and resides in a community with less support for institutional delivery is less likely to deliver in a health facility
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Predisposing factors

Maternal education

Women's educational level has been shown as an important predictor for utilisation of skilled delivery service (Moyer et al., 2013; Say et al., 2007; Hagos, 2014; Feyissa & Genemo, 2014; Agha & Carton, 2011). 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). Furthermore, the Ghana Demographic and Health Survey (GSS et al., 2009b) 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 (GSS et al., 2009b). Choices of facility type were also noted to differ among women level of education. Those with secondary education or better were found to access private health facility for delivery as compared to those with primary level of education. It is important to indicate that only 15.5% of Ghanaians were found to have obtained secondary education according to the 2010 population and housing survey (GSS, 2012). Adolescent pregnancy and less family support are documented as contributing factors to high school dropout among adolescent girls in Ghana (GSS, 2012).

Maternal age and parity

Maternal age and parity are well documented to influence uptake of institutional delivery services by SBAs (Atinga, Baku & Adongo, 2014; Stephenson, Baschieri & Madise, 2006; Reynolds, Wong & Tucker, 2006). In Ghana, studies have shown an association between maternal age and the use of health facilities for delivery. According to GSS et al. 2009b, pregnant women between the ages of 20 and 34 years were more likely to use health facility for delivery (58.9%) as compared to those between 35 and 49 years (53.8%). Women below the age of 20 years had the least uptake of 50.9% according to same report (GSS et al., 2009b). Moreover, Atinga, Baku and Adongo (2014) also found women between 35 and 39 years to be more likely to utilised skilled birth delivery service in Accra metropolis in Ghana

With regards to parity, a study by Stephenson, Baschieri and Madise (2006) in Ghana, Malawi, Tanzania and Kenya found high preference of home delivery among women with high parity. Ghana statistical service (2009a) 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. 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).

Marital status and Husband's level of education

Marital status of mothers is considered as an important determinant for utilisation of institutional delivery services (Stephenson, Baschieri & Madise, 2006; Byford-Richardson, 2013; Mpembeni et al., 2007). However, 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 (Esena & Sappor, 2013). 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.

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, 2014).

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 area (Say, Raine, Say & Raine, 2007). Similar findings have also been reported in other settings (Ononokpono & Odimegwu, 2013; Mehari, 2013; Babalola & Fatusi, 2009). A survey done in Ghana revealed that 82.4% of urban residents

utilised health facilities for childbirth as against only 41.7% of rural dwellers (GSS et al., 2009b). This is consistent with related studies in Ghana (Nketiah-Amponsah & Arthur, 2013; Stephenson, Baschieri & Madise, 2006). Different factors including socio-economic status and level of education are documented to be a predictor of place of residence (Gabrysch, & Campbell, 2009). A recent census report revealed that 50.9% of Ghanaians live in urban areas and 49.1% reside in rural areas (GSS, 2012).

Maternal socio-economic status

The decision to use health facility for delivery is well known to be dependent on one's position in the wealth hierarchy (Exavery et al., 2014; Kunst & Houweling, 2001). Economic status of women is reported in some literature to have significant influence on the use of skilled delivery service (Moyer et al., 2014). A survey conducted 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 (GSS et al., 2009b). Similarly, women with higher socio-economic status are more likely to deliver in health care facilities in Ghana (Nketiah-Amponsah & Arthur, 2013). Furthermore, the study documented that those in the highest quintile (Fifth quintile) were more likely to utilise public health facility for delivery (Nketiah-Amponsah & Arthur, 2013).

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 (Babalola & Fatusi, 2009; Van Malderen et al., 2013). A study carried out in Northern Ghana found ethnicity as a predictor for utilisation of skilled birth attendance (Sakeah et al., 2014). The study revealed 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 as tradition, culture and religion are more common and highly upheld in these areas (GHS, 2014).

With respect to religion, Gyimah, Takyi and Addai (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 other studies in the same country (Stephenson, Baschieri & Madise, 2006; Sakeah et al., 2014). On the other hand, those who profess Anglican faith and traditional religion followers were found to be less likely to utilise public health facilities for delivery compared to their counterpart that profess catholic faith (Nketiah-Amponsah & Arthur, 2013).

Cultural beliefs and traditional practices

The correlation between cultural norms, values and beliefs and its influence on skilled birth deliveries is well documented in literature (Moyer et al., 2014; Dako-Gyeke, 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 done 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 (Akum, 2013). 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 (Moyer & Mustafa, 2013). 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 & Mustafa, 2013). In a related study, the perception of childbirth as a secretive procedure made some women to deliver

outside the health facility (Akum, 2013). This according to the study was done because of fear of being bewitched since pregnancy and childbirth are associated with superstitions (Akum, 2013). Esena and Essapor (2013) also cited cultural reasons behind why women deliver outside health facility in Ghana.

