

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

Globally, one of the public health problems challenging the medical community in the developing world is maternal mortality (WHO, 2007). This is underlined by the continuing occurrence of more than half a million deaths of women yearly due to pregnancy-related complications in the world, 99% of which are distributed in developing countries (Hadi et al., 2007). Maternal mortality (MM) appears to be particularly common in sub-Saharan Africa and South Asia.

Yearly, more than 200 million women become pregnant in the world and 40% of them are estimated to experience pregnancy-related health problems with 15% experiencing serious or long-term complications (De Bernis et al., 2003; Starrs, 1997) as cited by Yanagisawa et al., (2006). The lifetime risk of death due to pregnancy-related complications is 250-fold higher among women in developing countries than in developed countries (WHO, 2003) as cited by Yanagisawa et al., (2006). It has been estimated that 88-98% of these deaths are avoidable (Hafez, 1998) as cited by Yanagisawa et al., (2006). Most (70%) of the pregnancy-related complications are related to five direct obstetric conditions which include post-partum haemorrhage, puerperal sepsis, pre-eclampsia and eclampsia, obstructed labour and abortion (AbouZahr, 2003; Starrs, 1997,) as cited by Yanagisawa et al., (2006). For this reason, improving reproductive health remains the most elusive of the Millennium Development Goals (MDGs).

The only way the reproductive health can be improved is if women receive supervised care by health professionals from pregnancy to childbirth and beyond. This led to the formation of the Safe Motherhood-Agency Group in 1987. Worldwide, there was recognition and adoption of the Safe Motherhood Initiative (SMI) which was launched in February 1987 in Nairobi for

reduction in MM. Nevertheless, in implementing it, various countries faced different challenges and strategies adopted by them differ from one another. These, therefore, have made it impossible for a single factor to be held responsible for the less improvement in MM in developing countries.

All the same, one of the health care indicators identified to monitor the “process” of reducing maternal mortality was proportion of births attended by skilled health personnel. The choice of this indicator was based on historical and observational evidence on the relationship between having a skilled health worker at delivery and the reduction of maternal mortality. There was a clear clinical justification for the presence of skilled attendant at childbirth as this may reduce both the incidence of complications and case fatality (De Browere et al., 1998). A historical review had revealed that the giant strides made by Western countries, notably Northern Europe (Sweden, the Netherlands, Norway, and Denmark), England and Wales, and the United States of America, in dropping of their high figures of MM, was due to much recognition given to a skilled attendant at delivery in their countries. This was prior to the advent of some elements of what is now classified as ‘essential obstetric care’ (De Browere, and Van Lerberghe, 2001). For the United Nations Millennium Development Goal in maternal health (i.e. to reduce maternal mortality by three quarters (75%) by 2015) to be met, skilled birth attendance is then an indispensable tool in every country’s perinatal health, especially in the developing countries. Skilled Attendant is defined as ‘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 in identification, management and referral of complications in women and newborns (WHO, 2004) as cited by MacDonagh, (2005).

Skilled attendance is described as a partnership of skilled attendants and an enabling environment of equipment, supplies, drugs and transport for referral to emergency obstetric care (EmOC). The

political, policy and socio-cultural environments can enable or prevent skilled attendance (Graham et al, 2001 as cited by MacDonagh, 2005).

The targets set at the International Conference on Population and Development +5 (ICPD+5) in Cairo is to have more than 80% of deliveries assisted by skilled attendants globally by 2005, 85% by 2010, and 90% by 2015 (WHO, 2007).

1.2 PROBLEM STATEMENT

In many parts of sub-Saharan Africa including Ghana and South Asia, there is no apparent change in terms of MM. According to the Ghana Health Service (GHS), in all the regions of Ghana, the situation seems to be worsening. Ghana lost 837 women at a ratio of 204 per 100, 000 live births in 2002, 854 expectant women died in 2003, 824 in 2004, 912 in 2005 and 954 in 2006 (Yamikeh, 2008). Experts argue that at current pace, Ghana may not be able to achieve the MDGs in relation to child and maternal health by the year 2015 if there will not be an urgent redrafting of the operational framework with the view to reposition maternal and child health promotion issues (Yamikeh, 2008).

The level of assistance a pregnant woman receives during childbirth has important health consequences for both mother and baby. Traditionally, pregnant women prefer home deliveries in Ghana (Bazzano et al., 2007). Meanwhile, home deliveries are often carried out with unprofessional attendants, whereas births delivered at a health facility are more likely to be delivered by a skilled care worker who is adequately equipped with midwifery skills. An important component of the efforts to reduce the health risks of the mothers and infants is to increase the proportion of babies delivered under skilled attendants because skilled attendance (proper medical attention and hygienic conditions during labour and delivery) can reduce the risk of complications and infections that can cause the death or serious illness of the mother and/or baby (WHO, 2004). Despite the global efforts at promoting Safe Motherhood through

international organizations (e.g. Safe Motherhood Inter-Agency Group, Family Care International, International Federation of Gynecology and Obstetrics, The Partnership for safe Motherhood and Newborn Health), the coverage of skilled attendance is still low in the communities of the study Municipality and other parts of Ghana. The Bolgatanga Municipality Health Directorate reports over the years indicate that there have not been improvements in the coverage of institutional deliveries. In 2005, 2006 and 2007, the antenatal care (ANC) registrants were 5282 (90%), 5084 (86%) and 5950 (99.5%) respectively, whereas facilities performance (skilled attendance) were only 2752 (47%) in 2005, 2428 (41 %) in 2006 and 2664 (44.5%) in 2007 (Bolgatanga Municipal Health Directorate Annual report, 2007). This trend of low coverage rate over the years has been a source of great concern to the Municipal Health Directorate. It has been the target of the Municipality Health Management Team (MHMT) to increase the coverage to 50% as at 2007 (Bolgatanga Municipal Health Directorate Annual report, 2007). Moreover, maternal mortality ratios for the past three years in the municipality were 822/100,000 LB in 2005, 844/100,000 LB in 2006, and 165/100,000 LB in 2007. It is necessary that a study be conducted among the women in reproductive age in the Bolgatanga rural communities to assess the determinants of skilled birth attendance. Studies have shown that skilled attendance is influenced by many factors; that no one factor or group of factors could account for the global situation. It is observed that the socio-cultural, economic and geographical circumstances and quality of health care services among others are responsible for skilled birth attendance in each of the communities studied. The factors and the extent to which they influence skilled birth attendance in Bolgatanga Municipality are unclear.

1.3 RATIONALE

The implications for low coverage of facility performance among pregnant women in the study communities might include prevalence of maternal morbidity and mortality, neonatal mortality, and other serious illnesses among the women. This demands urgent intervention.

For this intervention, information is required specifically on the determinants of birth attendance and the reasons for the low coverage of skilled birth attendance. Factors which enhanced or militated against the promotion of skilled birth attendance would be objectively identified through the intended research. All these will influence the design of a project for the promotion of institutional delivery in the study area.

1.4 RESEACH QUESTIONS

1. What is the coverage of skilled birth attendance?
2. What is the quality of health care the pregnant women receive at the health facilities in the various communities of the municipality?
3. What are the socio-cultural factors or beliefs that influence the choice of place of delivery? 4. What are the demographic factors that determine the health care seeking behaviours of skilled and unskilled attendance among the women?
5. What influence has birth order on the use of health facilities during childbirth by the pregnant women?

1.5 STUDY OBJECTIVES

MAIN OBJECTIVE

To assess the determinants of skilled birth attendance in Bolgatanga Municipality, Upper East Region, Ghana.

SPECIFIC OBJECTIVES

The specific objectives of the study are:

1. To ascertain the coverage of skilled birth attendance in the municipality.
2. To assess the quality of care the pregnant women receive at the health facilities in the various communities of the municipality.

3. To assess the socio-cultural factors or beliefs that may influence the pregnant women's desire to receive skilled birth attendance.
4. To examine the demographic factors that affect the adequacy of the care pregnant woman would like to receive during her child bearing age.
5. To determine the influence of parity on the use pattern of reproductive health care facility among the pregnant women for delivery.
6. To make recommendations to all concerned departments, with the view to improve the maternal care services and make the necessary interventions for achievement of high coverage of skilled attendance.

1.6 CONCEPTUAL FRAMEWORK

Improving low coverage of skilled attendance depends in large measure on effectively implementing what we already know works best. In many cases, nevertheless, further research is needed to devise, adapt and evaluate sustainable solutions, particularly at the communities' level.

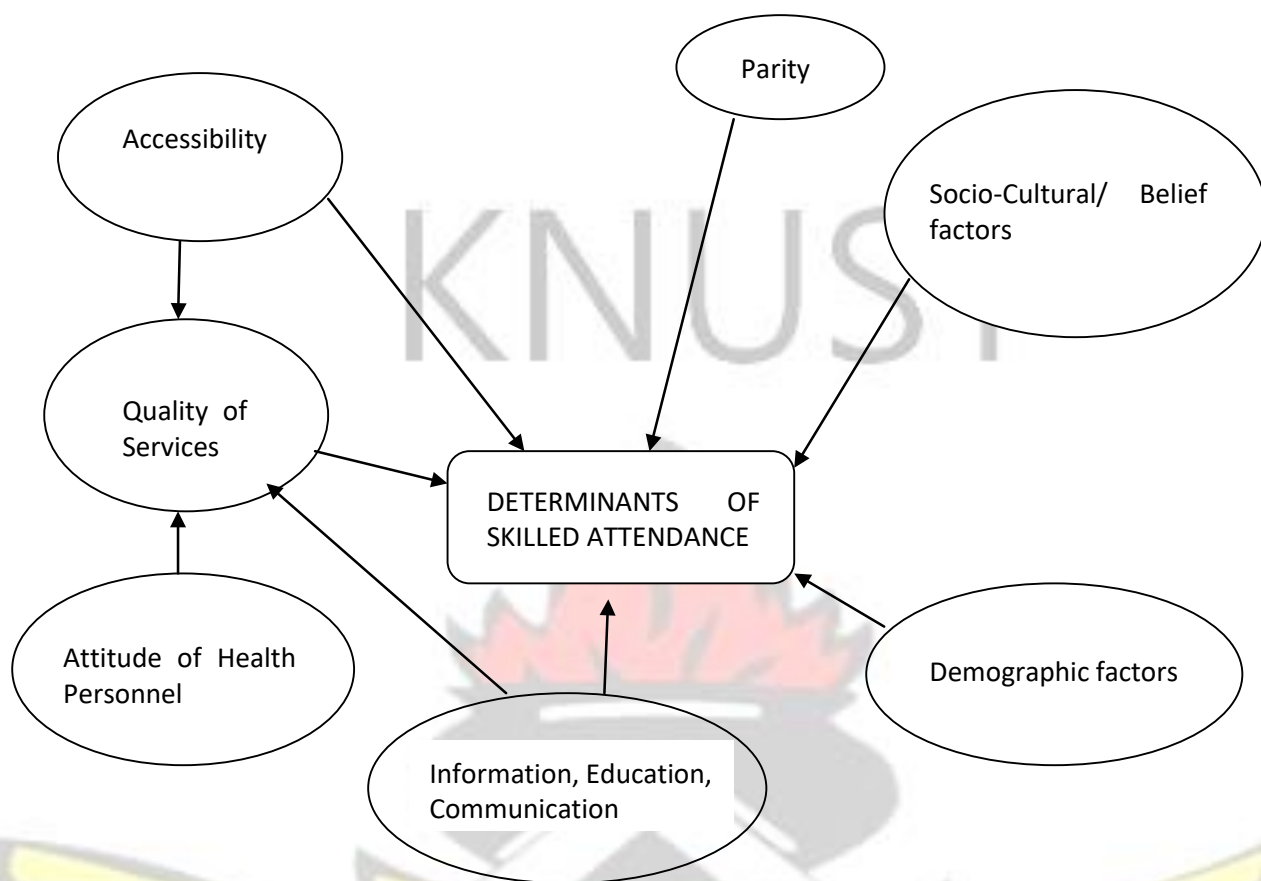


Fig. 1.1: A conceptual framework on skilled birth attendance
1.7 PROFILE OF STUDY AREA

Bolgatanga Municipality is centrally located in the Upper East Region. It has a total area of 729 square kilometers. It shares borders to the north with Bongo District, to the south and east with Talensi-Nabdam District, and to the West the Kassena/Nankana District. The Municipality is made up of 110 communities. The people dwelling in these communities are mostly Frafras and they speak Grunne language.