Cultural influence on place of birth is not peculiar only to 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, Mukanga, Oundo & Nuwaha, 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, Mukanga, Oundo & Nuwaha, 2012).

Women autonomy

Some linkage has been established with respect to women autonomy and use of skilled delivery services (Byford-Richardson et al., 2013; Moyer & Mustafa, 2013). Women who have freedom to make decisions pertaining to their health are more likely to utilised maternal delivery care (Ononokpono & Odimegwu, 2013). Esena and Sappor (2013) found in Ghana that, the decision of couples on place of birth was made collectively by both partners in Greater Accra region. However, a study by Moyer et al. (2014) in Northern Ghana found 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 (Esena & Sappor, 2014). This has an implication on delay in decision making (Thaddeus & Maine, 1994). In a related study in northern and central districts of Ghana, women with low decision making autonomy and resides in community with less support for institutional delivery are less likely to deliver in a health facility under the supervision of SBA (Speizer, Story & Singh, 2014).

Enabling factors

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., 2009a). 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.

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, Makinen, Madhavan & Conlon, 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 Dzakupasu 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). Nketiah-Amponsah and Authur (2013) also found that women with health insurance are more likely to deliver in public health facilities Ghana. On the other hand, Crissman 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.

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 (Anwar et al., 2008; Karnwendo & Bullough, 2006).

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 GDHS as one reason why women do not use facility-based delivery (GSS et al., 2009b). In rural Ghana, distance to the nearest health facilities is estimated at 3-5km (MOH, 2010). Similar studies in Ghana has cited long distance to health facilities as important barriers to utilisation of skilled delivery service [D'Ambruoso, Abbey & Hussein, 2005; Akum, 2013].

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. Several studies have reported transportation as major barrier to utilisation of health facility for delivery in Ghana (Moyer et al., 2014, Crissman et al., 2013, Akum, 2013; Esena & Sappor, 2013).

A study conducted in Greater Accra region found that 43% of respondents who failed to use a health facility for delivery cited transportation challenges as reason [34]. The most cited issues include cost and unavailability of vehicles (Moyer et al., 2014, Crissman et al., 2013, Akum, 2013; Esena & Sappor, 2013). In some areas, poor road network particularly during rainy season and non-operation of vehicles in the night were noted as a major hindrance (Crissman et al., 2013)

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).

Need factors

Perceived benefit of Antenatal care

Antenatal Care visit is found to be associated with the use of institutional delivery services (Mehari, 2013; Teferra, Alemu & Woldeyohannes, 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 (GSS et al., 2009a). 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., 2009a)

Furthermore, timing of ANC registration has also been documented as a predictor for seeking skilled delivery. A study by Abeje, Azage and Setegn (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, 2014).

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., 2009b).

Bazzano 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 (Kebebe, Medhanit, Dawit & Kassahun, 2012; Olayinka, Achi, Alade, Amos & Chiedu, 2014).

Health services related factors

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, 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, Lyons, Skinner & Teijlingen, 2010; D'Ambruso, Abbey & Hussein, 2005). Many studies have documented the influence of health providers attitude on utilisation of health facility for delivery in Ghana (Akum, 2013; Crissman et al., 2013; D'Ambruso, Abbey & Hussein, 2005). 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). Other experience of pregnant women include rejection, beaten, slapped, midwives shouting on them, midwives being impatient, unhelpful, and poor interpersonal relationship (Akum, 2013; Crissman et al., 2013). These poor attitudes were more likely to be experienced by women who are poor (Moyer & Mustafa, 2013).

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 (Hussein et al., 2004). 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 in Ghana (D'Ambruso, Abbey & Hussein, 2005). 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 [80]

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, Fantahun & Worku, 2013).

Ghana has about 5,850 health facilities throughout the country (DHIMS, 2014). 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., 2009b). 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, MOH, GHS, 2011).

Availability of SBAs

Workforce shortage is a major issue in most countries and Ghana is no exception (Witter, Garshong & Ridde, 2013). 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 (refer to table 2). This is due to the majority of SBAs unwillingness to accept postings to these areas coupled with staff retention challenges (Selah, 2013, 87].

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. 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 [87]. 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, MOH, GHS 2011).

Table 2: 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

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, Garshong & Ridde, 2013).

Limitation

Only literature published in English language were used. This is because the researchers could not 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.

Conclusion

The review showed that uptake of institutional delivery is sub-optimal in Ghana even though Ghana has pursued numerous public health interventions to deal with the situation. It is therefore important to draw lessons from evidenced-based intervention that has yielded positive results in countries that share similar characteristic as Ghana.

Abbreviations

ANC: Ante-natal Care

SBA: Skilled Birth Attendant

CHPS: Community-based Health Planning Services

RCH: Reproductive and Child Health

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Reference

- Abeje, G, Azage, M, Setegn, T 2014, "Factors associated with Institutional delivery service utilization among mothers in Bahir Dar City administration, Amhara region: a community based cross sectional study", *Reproductive health* vol. 11
- Adokiya, MA 2014, " Global (political) impact on health system in Ghana" Available online from: http://kaad.de/fileadmin/kaad/pdf/Jahresakademie_2014/MN_Adokiya_KAAD_Jahresakademie_2014.pdf [Accessed on April, 2015]
- Agha, S and Carton, TW 2011, "Determinants of institutional delivery in rural Jhang, Pakistan", *International Journal for Equity in Health*, vol. 10, no. 31.
- Akazili, J, DH, V, Livesy, A, Hodgson, A, James, P 2011, 'Is there any relationship between antenatal care and place of delivery? Findings from rural northern Ghana', *Afr J Health Sci*, Vol. 18, no. 1-2, pp. 62-73.
- Akum, FA, 2013, "A qualitative study on factors contributing to low institutional child delivery rates in Northern Ghana: the case of bawku municipality", *Community medicine and health education*, vol.3, no. 6, pp. 1-9
- Andersen, R & Newman, JF 2005, "Societal and Individual Determinants of Medical Care Utilization in the United States", *Milbank Q* vol. 83 no. 4 available online from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2690261/> [Accessed on January 15, 2015]
- Anyait, A, Mukanga, D, Oundo, GB, Nuwaha 2012, "Predictors for health facility delivery in Busia district of Uganda: Across sectional study", *BMC pregnancy and Child birth*, Vol. 12
- Anwar, I, Sami, M, Akhtar, N, Chowdhury, ME, Salma, U, Rahman, M, et al. 2008, "Inequality in marital health care services: evidence from home-based skilled birth – attendant programmes in Bangladesh" *Bull of World Health Organisation*, no. 86, pp. 252-9
- Arulkumaran, S 2011, " Organisation of midwifery services in Sri Lanka. *The State of the World's Midwifery 2011*. FIGO, UNFPA. Viewed on 19 July 2014, http://www.unfpa.org/sowmy/resources/docs/background_papers/01_ArulkumaranS_SriLankaServices.PDF
- Atinga, RA, Baku, AA, Adongo, PB, 2014, "Divers of prenatal care quality and uptake of supervised delivery services in Ghana", *Ann Med Health Sci Res*, vol.4, no. 3, pp. 264-267
- Babalola, S, Fatusi, A 2009, "Determinants of use of maternal health services in Nigeria-looking beyond individual and household factors" *BMC Pregnancy & Childbirth*, vol. 9, no. 43.
- Banchani and Tenkorang 2014, "Implementation challenges of maternal health care in Ghana: the case of health care providers in the Tamale Metropolis" *BMC Health Services Research* vol. 14, no. 7
- Bazzano, A, Kirkwood, B, Tawiah-Agyemang, C, Owusu-Agyei S, Adongo P, 2008, "Social cost of skilled attendance", *International Journal of Gynecology and Obstetrics*, no. 102, pp. 91-94
- Bernis, L, Sherra_ DR, Abouzahr, C, Van Lerberghe, W 2003, 'Skilled attendants for pregnancy and postnatal care,' *Brit Med Bull*, vol. 67 pp. 39-57.
- Baral, YR, Lyons, k, Skinner, J Van, Teijlingen, ER 2010, "Determinants of skilled birth attendants for delivery in Nepal", *Kathmandu University Medical journal*, vol. 8 no. 3
- Beyai, PL, Aboagye, PK, Adutum, N, Salifu, M, and Sedegah, K 2013, 'Implementation of MDG Acceleration Framework (MAF) as a Strategy to Overcome Inequalities in Access to Maternal Health Services in Ghana", *Global MDG Conference, UNDP Working Paper. No. 2, UNDP Publishing*
- Byford-Richardson, L, Walker, M, Muckle, W, Sprague, A, Fergus, S, Rennicks White, R, & Dick, B 2013, 'Barriers to access of maternity care