The main occupation of the people is farming. This could be a cause for home delivery in the various communities since the people may be spending most of their time in the farms and may not be available to assist women in labour to health facilities.

The population of the Municipality is 147,729. Out of this, the number of women in the fertile age group and expected pregnancies in a year are 3,398 and 5,909 respectively.

The health infrastructures in the municipality include: 1 Regional hospital, 4 health centers, 7 clinics, and 6 functional community health planning services (CHPS) centers. This could also be a major contributor to home delivery because the health facilities are limited and not easily accessible to many pregnant women.

The presence of the TBAs in the communities might also be influencing the decision of the pregnant women as to where to deliver.

Reports on Safe Motherhood of the study area are shown in tables below:

Year	Target Pop.	Registrants	% Coverage	IPT1	IPT2	IPT3
2004	9562	8981	94	3299	2453	1246
2005	5844	5282	90	3080	2279	1578
2006	5909	5084	86	3143	2385	1867

Table 1.1: ANC (Target 90%)

(Bolgatanga Municipal Health Directorate Annual Report, 2006)

The ANC attendees' coverage was 94% in 2004. In the same year, IPT1, IPT2 and IPT3 were given to 3299, 2453 and 1246 women respectively.

The ANC attendees' coverage in 2005 was 90%. In the same year, 3080 women received IPT1, 2279 received IPT2 and 1578 received IPT3.

In 2006, 89% of the women attended ANC. In the same year, the total number of women who received IPT1 was 3143, IPT2 was 2385 and IPT3 was 1867.

Table 1.2: Skilled Birth Attendance (Target 50%)

Year	Target	Delivery by attendance still birth	% of Skilled birth	No. fresh still birth	Total still birth	% of fresh Pop.	skilled attendant who received
2004	9562	2802	29	60	117	52	

2005	5844	2752	47	72	132	55
2006	5909	2428	41	45	117	39

(Bolgatanga Municipal Health Directorate Annual Report, 2006)

Coverage of skilled birth attendance was only 29% in 2004 in the Municipality. In that same year, the total number of still birth was 117.

In 2005, 47% was the coverage of skilled birth attendance in the Municipality. The number of still birth was 132 in the same year.

In 2006, 41% of the women in the Municipality had institutional delivery. Total number of still birth was the same as that of 2004 (117).

1.8 SCOPE OF THE STUDY

Mothers (aged 15 to 49 years) with babies less than twelve months prior to the study were studied mainly using structured questionnaires and Focus Group Discussion guide. The mothers-in-law, husbands and Traditional Birth Attendants were also included in the study. In-depth interviews were used to study them in their case. The study was carried out in order to examine the determinants of skilled birth attendance in rural communities of Bolgatanga municipality. A conceptual framework which was used for the study was formulated from the following factors: quality of health care delivery, demographic factors, socio-cultural/belief factors, and parity.

1.9 ORGANIZATION OF THE REPORT

Chapter one addressed the background to the study which talked about how alarming maternal mortality rate is in the world, Africa and Ghana. The way the maternal mortality rate had been curbed in the developed countries was also discussed. In this same chapter, problem statement,

rationale, research questions, study objectives, conceptual framework, profile of study area and scope of the study were also addressed accordingly.

In chapter two, the researcher reviewed relevant literature in relation to research work and more so, in support of the purpose of the study. The literature review was organized and presented according to the specific objectives.

Chapter three discussed the study methods and design, data collection techniques and tools, study population, study variables, sampling techniques and size, data handling and analysis, and ethical consideration.

The results and interpretations of the study had been presented in the chapter four, also according to the specific objectives.

Chapter five and six dealt with the discussion of the findings and conclusions and recommendations respectively. The references or bibliography followed these chapters.

The presentation of the report ended with the questionnaire which was used to collect the data.

CHAPTER TWO

2.0 LITERATURE REVIEW

Relevant literature was reviewed and studied on the research topic in order to know what information is already available. The review was extensive but focused to enhance conceptualization. Most of this information was taken from journals by downloading it from the internet using Google and PubMed as the search engines.

The message ‘ensuring a skilled attendant or a professional at delivery for all’ is core to reducing maternal morbidity and mortality. Nevertheless, the route to achieving this ought to

embrace the complex range of issues that impact on health provider education, health system organization and functioning, human resource management as well as the social, cultural, political and economic environments that impact on women's access to care. Therefore the need exists to understand the factors that encourage childbirth in a health facility which is attended to by a trained medical professional.

2.1 Skilled Attendance Coverage

This can be described as “Proportion of births attended by skilled health personnel”. It represents the percentage of all the process by which pregnant women and their infants are provided with adequate care during pregnancy, labour, birth and the postpartum and immediate newborn periods, whether the place of delivery is the home, health center or hospital. Nevertheless, the attendants must have the needed skills and must be backed by an enabling environment at various levels of the health system, including a supportive policy and regulatory framework; adequate supplies, equipment and infrastructure; and an efficient and effective system of communication and referral or transport (McDonald and Starr, 2002 as cited by MacDonagh, 2005).

The proportion of deliveries attended by skilled health personnel has been identified as one of the main tools that reduce the incidence and prevalence of maternal mortality and morbidity greatly. Also, it is one vital indicator which is being used for measuring progress towards the fifth MDG, improving reproductive health (WHO, 2004).

Meanwhile, Magoma et al., (2010) found in Tanzania, more than 90% of all pregnant women attend antenatal care at least once and approximately 62% four times or more, yet less than five in ten receive skilled delivery care at available health units.

According to the Multiple Indicator Cluster Survey conducted in 2006 for Ghana, Upper East region's ANC coverage was 92.00% while institutional delivery coverage was 42.30% (MICS, 2006).

2.2 Quality of Reproductive Health Care Service

Health Information, Education and Communication (IEC) at Antenatal Care (ANC) require time. The new antenatal care model recommends 30 – 40 minutes for the first visit and 20 minutes for subsequent visits to carry out all activities including individual IEC (WHO, 2002). Four times antenatal visits at least are recommended for a pregnant woman (Tan et al., 2007).

Prenatal counseling for pregnant women to recognize signs of complications are very important since life-threatening complications are inevitable during either pregnancy, childbirth or postpartum. Therefore, in developing countries, teaching women and their families to have the knowledge and be able to recognize signs of obstetric complications and respond promptly, is an important goal of antenatal care (Akalin and Maine, 1995 as cited by Bale et al., 2003).

In the Gambia failure on the part of most women who attended ANC to obtain skilled attendance was associated with the low levels of antenatal education on danger signs and complication readiness (Mamady et al., 2005; Walraven et al., 2002, as cited by Anya et al., 2008). Adequate prenatal counseling at the antenatal care improves proportion of skilled attendance at delivery according to World Health Organization (WHO, 1997). Of 300 women from low and middle income families in urban India, those who received a relatively adequate counseling at ANC on where to deliver were four times more likely to deliver with skilled attendants than those who had little or no ANC counseling (Bloom et al, 1999 as cited by Bale, Stoll and Lucas, 2003).

A pregnant woman who visits ANC many times has high chance of deciding to use skilled attendant at birth than the one who had little or no ANC (Anwar et al., 2008). In rural Afghanistan, the more a woman visits the ANC, the more likely she is to deliver at a health facility (Hadi et al., 2007). In contrast, a study done in rural Kenya revealed that, the coverage

of deliveries assisted by skilled attendants was very low even among antenatal care attendees (Cotter et al., 2006).

In Tanzania, the Maasai and Watemi women's preferences for a home birth and lack of planning for delivery are reinforced by the failure of health care providers to consistently communicate the importance of skilled delivery and immediate post-partum care for all women during routine antenatal visits (Magoma et al., 2010).

Health care providers' attitude is another essential component of quality of health service. A study revealed that staff attitude remains a hindrance to accessing professional services among pregnant women in rural Tanzania (MRISHO et al., 2007). Poor health providers' attitude and fear of punishment by health care providers in form of abusive language, denying women service, lack of compassion and refusing to assist properly resulted in seldom decision making among the pregnant women to deliver in a health facility.

In addition, another important factor that influences quality of health care service is accessibility to health centre. The standard is that every pregnant woman should have access to a health facility within less than 5km. Lack of transportation has been identified as one major contributor to many home deliveries in rural areas. Many of the women in rural Tanzania prefer to deliver at home because of inaccessible health facilities (MRISHO et al., 2007). Kawuwa et al., (2007) also found in Nigeria that the women were compelled to deliver at home just because the health facilities were inaccessible. In rural Afghanistan, when provision was made for transport, high skilled attendance coverage was achieved (Hadi et al., 2007).

2.3 Socio-Cultural/ Belief and Acceptability factors

In rural Ghana, institutional delivery has not increased mainly due to the following: home delivery raises a woman's status in her community while seeking skilled attendance lowers it and it does not also give them secrecy enough in labour (Bazzano et al., 2007). Issues of

privacy, and tradition and culture were realized to be some of the key determinants of place of childbirth in rural Tanzania (MRISHO et al., 2007).

The political commitment needed to develop the human resource and systems necessary for skilled attendance is often limited by social and cultural norms, and these norms mostly place women at a lower status than men. Additionally, even when services may be available, the norms practiced at household level constrain professional care seeking. A typical situation was the one reported in Afghanistan where 87% of the women in Afghani communities require the permission of their husbands before seeking health care, and 45% believed a husband has the right to beat his wife if she disobeyed his orders (Amowitz et al., 2002 as cited by MacDonagh, 2005).

2.4 Demographic characteristics

In Nigeria, the literacy level of the women remains an important determinant of the utilization of institutional delivery; the higher the educational status of a woman is, the more likely she is to seek skilled care (Ekele and Tunau, 2007). In Semi-Urban settlement in Zaria of Nigeria, the high prevalence of home delivery is due to the following factors: low maternal education, unemployment among fathers and first pregnancies at less than 18 years (Idris et al., 2006).

The choice of health facility or non-health facility deliveries among pregnant women was found by Onah et al., (2006) in Enugu, southeastern Nigeria to be statistically significant with religion.

2.5 Parity

Parity is another significant factor that can influence a woman's decision to deliver with a skilled attendant. In Bangladesh, women with lower parity (3 or 4) are less likely to deliver at home (OR = 0.761) as compared to women with higher parity (5 or more) (OR = 1.217). (Mahfuzar, Shahidur and Syeda, 2008). Women of high parity in Sokoto, Nigeria, were also

found to be more likely to decide to prefer home delivery with unskilled attendant (Ekele and Tunau, 2007). Onah et al., (2006) also found in Enugu, southeastern Nigeria, that there was statistically significant association between choice of institutional or non-institutional deliveries among pregnant women and parity.

The logo of Kogi North University, Surulere (KNUST) is centered in the background. It features a yellow eagle with spread wings perched on a green shield. Above the eagle is a black mortar and pestle with a red flame rising from it. The entire emblem is encircled by a yellow border containing the university's name in Hausa and English.

CHAPTER THREE

3.0 METHODOLOGY

3.1 STUDY METHODS AND DESIGN

In assessing the determinants of skilled birth attendance, a descriptive cross-sectional survey was used over the period from July to October, 2008. The study involved interviews to a random sample of women (aged 15 to 49 years) who had given birth not more than a year prior to the survey. The survey instruments were pre-tested in two communities (within Bolgatanga Municipality) which were not part of the fifteen that had been selected for the actual study. The purpose was to test for clarity, validity and reliability of the questions, after which the data collection tool was revised accordingly and finalized for use.

3.2 DATA COLLECTION TECHNIQUES AND TOOLS.

To ensure high quality of work, the seven research assistant who were identified and trained in order to standardize the data collection procedures, were trained teachers. The training was carried out in the following areas: interview skills, community entry skills, and selection criteria for respondents, translation of the questions into the local language and field work and pretesting. The data collection techniques used were: questionnaire administration, focus group discussion and in-depth interview. The data collection tools included structured questionnaire (with open-ended and closed questions), focus group discussion guide, and in-depth interview schedule. Other items used in the data collection included: pencils, files, erasers, and an audio tape recorder.

3.3 STUDY POPULATION

Women (aged 15 to 49 years) who had given birth within one year prior to the survey, their inlaws and husbands, and the traditional birth attendants (TBAs) in the study area.

3.4 STUDY VARIABLES

Table 3.1 Framework for defining variables

	Study Variable	Operational Definition	Measurement Scale
Dependent Variable	Determinants of skilled attendance at delivery	Every factor that increases or decreases the coverage of child-birth attended by skilled attendant at health facility	Categorical

Independent Variable	1.Place of delivery	Delivery at a health facility	Nominal
	2.Pregnant women's satisfaction	Response to a specific question about her satisfaction with services obtained during pregnancy, labour, birth and postpartum	Ordinal
	3.Use of ANC	Number of visits to clinic	Discrete
	4.Knowledge of risk factors taught at ANC	No knowledge, low knowledge, moderate knowledge	Ordinal
	5.Advised where to go for delivery during ANC	No or Yes	Nominal
	6.Distance to health facility	Number of kilometers	Discrete
	7.Marital status	Single or married	Nominal
	8.Pregnant women's perception	Dangerous, one is more likely to be operated on	Ordinal
	9.Discussed with partner on where to deliver	No or Yes	Nominal
	10.Age of respondent	15-20, 21-34,35-49	Continuous
	11.Years spent in school	0, 1-6, 7-15, 16+	Continuous
	12.Socio-economic status	Very low, low, moderate, High, very high	Ordinal
	13.Religion	As reported by informants	Nominal
	14.Parity	Total number of children delivered	Discrete
	15.Socio-cultural factors/ Beliefs	Taboos, practices, values and norms	Nominal

3.5 SAMPLING TECHNIQUE AND SIZE

The list of communities in the research area was obtained from Bolgatanga Municipal Health Administration and 86 communities which were purely rural were chosen out of the 110 communities. Fifteen communities were then selected randomly out of the chosen 86. These included: Sapio, Kembisi and Nyokoko all in Sherigu sub-municipality, Tanzui in Bolga-South

sub-municipality, Bosiya in Gambibgo sub-municipality, Akukam, Azoribisi and Zobigo all in Sumbrungu sub-municipality, Nyariga Doone, Yorogo Garbisi and Yalinga all in Bolga North sub-municipality, Dulugu, Kangoo and Gono all in the Zuarungu sub-municipality, and finally, Dachio in the Zuarugungo Moshie sub municipality. Simple random sampling was used to select sample sizes of 18 women from each of the nine randomly selected communities and as well as 19 women from each of the rest six randomly selected communities to constitute the study sample size of 276 including 5% of non-respondents. This was obtained by calculation from $n = (z)^2 \times (p \times q) / (d)^2$, where n is the desired sample size, z is the standard normal deviation, p is the proportion in the target population estimated to have a particular characteristic, $q = 1.0 - p$, and d is degree of accuracy desired. The calculation was based on confidence interval level of 95%, and the power of the study was 80%. $z = 1.96$, $p = 0.78$, $q = 0.22$ and $d = 0.05$. In each selected community; a house to house survey was conducted. Participants for the FGD and indepth interviews were selected through non-probability sampling technique. 5 to 8 discussants were selected per FGD and one key informant for each in-depth interview.

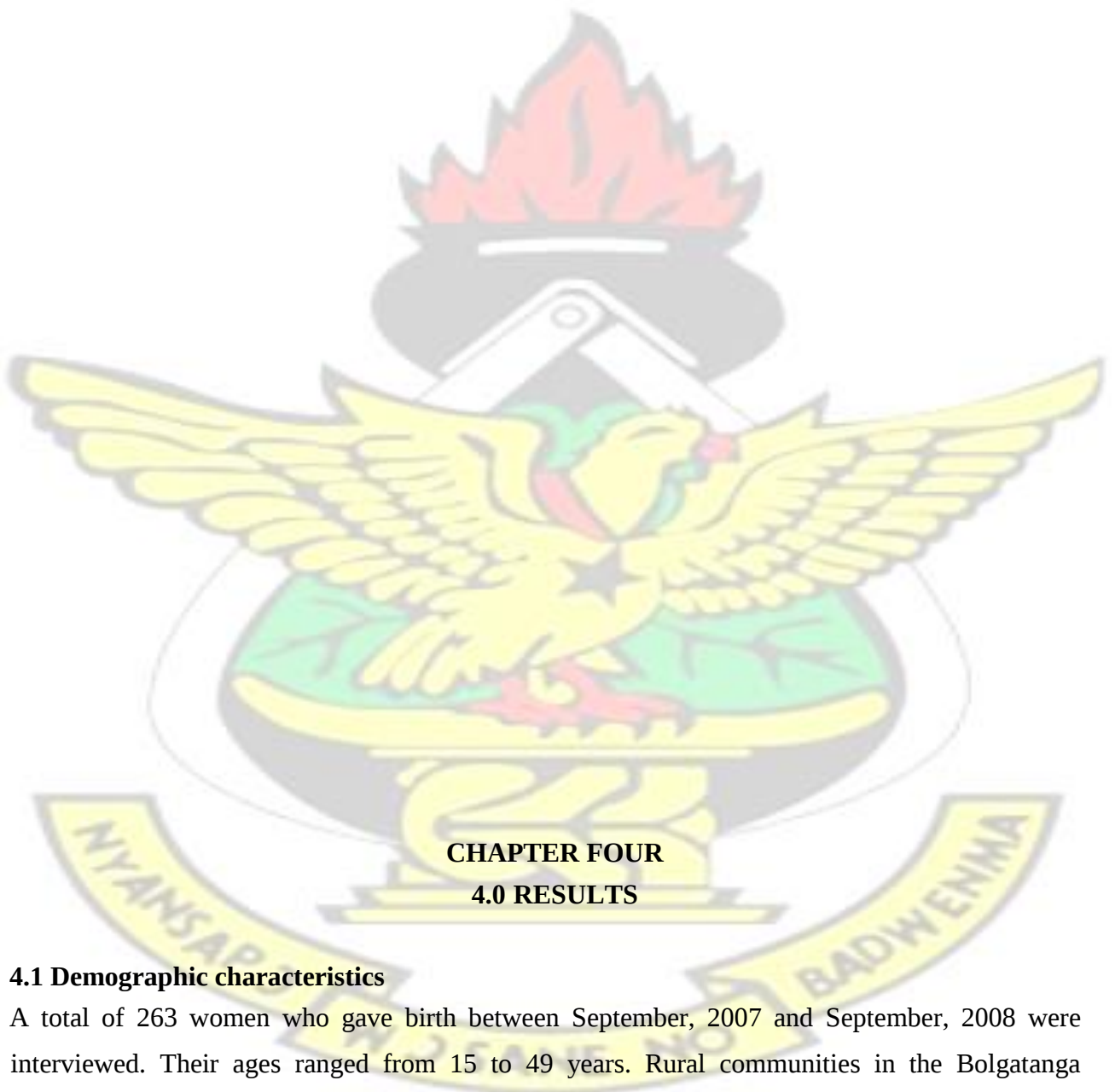
3.6 DATA HANDLING AND ANALYSIS

Regular verification and validation of data sets were done. Data sets were checked regularly during field work. All inconsistencies were resolved through discussions by the research team after which all the data collected were kept under lock and key. The principal researcher was the only person having access to the data.

Data entry and cleaning was done using the database software (Microsoft Access 2007). The cleaned data was analyzed using Stata version 9.1. During the analysis the non ANC attendants were not included in the data analysis, which was why 263 respondents were used instead of 276.

3.7 ETHICAL CONSIDERATION

Ethical clearance for this research was obtained from the Bolgatanga Municipal Health Administration. Verbal consent was obtained from the Chiefs and Assemblymen of the communities that were involved, as well as the respondents involved in the research.



CHAPTER FOUR

4.0 RESULTS

4.1 Demographic characteristics

A total of 263 women who gave birth between September, 2007 and September, 2008 were interviewed. Their ages ranged from 15 to 49 years. Rural communities in the Bolgatanga Municipality were used for the health research. Out of the 263 women who were sampled for the study, 135 of them delivered at home while 128 delivered at a health facility.