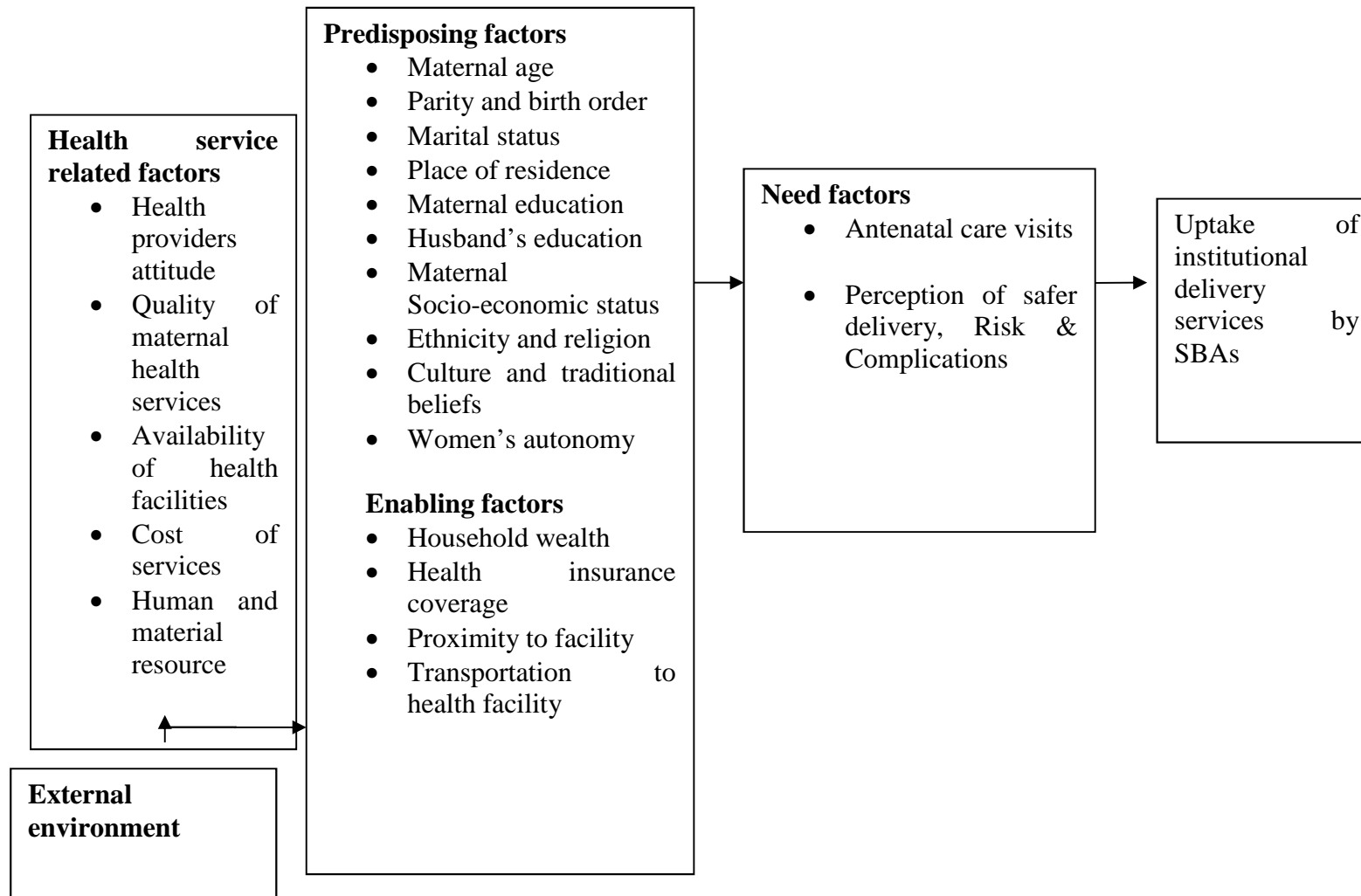
- in kenya: a social perspective,' *Journal of Obstetrics and Gynaecology Canada* : vol. 35, no. 2, pp. 125–30. Viewed on 18 April, 2015, <http://www.ncbi.nlm.nih.gov/pubmed/23470061>
- Crissman, HP, Engmann CE, Adanu, RM, Nimako ,D, Crespo, K, Moyer, CA,2013, “ Shifting norms : pregnant women’s perspectives on skilled birth attendance and facility-based delivery in Ghana”, *African Journal of Reproductive Health*, vol.17, no. 1, pp. 15
- Dako-Gyeke , Aikins, M, Aryeetey, R, Mccough, L & Adongo PB 2013, “The influence of socio-cultural interpretations of pregnancy threats on health-seeking behaviour among pregnant women in urban Accra, Ghana”, *BMC Pregnancy and Childbirth*, Vol.13, no. 211
- D'Ambruoso, L, Abbey, M, Hussein, J 2005, “Please understand when I cry out in pain: women's accounts of maternity services during labour and delivery in Ghana” *BMC public health*, vol. 5, no. 140 *Demographic and Health Survey 2008*. Accra, Ghana: GSS, GHS, and ICF Macro
- Dixon, J, Tenkorang, EY, Isaac, N, Luginaah, TIN, Kuuire, VZ, Boateng, GO 2014, “ National health insurance scheme enrolment and antenatal care among women in Ghana: is there any relationship?”, *Tropical medicine and Int. Journal* vol. 19, no. 1, pp. 98-106
- Dzakpasu, S, Soremekun, S, Manu, A, ten Asbroek, G, Tawiah, C 2012, ‘Impact of Free Delivery Care on Health Facility Delivery and Insurance Coverage in Ghana’s Brong Ahafo Region, *PLoS ONE* , vol 7, no 11
- Durburgh, E, Ye, M, Williams, A, Massawe, S, Si, A, William ,J et al. 2013, “Counselling on and women's awareness of pregnancy danger signs in selected rural health facilities in Burkina Faso, Ghana and Tanzania”, *Tropical Medicine and Int. journal* vol. 18, no 12 pp. 1498-1509
- Esen, RK & Sappor, M 2013, “Factors associated with the utilization of skilled delivery services in the Ga East municipality of Ghana part 2: Barriers to skilled delivery. Part: Dmographic characteristics” *Int. Journal of Scientific & Technology Research* vol. 2, no. 8
- Exavery A, Kanté, AM, Njozi, M, Tani, K, Doctor, HV, Hingora, A and Phillips, JF 2014, “Access to institutional delivery care and reasons for home delivery in three districts of Tanzania”, *Int. Journal for Equity in Health* Vol. 13 No. 48
- Feyissa, TR & Genemo, GA 2014, “Determinants of Institutional Delivery among Childbearing Age Women in Western Ethiopia, 2013: Unmatched Case Control Study” *PLoS ONE* vol. 9, no. 5
- Fraser, B 2008, “Peru makes progress on maternal health” *Lancet* Vol. 371, no. 9620, pp. 1233-1234.