Table 4.1: Demographic characteristics of the respondents in Bolgatanga Municipality

Variable	Place of delivery		
	n HF (%)	n H (%)	n Total (%)
Age			
15-20	38(63.33)	22(36.67)	60(100.00)
21-34	83(48.54)	88(51.46)	171(100.00)
35-49	7(21.88)	25(78.13)	32(100.00)
Level of education			
No schooling	47(34.81)	88(65.19)	135(100.00)
Primary	30(49.18)	31(50.82)	61(100.00)
Middle/JHS	27(67.50)	13(32.50)	40(100.00)
Secondary +	24(88.89)	3(11.11)	27(100.00)
Marital status			
Single	5(50.00)	5(50.00)	10(100.00)
Married	122(48.80)	128(57.20)	250(100.00)
Divorced/separated	1(100.00)	0(0.00)	1(100.00)
Widowed	0(0.00)	2(100.00)	2(100.00)
Religion			
Christian	104(59.09)	72(40.91)	176(100.00)
Moslem	10(45.45)	12(54.55)	22(100.00)
Traditionalist	14(21.54)	51(78.46)	65(100.00)
Household size			
1-3	17(73.91)	6(26.09)	23(100.00)
4-6	82(54.30)	69(45.70)	151(100.00)
7+	29(32.58)	60(67.42)	89(100.00)
Occupation			
Artisan	38(55.88)	30(44.12)	68(100.00)
Farming	43(36.44)	75(63.56)	118(100.00)
Trading	39(58.21)	28(41.79)	67(100.00)
Public servant	8(100.00)	0(0.00)	8(100.00)
Student	0(0.00)	2(100.00)	2(100.00)
Total (N)	128	135	263

(Source: Field survey, 2008)

(Percentages in parentheses)

Among women aged 15 to 20 years, 63.33% used health facility for delivery and 36.67% delivered at home. Those aged 21 to 34 years, 51.46% rather delivered at home while only 48.54% used

health facility for delivery. Likewise, among women aged 35 to 49, 78.13% had home delivery and 21.88% delivered at a health facility. Similarly, the use of health facility for delivery (skilled birth attendance) rate was very low (34.81%) among women with no formal education but the home delivery rate was rather very high (65.19%). In the same vein, 49.18% of women who had primary school education delivered at a health facility while 50.82% delivered at home. Meanwhile, among women who had middle school education, 67.5% received skilled birth attendance while 32.50% delivered at home. The use of health facility for delivery has been drastically increased (88.89%) among women who had secondary education or beyond. Only

11.11% of them delivered at home.

The percentage of married women who had home delivery was 51.20%. Only 48.80% of them delivered at a health facility. Among singled women, the same proportion (50%) which delivered at a health facility also delivered at home. Use of skilled attendance among Christians was higher (59.09%), as compared with the rate (40.91%) of delivering at home. On the other hand, among Muslims and Traditionalists, higher proportions (54.55% and 78.46% respectively) delivered at home than those (45.45% and 21.54% respectively) who used health facility for delivery. Use of skilled attendance among women who lived in household size of 1 to 3 was high (73.91%), as compared with the rate (26.09%) of delivering at home. Among women who lived in household size of 4 to 6, quite a high proportion (54.30%) also delivered at health facility while 45.70% had home delivery. While there was a low (32.58%) patronage of health facility delivery among women who lived in household size of 7+, home delivery was quite high (67.42%). Higher percentage (55.88%) of artisans delivered at a health facility while lower percentage (44.12%) had home delivery. On the other hand, skilled birth attendance was poorly patronaged (36.44%) among the farmers while home delivery was high (63.56%). Among the traders, little above the average (58.21%) also delivered at health facility while the lower percentage (41.79%) had home delivery. Almost all (100%) public

servants received skilled attendance and none of them delivered at home. All (100%) students also delivered at home while none of them used health facility.

Table 4.2: Estimated unadjusted and adjusted odd ratios and 95% CI for demographic characteristics

Variable	Unadjusted OR (95% CI)	P value	Adjusted OR (95% CI)	P value
Age				
15 -20	1		1	
21 -34	6.17(2.09, 18.21)	0.0002	0.60(0.27,1.32)	0.217
35 -49	1.83(1.00, 3.40)	0.0488	0.45(0.13, 1.60)	0.206
Level of Education				
No schooling	1		1	
Primary	1.81(0.97, 3.37)	0.0572	1.05(0.49, 2.26)	0.894
Middle/JHS	3.88(1.78, 8.51)	0.0002	1.70(0.66, 4.31)	0.271
Secondary +	14.97(3.79, 59.16)	0.0001	7.30(1.68, 31.72)	0.008
Occupation				
Artisan	2.21(1.19, 4.11)	0.0102	-	-
Farming	1			
Public servant			-	-
Trading	0.91(0.46, 1.80)	0.7856	-	-
Student			-	-
Religion				
Christian	1.68(0.68, 4.11)	0.2507	1.10(0.35, 3.47)	0.863
Moslem	1		1	
Traditionalist	0.32(0.11, 0.95)	0.0310	0.28(0.12, 0.68)	0.005
Household size				
1-3	1			
4-6	5.86(1.95, 17.63)	0.0003	-	-
7+	2.38(0.88, 6.46)	0.0778	-	-

A woman within age range from 21 to 34 years is more likely to deliver at health facility OR=6.17 (95% CI: 2.09 -18.21) than a woman within age range from 35 to 49 years OR= 1.83(95% CI: 1.0 - 3.40) when the values for the various age groups were unadjusted.

A woman who had primary school education is less likely to deliver at health facility OR= 1.81 (95% CI: 0.97-3.37) than a woman who had middle education OR = 3.88(95% CI: 1.78- 8.51) and a woman who had secondary education OR = 14.97(95% CI: 3.79-59.16).

An artisan is more likely to deliver at a health facility OR = 2.21(95% CI: 1.19 - 4.11) than a trader OR= 0.91 (95% CI: 0.46 - 1.80). Occupation had no significant association with delivery at health facility when the values were unadjusted.

A Christian is more likely to deliver at a health facility OR = 1.68 (95% CI: 0.68- 4.11) than a traditionalist OR = 0.32 (95% CI: 0.11, 0.95).

A woman in household size of 7+ is less likely to deliver at a health facility OR = 2.38(95% CI: 0.88-6.45) than a woman in household size of (4-6) OR = 5.86 (95% CI: 1.95-17.63). There had been a significant association between delivery at a health facility and household size $p = 0.0003$, when the values were unadjusted.

By adjusting the population characteristics, it was shown that the following demographic factors were not associated with health facility delivery; age, occupation and household size. Nevertheless, there was a significant association between level of education (OR = 7.30, 95% CI: 0.66 - 4.31, $p = 0.008$) and health facility delivery. Additionally, the association between religion (OR = 0.28, 95% CI: 0.12 - 0.68, $p = 0.005$) and institutional delivery was also very significant.

4.2 Coverage of skilled birth attendance



Source: Field Survey, 2008

Figure 4.1: ANC attendees and coverage for place of delivery

The actual sample size of the respondents selected for the study was 276. Out of this number, 263(99.97%) of them were reported to have attended ANC at least once during pregnancy, 48.67% of them delivered at a reproductive facility while 51.33% gave birth at home. The women's maternal health record cards were cross checked to confirm their responses.

Table 4.3: Coverage of skilled birth attendance

Variable	Place of delivery		
	n HF(%)	n H(%)	n Total(%)

Month of first ANC visit

1-4 months	117 (52.70)	105(47.30)	222 (100.00)
5+ months	11 (26.83)	30(73.17)	41(100.00)

Number of ANC visits

1-3	87 (62.59)	52 (37.41)	139 (100.00)
4+	41(33.06)	83 (66.94)	124 (100.00)
Total (N)	128	135	263

(Source: Field Survey, 2008)

(Percentages in parentheses)

More than half (52.70%) of the women who made an early (thus 4 or less months) visit to ANC delivered at the health facility while 47.30% had home delivery. On the other hand, 73.17% of those women who made a late (from 5 months onwards) visit to ANC delivered at home while 26.83% delivered at health facility.

In group of the women who made less than four visits to ANC during pregnancy, 62.59% delivered at a health facility as compared with the proportion (37.41%) which had home delivery. Meanwhile, among the women who made four or more visits to ANC during pregnancy, only 33.06% delivered at the health facility and the higher proportion (66.94%) of them delivered at home.

Table 4.4: Estimated unadjusted and adjusted odd ratios and 95% CI for the number of ANC visits

Variable	Unadjusted OR	P value	Adjusted OR	P value
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		(95% CI)	(95% CI)	
Number of ANC visits				
1-3	3.23(1.91-5.48)	0.0001	1.20(0.23-0.83)	0.011
4+	1	1		

A woman who made less than four visits to ANC during her pregnancy, is OR = 3.23(95% CI: 1.91, 5.48) times more likely to deliver at a health facility. When the variable was unadjusted it had been shown that number of ANC visits was significantly associated with delivery at health facility ($p = 0.0001$).

Adjusted p value also had shown that statistically the association between number ANC visits and health facility delivery was significant, ($p = 0.011$).

4.3 Quality of health care at the reproductive facility

Of the women who had health talks on topics including non-danger and danger signs of pregnancy and labour, 54.19% delivered at a health facility while the lower percentage (45.81%) delivered at home. Similarly, very high proportion (83.87%) of women who had health talks on topics including only dangers signs of pregnancy and labour delivered at health facility but 16.13% had home delivery. On the other hand, most (76.62%) of those who had health talks on topics including only non danger signs of pregnancy and labour had home delivery while less proportion (23.38%) delivered at health facility (Table 4.5)

Table 4.5: Quality of health care at the reproductive facility

Place of delivery

Variable	n HF (%)	n H (%)	n Total (%)
Health talk topics treated at ANC			
Both non-danger and danger signs	84(54.19)	71(45.81%)	155(100.00)
Danger signs only	26(83.87)	5(16.13)	31(100.00)
Non danger signs only	18(23.38)	59(76.62)	77(100.00)
One –on– one counseling at ANC			
No	16(27.11)	43(72.89)	59(100.00)
Yes	112(54.90)	92(45.10)	204(100.00)
Advised on where to deliver at ANC			
No	2(20.00)	8(80.00)	10(100.00)
Yes	126(49.80)	127(50.20)	253(100.00)
Distance to reproductive facility (km)			
0-5	82.03(50.63)	57(49.37)	162(100.00)
6+	23(22.77)	78(77.23)	101(100.00)
Duration of first ANC visit			
< 30 minutes	50(38.46)	80(61.54)	130(100.00)
30 minutes	22(48.88)	23(51.12)	45(100.00)
>30 minutes	56(63.63)	32(36.37)	88(100.00)
Awareness of danger signs			
Good level of awareness	31(88.57)	4(11.43)	35(100.00)
Low level of awareness	86(48.31)	92(51.69)	178(100.00)
Very low level of awareness	11(22.00)	39(78.00)	50(100.00)
Total (N)	128	135	263

Source: (Field Survey, 2008).