- Gabrysch, S & Campbell, OMR 2009, “Still too far to walk: Literature review of the determinants of delivery service use”, *BMC pregnancy and Childbirth* vol.9 no.34
- Gething, PW, Johnson, FA ,Frempong-Ainguah F, Nyarko, P, Baschieri A, Aboagye P, Jane Falkingham, J, et al. 2012, “Geographical access to care at birth in Ghana: a barrier to safe motherhood” *BMC public health* vol. 12 no. 991
- Ghana Statistical Service (GSS)b, Ghana Health Service (GHS), and ICF Macro. 2009. Ghana Demographic and Health Survey 2008, Calverton, Maryland, USA: GSS, GHS, and Macro International
- Ghana Statistical Service (GSS)a, Ghana Health Service (GHS), and Macro International 2009, Ghana Maternal Health Survey 2007, Calverton, Maryland, USA: GSS, GHS, and Macro International
- Ghana Statistical Service 2014, “National population projection by sex 2010- 2014” available online from: <http://www.statsghana.gov.gh/> [Accessed on 26th April, 2015]
- GoG, MOH, GHS 2011, “National Assessment for Emergency Obstetric and Newborn Care, Accra, Ghana”, Available online from: <http://www.mamaye.org/sites/default/files/evidence/Ghana%20EmONC%20National%20Report%20final%202011.pdf> [Accessed May 14, 2014]
- Graham, WB, JS, Bullough, W 2001, “ Can skilled attendance reduce maternal mortality in developing countries” ,*Stud HSO&P*. no. 17, pp. 97-129).
- GoG, MOH, GHS 2011, “National Assessment for Emergency Obstetric and Newborn Care, Accra, Ghana”, Available online from: <http://www.mamaye.org/sites/default/files/evidence/Ghana%20EmONC%20National%20Report%20final%202011.pdf> [Accessed May 14, 2014]
- Graham, WB, JS, Bullough, W 2001, “ Can skilled attendance reduce maternal mortality in developing countries” ,*Stud HSO&P*. no. 17, pp. 97-129).
- GHS/RCH 2014, “Annual performance report of the Family Health Division (2013) GSS 2012 population and housing
- Gyimah, SO, Takyi, BK, & Addai, I 2006, “Challenges to the reproductive-health needs of African women: On religion and maternal health utilization in Ghana”, *Social Science and Medicine*, no. 62, pp. 2930–2944
- Hagos, S,Shaweno, D, Assegid, M, Mekinnen A, Afework MF, Ahmed, S 2014, “Utilisation of institonal delivery services at Wukro and Butajera districts in the Northern and Southern Central Ethiopia”, *BMC pregnancy and Childbirth* vol.14, no. 178
- Hussein, J, Bel,l J, Nazzar, A, Abbey, M, Adjei, S, Graham, WJ 2004, “ The skilled attendance index (SAD): proposal for a new measure of skilled attendance at delivery”, *Reprod Health Matters*, no. 12, pp. 160-70.
- Hatt, LE, Makinen, M, Madhavan, S, Conlon, CM 2013,“ Effects of User Fee Exemptions on the

- Provision and Use of Maternal Health Services: A Review of Literature” *J HEALTH POPUL NUTR*, vol. 31 no.4
- James, AJ, & Collins, T 2012, “Achieving equity in skilled birth attendance: Malawi” Available online from: <http://www.worldwewant2015.org/file/283478/download/307315> Accessed on April 14 2015]
- ICPD+5” Available online from: <http://www.unfpa.org/public/home/sitemap/icpd/International-Conference-on-Population-and-Development/ICPD5-key-actions>
- Karnwendo, LA, Bullough, C 2006, “Insight into skilled attendance a birth in Malawi- the findings of a structured documents and literature review” *Malawi Med J*, no. 16, pp. 40-2
- Kebebe, E, Medhanit, G, Dawit, S, Kassahun, N 2012, “Determinants of Community Based Maternal Health Care Service Utilization in South Omo Pastoral Areas of Ethiopia”, *J. Med. Med. Sci.* vol. 3, no. 2, pp. 112-121.
- Koblinsky, M, Matthews, Z, Hussein, J, Mavalankar, D, Mridha, M K, Anwar, I, van Lerberghe, W 2006, “Going to scale with professional skilled care” *Lancet*, vol. 368, no. 9544, pp. 1377–86
- Kruk, M E, Paczkowski, M, Mbaruku, G, de Pinho, H, & Galea, S 2009, "Women's preferences for place of delivery in rural Tanzania: a population-based discrete choice experiment". *American Journal of Public Health*, 99(9), 1666–72. doi:10.2105/AJPH.2008.146209
- Kunst, AE, & Houweling, T 2001, “A global picture of poor-rich differences in the utilization of delivery care”, *Stud Health Serv Organ Policy*, no. 17, pp. 293–311.
- Lim, SS, Dandona, L, Hoisington, JA, James, SL, Hogan, MC, & Gakidou, E 2010, “India’s Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation”, *Lancet*, vol. 375, no. 9730, pp. 2009–23.
- Mpembeni, RN, Killewo, JZ, Leshabari, MT, Massawe, SN, Jahn, A, Mushi, D, Mwakipa, H 2007, “Use pattern of maternal health services and determinants of skilled care during delivery in Southern Tanzania: Implications for achievement of MDG-5 targets”, *BMC Pregnancy Child birth*, vol. 7, no. 29.
- Mehari, AM, 2013, “Levels and determinants of use of institutional delivery care services among women of childbearing age in Ethiopia: Analysis of EDHS 2000 and 2005 data”. Retrieved from: <http://www.dhsprogram.com/pubs/pdf/WP83/WP83.pdf>
- Ministry of Health 2013, “Holistic assessment of the health sector programme of work 2012” available online from: [http://www.mohghana.org/UploadFiles/Publications/2012%20Holistic%20Assessment%20Rep](http://www.mohghana.org/UploadFiles/Publications/2012%20Holistic%20Assessment%20Report%20of%20130715062103.pdf)
- ort%20of%20130715062103.pdf [Accessed on May 10, 2015]
- MOH, GoG, UN 2011, “Ghana MDG Acceleration Framework and Country Action Plan for Maternal Health”, *Africa J Health Science*, vol. 18, no. 1-2, pp. 62-73.
- MOH 2010, “Independent review health sector programme of work 2009” available online from: http://www.moh-ghana.org/UploadFiles/Publications/Ghana_%20Health%20Sector%20Review_2009_draft%20final_230410100425103955120509054714.pdf Accessed on 5 April, 2015
- MOH 2010, “Independent review health sector programme of work 2009” available online from: http://www.moh-ghana.org/UploadFiles/Publications/Ghana_%20Health%20Sector%20Review_2009_draft%20final_230410100425103955120509054714.pdf Accessed on 5 July 2014
- Moyer, CA, Adongo, PB, Aborigo, RA, Hodgson, A, Engmann, CM, DeVries, R 2014, ‘It’s up to the Woman’s People’: How Social Factors Influence Facility-Based Delivery in Rural Northern Ghana; *Maternal Child Health J* DOI 10.1007/s10995-013-1240-y
- Moyer, CA & Mustafa, A 2013, "Drivers and deterrents of facility delivery in sub-Saharan Africa: a systematic review", *Reproductive Health*, 10(1), 40. doi:10.1186/1742-4755-10-40
- Mushi, D, Mpembeni, R, & Jahn, A 2010, “Effectiveness of community based Safe Motherhood promoters in improving the utilization of obstetric care, The case of Mtwara Rural District in Tanzania”, *BMC Pregnancy and Childbirth*, vol. 10, no. 14.
- Lonkhuijzen, L Van, Stekelenburg, J, & Roosmalen, J Van 2014, “Maternity waiting facilities for improving maternal and neonatal outcome in low-resource countries”, *Europe PMC Funders Group*. Available online from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4098659/> [Accessed on May 20, 2015]
- Nketiah-Amponsah, E, Arthur, E, 2013, “choice of delivery facility among expectant mothers in Ghana: Does access to health insurance matter?”, *Journal of health management*, vol. 15, pp. 509-524
- Nyonator, FK, Awoonor-Williams JK, Phillips, JF, Jones, TC, Miller, RA 2005, ‘The Ghana community based health planning and services initiative for scaling up service delivery innovation’ *Health Policy Plan*, vol. 20, pp. 25–34
- Olayinka, AO, Achi, OT, Alade, O, Amos & Chiedu, EM 2014, “Awareness and barriers to utilization of maternal health care services among reproductive women in Amassoma community, Bayelsa State” *International journal of nursing and midwifery*, Vol. 6, no. 1, pp. 10-15