(Percentages in parentheses)

Of the women who did not receive one-on-one counseling at ANC, 72.89% delivered at home and 27.11% only delivered at a health facility. Over half (54.90%) of the women who received one-on-one counseling at ANC had skilled birth attendance but 45.10% of them still had home delivery.

In the group of women who were not advised on where to deliver, 80.00% had home delivery while only 20.00% delivered at health facility. Almost half (49.80%) of the women who were advised on where to deliver had institutional delivery but 50.20% of them delivered at home. Of the women who lived within the radius of 5km to a health facility, 50.63% used skilled attendance but 49.37% of them had home delivery. On the other hand, 77.23% of those who lived within the radius of 6+km had home delivery while only 22.77% delivery at a health facility.

More than half (61.54%) of the women who were attended to in less 30 minutes on their first ANC visit delivered at home while only 38.46% of them had institutional delivery. Nearly half (48.88%) of the women who were attended to in 30 minutes on their first ANC visit delivered at health facility while 51.12% of them had home delivery. On the other hand, higher percentage (63.63%) of the women who were attended to in more than 30 minutes on their first ANC visit delivered at health facility while the lower percentage (36.37%) had home delivery.

Very high proportion (88.57%) of the women who had good level of awareness of pregnancy danger signs delivered at health facility and only few (11.43%) of them had home delivery. In the group of women who had low level of awareness of pregnancy danger signs, only 48.31% of them had skilled birth attendance while the 51.69% delivered at home. Most (78%) of the women who had very low level of awareness of pregnancy danger signs delivered at home as compared with only few (22%) of them who had institutional delivery.

Table 4.6: Estimated unadjusted and adjusted odd ratios and 95% CI for predictors for the use of quality health care at reproductive facility

Variable	Unadjusted OR (95% CI)	<i>p</i> value	Adjusted OR (95% CI)	<i>p</i> value
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Distance to health facility km				
0-5	1		1	
6+	0.17(0.09, 0.31)	0.0001	0.18(0.09, 0.37)	0.001
Duration of first ANC visit				
> 30 minutes	1.70(0.82, 3.50)	0.1475	2.44(1.18,5.05)	0.016
30 minutes	1		1	
< 30 minutes	0.65(0.33,1.30)	0.2218	1.31(0.55,3.10)	0.537
Awareness of danger signs				
Good level of awareness	1		1	
Low level of awareness	0.11(0.04,0.35)	0.0001	0.16(0.04,0.56)	0.004
Very low level of awareness	0.03(0.01, 0.18)	0.0001	0.15(0.36, 0.64)	0.010

A woman who dwelled in 6+km radius to reproductive facility was OR= 0.17(95% CI: 0.310.09) times as likely to deliver at health facility. Distance is significantly associated with delivery at a reproductive health facility.

Any woman who received more than 30 minutes of attention on her first ANC visit was more likely to deliver at a health facility OR= 1.70(95% CI: 0.82-3.50) than one whom the health care providers spent less than 30 minutes OR = 0.65(95% CI: 0.33-1.30), when the values were unadjusted.

A woman who had low level of awareness of pregnancy danger signs was less likely to deliver at health facility OR= 0.11(95% CI: 0.04, 0.35) than one who is of good level of awareness OR = 1(95% CI). Women of very low level of awareness of pregnancy danger signs, similarly, were less likely to deliver at health facility OR= 0.03(95% CI: 0.01, 0.18) as compared with those of good level of awareness OR = 1(95% CI).

By adjusting for the population characteristics, it was found that the following factors of quality of care at reproductive facility were significant predictors of the use of health facility for delivery: Distance to health facility (OR = 0.18, 95% CI: 0.09 - 0.37, $p = 0.001$), Duration of first ANC visit (OR = 2.44, 95% CI: 1.18 - 5.05, $p = 0.016$) and Level of awareness of danger signs (OR = 0.15, 95% CI: 0.36-0.64, $p = 0.010$).

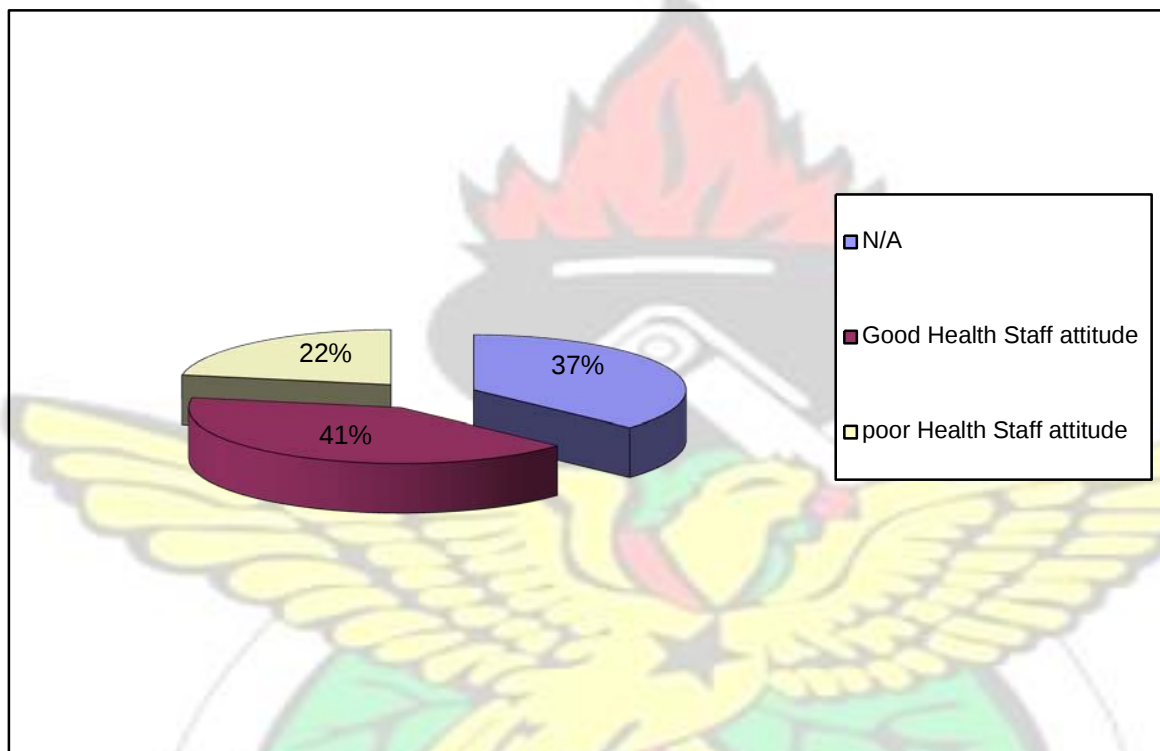


Figure 4.2: Attitude of health staff

(Source: Field Survey, 2008)

In the group of women who delivered their first born at health facility, 22% of them said the attitude of the health staff was poor while 41% of them said their attitudes were good. The women who were not able to comment on the health staff's attitude were those (37%) who delivered their first born at home.

“When one is in pain and the nurses are being called they do not mind, meanwhile we are also women just like them and they will leave us to be in pain suffering. I experienced an incidence of a friend of mine which she went through when she was in labour at the health facility. She was in pain crying for help but the nurses were not attending to her, she was alone in the ward crying asking for help but the nurses sat down watching TV unconcerned. When her in-law wanted to enter the labour ward to assist her daughter in-law, they prevented her also from entering. Due to this incident, I have vowed to be giving birth to my babies at home.” (A 28-year old farmer at Kembisi)

“I decided to give birth at home because of the lack of reliable transport to the nearby health facility, one and half hours walking distance. Scarcely a car comes here, especially during raining season. It is so dangerous to be carried on a bicycle when you are in labour and the roads are also very bad”. (A 31-year old seamstress at Dulugu)

4.4 Socio-cultural beliefs and acceptability factors

Table 4.7: Socio-cultural/beliefs and acceptability factors

			Place of delivery
Variable	n HF(%)	n H (%)	n Total(%)
(Percentages in parentheses)			

Source: Field Survey, 2008

Discussed with partner where to deliver

Yes	121(49.38)	124(50.62)	245 (100.00)	In the group of
No	7(38.88)	11(61.12)	18 (100.00)	

Sought partner's approval of where to deliver

Yes	81(43.08)	107(56.92)	188(100.00)
No	47(62.66)	28(37.34)	75(100.00)

Perception about skilled attendance

It is for women who are not brave	1(10.00)	9(90.00)	10(100.00)
It is very safe	126(54.31)	106(45.69)	232(100.00)
It is very safe but expensive	1(4.76)	20(95.24)	21(100.00)
Total(N)	128	135	263

women who discussed with their husbands where to deliver, 50.62% had home delivery and 49.38% had institutional delivery. Among women who did not discuss with their partners where to deliver, the higher proportion (61.12%) of them also delivered at home while only 38.88% of them also had institutional delivery.

Among women who sought for partner's approval of where to deliver, less than half (43.08%) of them were reported to have received skilled birth attendance while higher proportion 56.92% delivered at home. In group of women who did not seek partner's approval of where to deliver, 62.66% turned up for institutional delivery while lower proportion (37.34%) had home delivery. Nearly all (90.00%) the women who perceived skilled birth attendance as for unbrave women had home delivery while only 10.00% of them turned up to deliver at health facility. In the group of women who perceived skilled birth attendance as safe, more (54.31%) of them had institutional delivery while less proportion (45.69%) had home delivery. Also nearly (95.24%) all the women who perceived skilled birth attendance as very safe but expensive delivered at

home while only 4.76% of them had institutional delivery.