- Ononokpono, DN, Odimegwu OC, 2013
Determinants of Maternal Health care utilization in Nigeria: a multilevel approach”, *Pan Afr Med J.* vol. 17, no. 2
- Randive, B, Diwan, V, & De Costa, A 2013, ‘ India’s Conditional Cash Transfer Programme (the JSY) to Promote Institutional Birth: Is There an Association between Institutional Birth Proportion and Maternal Mortality?’”, *PLoS One*, vol. 8, no. 6
- Reynolds, HW, Wong, EL, and Tucker, H 2006, “Adolescents' Use of Maternal and Child Health Services in Developing Countries” *International Family Planning Perspectives*, Vol. 32, no. 1.
- Renfrew, MJ, Homer, CS, E, Downe S, Mcfadden, A, Muir, N, Prentice, T, Hoope-Bender PT 2014, “Midwifery is a vital solution to the challenges of providing high-quality maternal and newborn care for all women and newborn infants, in all countries”, *Lancet publication*, available online Accessed on 13 May 2015 from: http://download.thelancet.com/flatcontentassets/series/midwifery/midwifery_exec_summ.pdf
- Sakeah, E, Doctor, HV, McCloskey, L, Bernstein, J, Yeboah-Antwi, K, Mills, S 2014, “ Using the community-based health planning an services program to promote skilled delivery in rural Ghana: socio-demographic factors that influence women utilization of skilled attendants at birth in Northern Ghana” *BMC public health, Global health* Vol. 14
- Selah, K 2013, “A health sector in transition to universal coverage in Ghana” Final draft World Bank Study” World Bank, Washington, DC
- Satti, H, McLaughlin, MM, Seung, KJ 2013, “ The role of maternity waiting homes as part of a comprehensive maternal mortality reduction strategy in Lesotho” *PIH Reports*, vol.1, no 1.
- Say, L, Raine, R, Say, L, & Raine, R 2007, “A systematic review of inequalities in the use of maternal health care in developing countries : examining the scale of the problem and the importance of context Public health reviews” *Bull of the World Health Organization* vol. 85 pp. 812-819
- Speizer, IS, Story, WT, Singh, K, 2014, “factors associated with institutional delivery in Ghana: the role of decision-making autonomy and community norms”, *BMC pregnancy and Childbirth*, vol.14
- Stephenson, R, Baschieri, A, Madise, N 2006, “ Contextual Influences on the Use of Health Facilities for Childbirth in Africa”, *American Journal of public health*, vol.96, no.1, pp. 84-93
- Thaddeus, S, Maine, D 1994, “ Too far to walk: maternal mortality in context”, *Soc Sci Med.*, Vol. 8, no. 38. Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/8042057>
- Teferra, AS, Alemu, FM, Woldeyohannes, SM 2012, “Institutional delivery service utilization and associated factors among mothers who gave birth in the last 12 months in Sekela District, North West of Ethiopia: A community - based cross sectional study”, *BMC pregnancy and child birth*, vol. 12
- Tey, NP, & Lai, S 2013, “Correlates of and barriers to the utilization of health services for delivery in South Asia and Sub-Saharan Africa”, *The Scientific World Journal* vol. 2013 Available online from: <http://www.hindawi.com/journals/tswj/2013/423403/>
- Tura, G, Fantahun, M, Worku, A 2013, “The effect of health facility delivery on neonatal mortality: systematic review and meta-analysis” *BMC Pregnancy and Childbirth*, vol. 13, no. 18
- UNFPA 2011, “The State of the World’s Midwifery 2011: Delivering Health, Saving lives. Ghana profile, New York: United Nations population Fund
- World Bank 2011, “Reproductive health at a glance, Ghana” Available online from: <http://siteresources.worldbank.org/INTPRH/Resources/376374-1303736328719/Ghana41411web.pdf> [Accessed on February 12, 2015]
- UNDP Ghana 2012
- WHO 2011, “Non-Communicable disease country profile 2011” Accessed on 27 July, 2014 http://whqlibdoc.who.int/publications/2011/9789241502283_eng.pdf
- WHO 2012, “Newborns: reducing maternal mortality” *fact sheet* no. 333, Available online from: <http://www.who.int/mediacentre/factsheets/fs333/en/> [Accessed on May 3, 2015]
- United nation 2012, “The Millennium development goals report 2012” New York, NY. Available online from: <http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf> ,Accessed on 6 April 2014
- United nation 2012, “The Millennium development goals report 2012” New York, NY. Available online from: <http://www.un.org/millenniumgoals/pdf/MDG%20Report%202012.pdf> Accessed on 6 May, 2015]
- UNICEF 2013, “At a glance: Ghana” Available online from: http://www.unicef.org/infobycountry/ghana_statistics.html
- UN 2011, “Millennium development goal report 2011” New York, NY. Available online from: http://mdgs.un.org/unsd/mdg/Resources/Static/Products/Progress2011/1131339%20%28E%29%20MDG%20Report%202011_Book%20LR.pdf
- USAID 2001, “Budget justification to the congress” Available online from: http://pdf.usaid.gov/pdf_docs/PDABU802.pdf [Accessed on May 18, 2015]
- Yakubu, J, Benyas, D, Emil, SV, Amekah, E, Adanu ,R, Moyer, CA 2014, “It’s for the Greater Good: Perspectives on Maltreatment during Labor and Delivery in Rural Ghana”, *Open Journal of Obstetrics and Gynecology*, no 4, pp. 383-390.