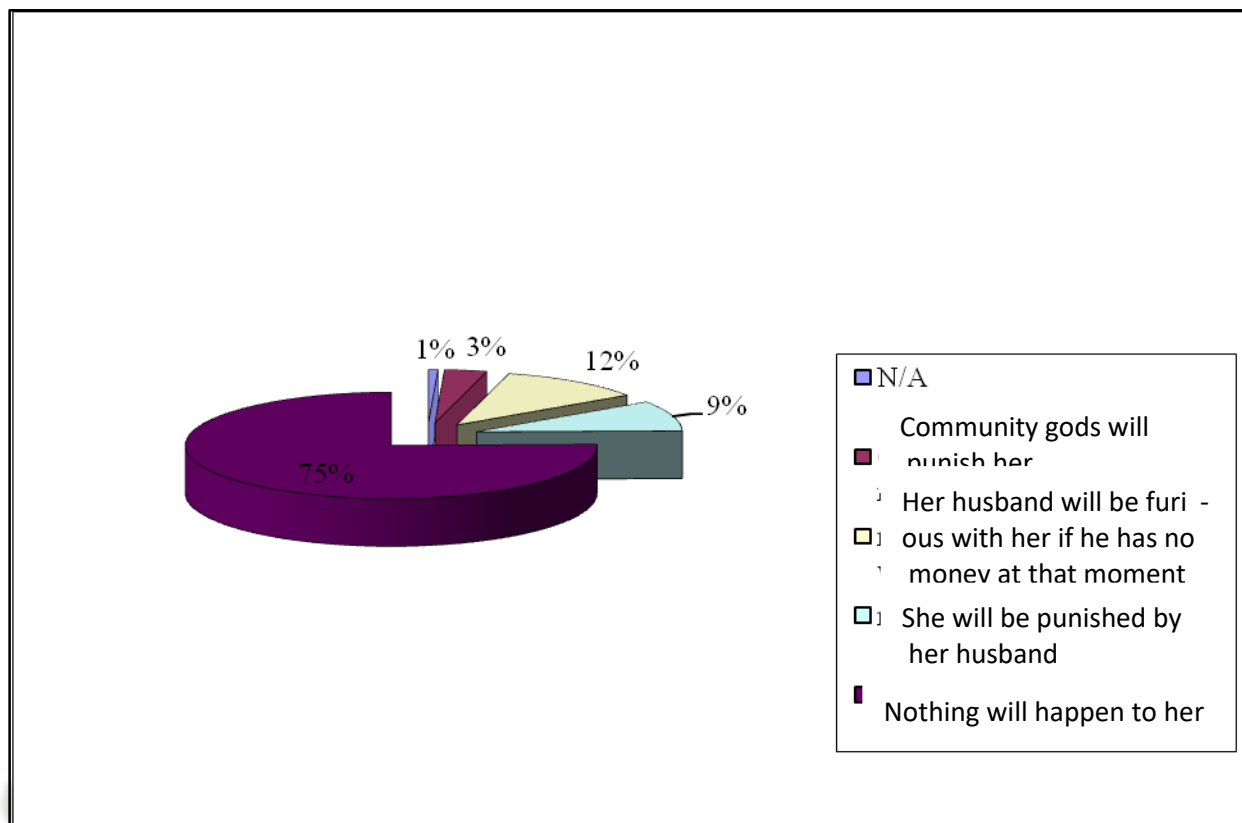


Figure 4.3: Consequences a woman may face for not seeking her husband's approval before going to deliver at a health facility.

(Source: Field Survey, 2008)

A majority (75%) of the women who were studied in the rural communities of Bolgatanga

Municipality said nothing will happen to a woman when she does not seek for her husband's approval before going to deliver at a health facility. Meanwhile, a proportion (12%) of the respondents said when a woman does not seek for her husband's approval before going to deliver at a health facility, her husband will be furious with her especially when the husband is not having money at that moment. Another percentage (9%) of the women who were studied in these communities also said a woman's husband will punish her when she does not seek for her husband's approval before going to deliver at a health facility. Only 3% of the respondents said community gods will punish a woman when she does not seek for her husband's approval before

going to deliver at a health facility

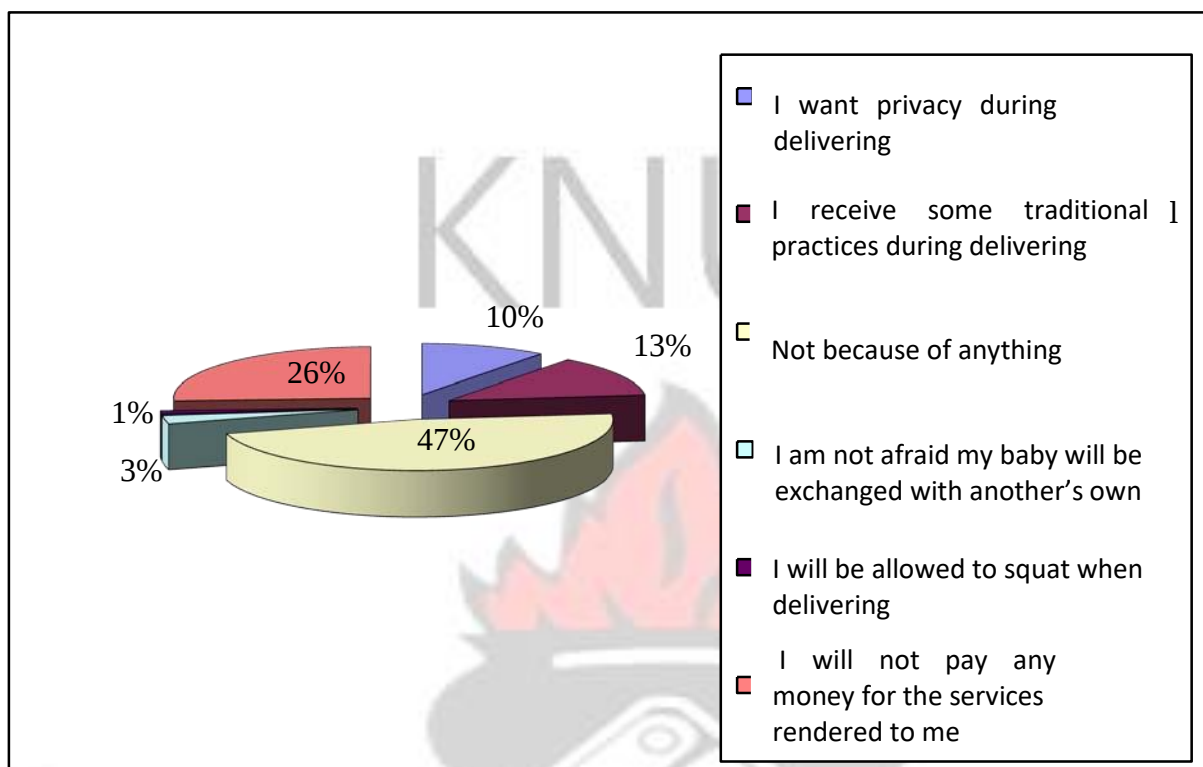


Figure 4.4: Answers on why the women prefer delivering at home

(Source: Field Survey, 2008)

Women who said they prefer home delivery for no reason formed the majority (47%) among the women who were studied in the rural communities of Bolgatanga Municipality. Respondents who prefer home delivery because they will not pay any money for the services rendered to them were (26%). Among the women who were studied in these communities, 13% of them said they prefer home delivery because they receive traditional practices during delivering. A percentage of 10 of the respondents prefer home delivery because they want privacy during delivering.

“If we are able to give birth to our babies at home, any body that sees us praises us and says we are real brave women, that we have been able to endure the pains at home.” (A 34-year old farmer at Bosiya)

“Me, I always want to deliver at a health facility but my In-law had been the person who threatens me not to go and also plays delay tactic, for me to finally deliver at home. When I am in labour she would say I should wait a little that it is not yet time. If I insist that the time is due for me so I will go on my own, she will say I will not go I can deliver at home after all she gave birth to my husband at home. She will also say if I dare go to deliver at health facility and incur a cost she will make sure her son does not pay it.” (A 27- year old farmer at Dachio)

4.5 Parity

Table 4.8: Parity

Variable	Delivery place		
	n HF (%)	n H(%)	n Total (%)
Parity			
1-3	100(56.49)	77(43.51)	177(100.00)
4+	28(32.55)	58(67.45)	86(100.00)
Total(N)	128	135	263

(Source: Field Survey, 2008)

Among the women who gave birth to 3 or less children, 56.49% delivered at health facility while lower proportion (43.51%) had home delivery. On the other hand, more (67.45%) of the women who delivered at home were those who had 4 or more children and only 32.55% of them delivered at health facility.

Table 4.9: Unadjusted and adjusted odd ratios for parity

Variable	Unadjusted OR	p value	Adjusted OR	p value
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(95% CI) (95% CI)

Parity

1-3	1	-	
4+	0.38(0.22, 0.67)	0.0004	-

A woman who had 4 or more children is OR= 0.38 (95% CI: 0.67- 0.22) times less likely to deliver at a health facility .Parity is significantly associated with delivery at health facility ($p= 0.0004$).

There was no significant association between delivery at health facility and parity when the variable was adjusted.

In the group of women who had reason for delivering at home, 35% reported that they delivered at home because their labour was sudden and unexpected. Likewise, the following proportions (19%) and (10%) of women also delivered at home because there was no/ poor means of transportation or no money respectively. Few (3%) of women who also reported that they just like delivering at

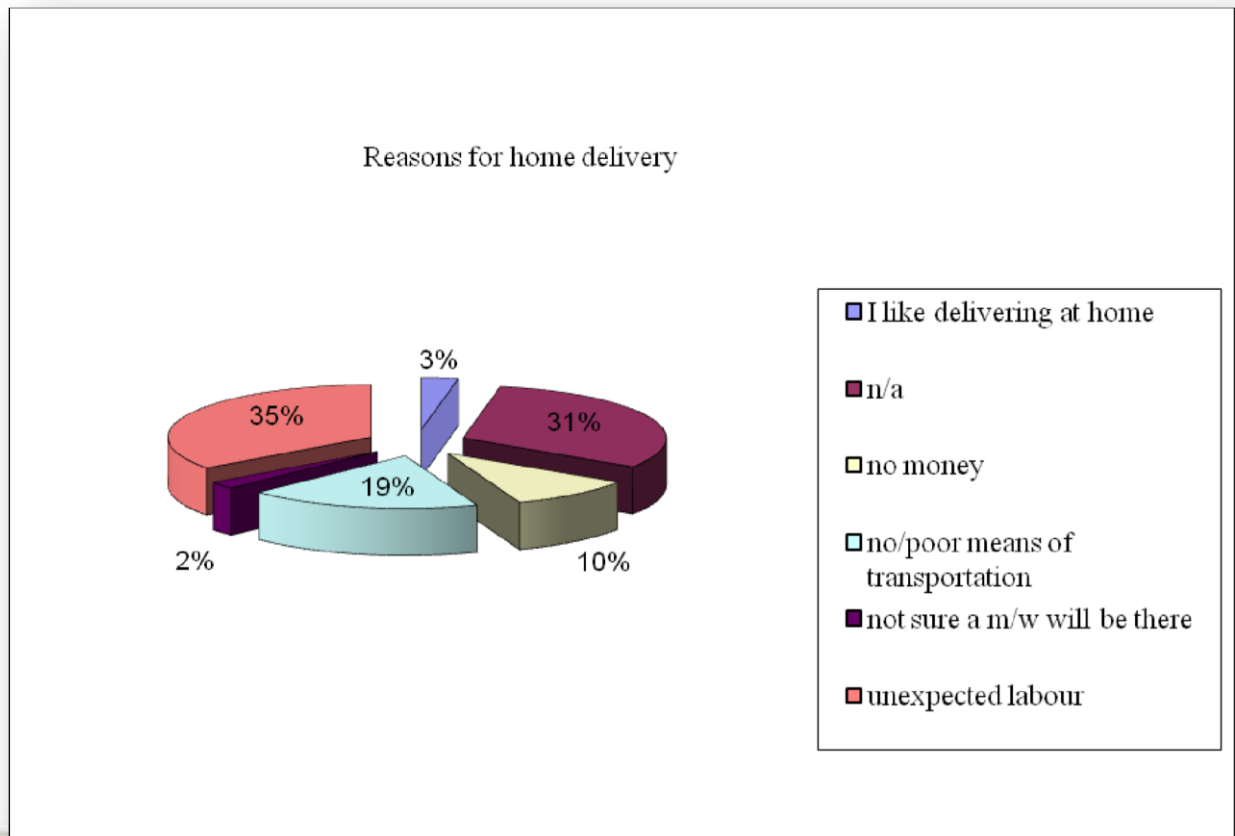


Figure 4.5: Reasons for home delivery

(Source: Field Survey, 2008)

home and only 2% said they were not sure if there was a midwife at health facility at odd period that was why they delivered at home.

All the same, 31% of women said they had no reason for that matter did not deliver at home.

CHAPTER FIVE

5.0 DISCUSSION

5.1 Coverage of skilled birth attendance

The findings revealed that 99.97% of the women were ANC registrants and only 48.67% of them turned up for skilled birth attendance. These proportions did not show a huge disparity from those reported in the municipal health annual report. The annual ANC coverage in 2007 was 99.50% and

44.50% was the skilled birth attendance coverage. (Bolgatanga Municipal Health Directorate Annual Report, 2007).

It is worth noting that adequate ANC attendance during pregnancy did not significantly influence institutional delivery based on the findings of this study. Women who had less than four ANC visits rather delivered more (62.59%) at health facility as compared to those (33.06%) that made four or more ANC visits. Other socio-cultural factors, cost of health care or services, attitude of health care providers and the quality of institutional delivery may account for the observed high rates of home deliveries despite adequate ANC attendance. It could also be interpreted that those who made fewer ANC visits might be afraid of any occurrence of pregnancy or labour complications so they preferred having skilled birth attendance. In Kenya also, Cotter et al., (2006) found that, frequent use of ANC services by pregnant women was not accompanied by high patronage of skilled birth attendance. On the other hand, in Afghanistan, Bangladesh and rural Cambodia, Anwar et al., (2008), Hadi et al., (2008) and Yanagisawa et al., (2006) respectively, reported that frequent use of ANC services by pregnant women was accompanied by high patronage of skilled birth attendance. This might be due to the fact that they had a high satisfaction with the quality of care given to them. It is also a fact that many ANC visits expose women to more quality health education and counselling which are both likely to increase the skilled birth attendance coverage.

The number of antenatal care visits was a significant predictor for the use of Skilled Birth Attendance $OR = 1.20(95\% CI: 0.23-0.83) p = 0.011$.

5.2 Demographic characteristics

The demographic characteristics which were found to have significant influence on skilled birth attendance coverage included level of education and religion of the women.

A woman with a higher level of formal education stands a better chance of making good decision about her own health than a woman with a little or no formal education. That was why it was found in this study that a woman who had secondary school education or beyond was $OR = 7.30$ while

that of the one who had middle education was $OR=1.70$ or primary education was $OR =1.05$. Related findings were reported by Ekele and Tunau, (2007) in Nigeria, Osubor et al., (2006) in rural Nigeria community and Idrisu et al., (2006) in Semi-Urban settlement in Zaria. In Uganda less educated and poorer mothers are more likely to have unskilled birth assistance (Tan et al., 2007).

Religion has been found to have a significant influence on a woman's decision regarding her choice for place of delivery $OR = 0.28$ (95% CI 0.12, 0.68) $p = 0.005$. This confirms a similar study done in Indonesia by Thind and Banerjee, (2004), that religion was also a significant determinant of use of skilled or unskilled attendant.

5.3 Quality of health care at the reproductive facility

The distance to the reproductive health facility was a significant determinant of the type of delivery place to opt for among the women of Bolgatanga municipality $OR = 0.18$ (95% CI 0.09, 0.36) $p = 0.001$. In Bolgatanga municipality, women who lived within the radius of 5km to a health facility patronaged skilled birth attendance more than those women who lived within radius of 6+km to a health facility. This was said to be made worse by the fact that there were poor or no means of transport to health facility especially when they were in labour. MRISHO et al., (2007) in rural Tanzania, Kawuwa et al., (2007) in Konduga Local Government Area, Borno State, Nigeria, Hadi et al., (2007) in Afghanistan and Stekelenburg et al., (2004) in Kalabo, Zambia, also had similar findings.

Another significant determinant found was duration of first ANC visit $OR = 2.44$ (95% CI 1.18, 5.04) $p = 0.016$. According to WHO's new antenatal model, when 30 or more minutes are spent on ANC attendee on her first visit, it makes health education given to her very effective and it increases her chance of seeking for skilled birth attendance (WHO, 2002).

It was revealed that women's level of awareness of pregnancy danger signs was significantly associated with health facility delivery ($OR = 0.15(95\% CI 0.03, 0.64) p = 0.010$). Women who had higher level of awareness of pregnancy danger signs were slightly more likely $OR = 0.16$ to use health facility for delivery compared with those had very low level of awareness of the danger signs $OR = 0.15$. Stekelenburg et al., (2004) also came out with similar findings in Kalabo, Zambia. This should be so because a better informed individual is better positioned to make reasonable and wise decisions.

5.4 Socio-cultural/beliefs and acceptability factors

In group of women who said they must seek for their partners' approval before seeking for skilled birth attendance, 62.66% delivered at home as compared to those (43.08%) who do not seek for their partners' approval in the Bolgatanga Municipality. van Egmond et al., (2004) also found similar findings in Afghanistan that most of the women (93%) needed authorization from their husband or a male relative before seeking professional health-care. In the municipality, even though most of the women perceived delivery at reproductive health facility as very safe, only 54.31% of them delivered at a health facility and 45.69 still had home delivery. This might be influenced by other factors such as ANC attendance, seeking of approval from partners or relatives, and distance to the reproductive health facility. Almost all (90.00%) of the women who perceived institutional delivery as for unbrave women had home delivery. Bazzano et al., (2007) reported of the same findings in rural communities of Kintampo Municipality of Ghana. According to the women, home delivery raises a woman's status in her community while seeking skilled birth attendance lowers it.

When the women who had been studied in the rural communities of Bolgatanga Municipality were asked why they prefer home delivery to skilled birth attendance, 10% of them said because they want privacy during delivering, 13% of them also said they receive some traditional practices during delivering, 3% of them said they are not afraid that their babies will be exchanged with

another's own, 1% of them said they will be allowed to squat during delivering, and 26% of them said they will not pay any money for the services render to them. In rural communities of Tanzania, MRISHO et al., (2007) found similar reports.

5.5 Parity

For unadjusted Odd Ratio parity was shown to be a significant predictor of use of reproductive facility OR = 0.38(95% C I 0.22, 0.66) $p = 0.0004$ for delivery. It is a fact that women of high parity are more likely to prefer home delivery. The truth of the matter is that they tend to be more experienced as they give more births. Similar findings had been found by Ekele and Tunau, (2007) in Sokoto, Nigeria.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

In the Bolgatanga municipality, although almost all pregnant women sought for antenatal care, less than half of them delivered at reproductive health facility. The coverage of skilled birth attendance is far below the targets of the Municipal Health Administration and the International Conference

on Population and Development + 5. The following determinants were found to be significantly associated with delivery at health facility; the number of ANC visits OR= 1.20(95% CI: 0.23-0.83) $p = 0.011$, level of education OR = 7.3(95% CI: 0.66,4.31) $p = 0.008$, Religion OR = 0.28(95% CI:0.12, 0.68) $p = 0.005$, Distance to reproductive health facility OR = 0.18(95% CI: 0.9, 0.36) $p = 0.001$, Duration of first ANC visit OR = 2.44 (95% CI:1.18, 5.04) $p = 0.016$, and level of awareness of pregnancy and labour danger signs OR = 0.16(95% CI 0.04, 0.56) $p = 0.004$.

I recommend the following in order to increase the pace in the study area towards the Millennium Development Goal target. Stakeholders such as the Municipal assembly, the Municipal and Regional Health Directorates and the Government must intervene in:

1. The improvement of education for women and the girl child:

- Primary to secondary school fees must be highly subsidised for girls by the Government and Municipal Assembly.
- Reproductive Health education must be intensified and strategized in the municipality by the Municipal and Regional Health Directorates.

When women and their families are provided with knowledge and education about maternal health, it will promote better health-seeking behaviours among them. Improving access to education for girls of poor families will also delay early child bearing (early pregnancy) and improve women's empowerment.

2. The strengthening of outreach services and community based approaches:

- Municipal and Regional Health Directorates must upgrade most of the community health nurses into rural midwives by giving them intensive training on basic midwifery skills and then dispatch them into the various communities.

-Municipal Assembly and Government must provide more health centers in the communities.

3. The development of effective referral systems:

-Government and Municipal Assembly must intervene by providing accessible roads and telecommunication in rural and poor areas (the communities) in the Municipality.

-The partnerships between traditional birth attendants and skilled providers must be strengthened by the Municipal and Regional Directorate.

Attention to these recommendations will not only improve patronage of skilled birth attendance but, hopefully, also will reduce the high maternal mortality and improve other reproductive health indicators in the study area.