- Van Malderen, C, Ogali, I, Khasakhala, A, Muchiri, SN, Sparks, C, Oyen, HV & Speybroeck, N 2013, “Decomposing Kenyan socioeconomic inequalities in skilled birth attendance and measles immunization” *International Journal for Equity in Health*, vol. 12 no. 3.
- Witter, S, Garshong, B & Ridde, V 2013, “An exploratory study of the policy process and early implementation of the free NHIS coverage for pregnant women in Ghana” *International Journal for Equity in Health*, vol. 12
- WHO 2004, “Making pregnancy safer: the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO” Geneva, Available online from:
<http://whqlibdoc.who.int/publications/2004/9241591692.pdf> [Accessed on May 3, 2015]
- Wild, K, Baclay, L, Kelly, P, Martins, N 2012, “The tyranny of distance: maternity waiting homes and access to birthing facilities in rural Tumor-Leste”, *Bulletin of the World Health Organization*, no. 90, pp. 97-103.
- Wilson, J, Collison, AH, Richardson, D, Kwofie, G, Senah, K, & Tinkorang, E 1997, “The maternity waiting home concept: the Nsawam, Ghana experience” *International Journal of Gynecology & Obstetrics*, no. 59, S165–S172
- WHO 2014, “Cambodia reduces maternal mortality” Viewed on 12 July 2014, http://www.wpro.who.int/about/administration_structure/dhs/story_cambodia_reduces_maternal_mortality/en/
- WHO 2014, ‘Maternal and child health fact sheet no. 348, Available online from: <http://www.who.int/mediacentre/factsheets/fs348/en/>. [Accessed April 13, 2015]
- WHO, UNICEF, UNFPA, WORLD BANK, UNITED NATIONS 2014, “Trend in maternal mortality: 1990 to 2013” Geneva, Switzerland. Available online from:http://apps.who.int/iris/bitstream/10665/112682/2/9789241507226_eng.pdf

Figure 3: Conceptual framework for utilisation of skilled delivery service



Source: Anderson and Newman (2005) with adaptation