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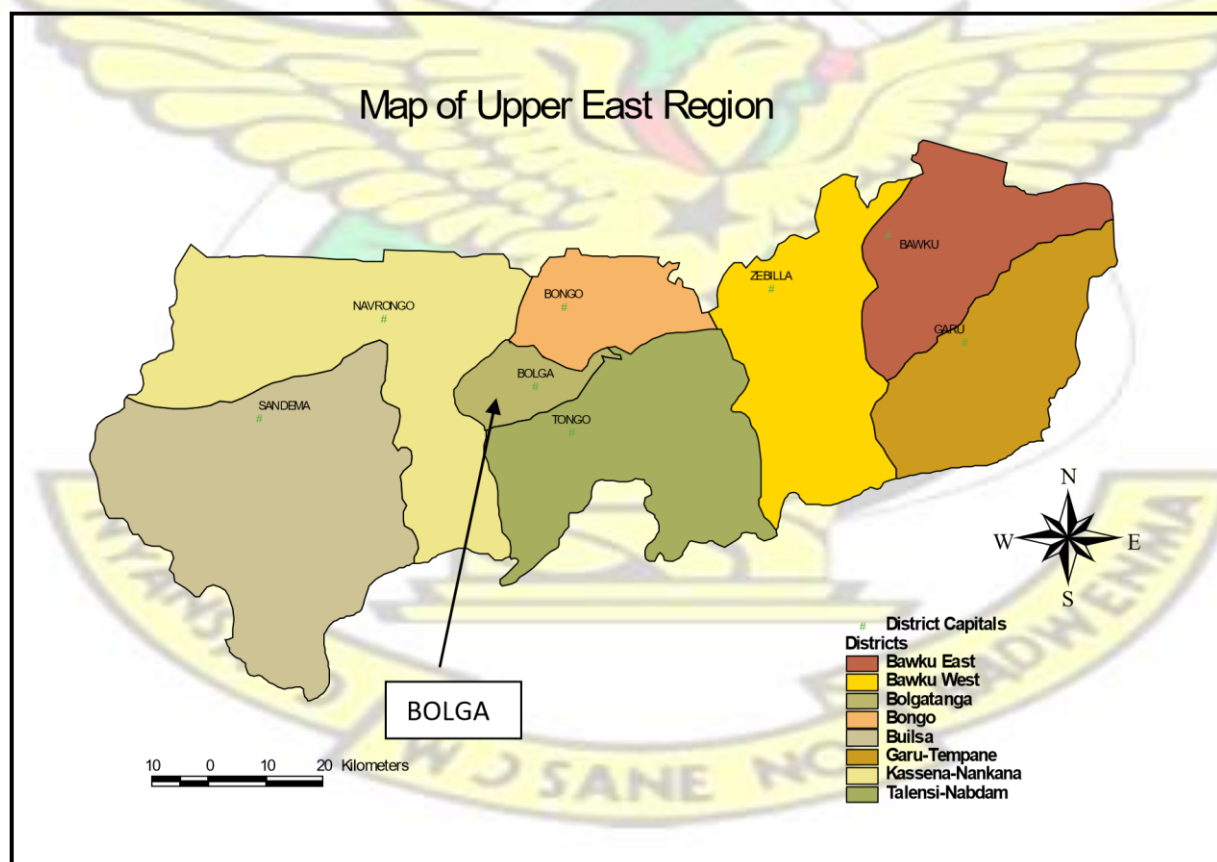
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Appendix A

4.6 Qualitative findings:

Focus Group Discussion (FGD), and In-Depth Interview were employed.

FGD with the women:

Question: ‘Why do most of you prefer to deliver at home and not at a health facility?’

Respondent 1- Spoke about Health System Factors: Poor staff attitude was perceived to exist in most health facilities; including abusive language, denying women service, lack of compassion and refusing to assist properly.

R1 “When one is in pain and the nurses are being called they do not mind, meanwhile we are also women just like them and they will leave us to be in pain suffering. I experienced an incidence of a friend of mine which she went through when she was in labour at the health facility. She was in pain crying for help but the nurses were not attending to her, she was alone in the ward crying asking for help but the nurses sat down watching TV unconcern. When her inlaw wanted to enter the labour ward to assist her daughter in-law, they prevented her also from entering. Due to this incidence, I have vowed to be giving birth to my babies at home.”

Respondent 2- Spoke about the way they were handled at home:

R2 “I prefer home delivery because my In-law and other women help me to do the pushing, and also they have been having the patience for me and as well handling me nicely.

Respondent 3- Spoke about Community Perception: Women who deliver at home are seen as brave women in our community here.

R3 “If we are able to give birth to our babies at home, any body that sees us praises us and says we are real brave women, that we have been able to endure the pains at home.”

Respondent 4- Spoke about In-laws:

R4 “Me, I always want to deliver at a health facility but my In-law had been the person who threatens me not to go and also plays delay tactic, for me to finally deliver at home. When I am in labour she would say I should wait a little that it is not yet time. If I insist that the time is due for me so I will go on my own, she will say I will not go I can deliver at home after all she gave birth to my husband at home. She will also say if I dare go to deliver at health facility and incur a cost she will make sure her son does not pay it.”

R5 “It depends on the home you find yourself. Some in laws are difficult, if you are in labour they will be telling you is not yet time stay at home a little after all if you deliver at home you will not die, and they will keep on saying stay a little stay a little and by the time you release you deliver at home with them”.

Respondent 6- spoke about accessibility:

R6 “I decided to give birth at home because of the lack of reliable transport to the nearby health facility, one and half hours walking distance. Scarcely a car comes here, especially during raining

season. It is so dangerous to be carried on a bicycle when you are in labour and the roads are also very bad”.

Respondent 7- Spoke about unexpected labour:

R7 “Mostly my labour is sudden and short, because of this I deliver on my way to health facility”.

Other FGDs made similar comments.

In-depth Interview with Mother In-laws

R “In the past pregnant women delivered at home most often in our communities because of Traditional beliefs and cultural practices such as during delivery that the women get the opportunity to examine the vagina to see whether the woman in labour has been circumcised. So if you did not deliver at a home in those days it meant you had not been circumcised and you were hiding your clitoris from them. A least mistake your child that you brought forth at a health facility would commit would be insulted that he or she has been born by a mother with clitoris that is why the fooling. But now we have been enlightened through education so we have done away with these practices”.

R “We are poor, we do not have money that is why I always advise my daughter in-law to deliver at home if she can, because there is no cost involve”.

In-depth Interview with a TBA

R “I personal have come to belief that most of these local women prefer delivering with us because of the following reasons: -We are always available,

-When they are in labour we converse with them, tell them interesting stories, just to make them forget about the pains and in no time they deliver unaware,

-We do not demand any items except razor blade,

-They come to show appreciation to us in their own way at anytime they are ready after assisting them to deliver”.

In-depth Interview with Husbands

R “There was no reason for me to give money to my wife to go and pay for the bill she will incur at health facility while she could equally give birth for free at home”.

R “My wife does not experience any difficulty during labour, hers is very simple so I will not allow her to go to health facility for delivering”.

R “I always insist that my wife deliver at health facility because we do not know when she will develop a complication or when unexpected will happen”.

Appendix B

INFORMED CONSENT

My name is ERIC KOFI ODURO AMANKWAH and I am working with a teacher in We are conducting a study on the determinants of skilled birth attendance in this municipality. Your input will help us identify the factors responsible for utilization of reproductive health services.

Participation is voluntary: that is you may decide to participate or not. If you agree to participate then you will answer a few questions that I will ask you, and this will last for about 15 minutes. Any information you give will highly be kept confidential and used only for the study. For verification about this study you may contact:

Kwame Nkrumah University of Science and Technology, School of Medical Sciences,
Department of Community Health, Kumasi
The Municipal Health Directorate, Bolgatanga

If you agree to participate in the study please sign / thumbprint

Signature/thumbprint of respondent.....Date.....

Signature of investigator.....Date.....

IDENTIFICATION

Community code :	Respondent code:
Name of community:	Date: D M Y
House number/Name:	Time interview started:
Language of interview:	Time interview ended:

SECTION A

DEMOGRAPHIC CHARACTERISTICS

	VARIABLE	RESPONSE
D1	LEVEL OF EDUCATION	1.No Schooling[] 5.Post Secondary[] 2.Primary [] 6.Tertiary [] 3. Middle/JHS [] 7.Others (Specify)..... [] 4.Secondary/Technical/Vocational[]
D2	AGE	1. 15-20[] 2. 21-34[] 3. 35-49[]
D3	MARITAL STATUS	1.Single[] 2.Married [] 3.Divorced/Separated [] 4.Widowed[]

D4	ETHNICITY	1.Frafra [] 5.Hausa [] 2. Akan [] 6.Gonja[] 3. Kusasi [] 7.Others (Specify)..... 4.Dagomba []
D5	RELIGION	1. Christian [] 2.Moslem [] 3.Traditional [] 4. Others (Specify).....
D6	HOUSEHOLD SIZE	1.1-3 [] 2.4-6 [] 3.7+ []
D7	OCCUPATION: YOURSELF(Y) HUSBAND(H)	1.Farming –Y[] H[] 2.Trading- Y[] H[] 3.Artisan- Y[] H[] 4.Seamstress- Y[] 5.Tailor- H[] 6.Public servant-Y[] H[] 7.Others (Specify).....Y[] H[]

SECTION B

COVERAGE OF SKILLED BIRTH ATTENDANCE

QUESTION	RESPONSE
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C1	When did you deliver the recent baby?	1. September-December 2007 ☐ 2. January – April 2008 ☐ 3. May – August 2008 ☐ 4. September- 2008 ☐
C2	Where did you deliver?	1. At home ☐ 2. At health facility ☐ 3. With a TBA ☐
C3	Did you attend ANC when you were pregnant?	1. Yes ☐ go to C4 2. No ☐ go to Q6 of next section
C4	When did you make the first visit to ANC?	1. 1-4 months ☐ 2. 5+ months ☐
C5	How many of the visits were you able to make to ANC when you were pregnant?	1. First ☐ Fifth+ ☐ 2. Second ☐ 3. Third ☐ 4. Fourth ☐

SECTION C

QUALITY OF HEALTH CARE AT THE REPRODUCTIVE FACILITIES

	QUESTION	RESPONSE
Q1	Which of the following topics were taught by the nurses when you were pregnant and visited ANC?	1.Diet and Nutrition [] 2.Child spacing or family planning [] 3.Danger signs during pregnancy [] 4.Danger signs during labour [] 5.Signs of labour [] 6.Others (Specify).....
Q2	Were you advised on where to deliver at the ANC?	1. Yes [] 2.No []
Q3	How many minutes are you sure of that the nurses spent with you at the ANC on your first visit?	
Q4	Could you please tell me some danger signs during pregnancy?	1.If none of them is mentioned- very low level of awareness [] 2.If from 1 to 3 of them is/are mentioned- low level of awareness [] 3.If from 4 and above are mentioned-good level of awareness []
Q5	Were you counseled one on one at ANC?	1.Yes[] 2 .No []
Q6	How far is your residence from a reproductive health facility?	1. 0- 5km [] 2. 6+km []

Q7	Which of the following was the attitude of the nurses towards you in the labour ward when you went to deliver your first born at the health facility?	1. They used abusive language [] 2. They gave me necessary attention I needed [] 3. They were friendly[] 4. Others (specify).....
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SECTION D

SOCIO-CULTURAL/BELIEFS AND ACCEPTABILITY FACTORS

	QUESTION	RESPONSE
S1	Do you discuss with your partner where to deliver?	1.Yes [] 2.No []
S2	Do you have to seek your husband's approval before deciding to deliver at the health facility?	1.Yes [] 2.No []
S3	If you decide to seek skilled attendance without your husband's concern, what would be the consequence?	1.My husband will punish me [] 2.Community gods will punish me[] 3.Community elders will punish me[] 4. Others (Specify).....

S4	Why do you prefer delivering outside health facility?	1.Because of privacy [] 2.Due to traditional beliefs/cultural practices [] 3. Others (Specify).....
S5	How do you see delivering at a health facility?	

SECTION E

PARITY

	QUESTION	RESPONSE
P1	How many children did you give birth to in life?	1.1[] 2. 2[] 3. 3[] 4. 4[] 5. 5[] 6. 6+[]
P2	Which of your children was delivered at home?	1.First born [] 2.Second born [] 3.Third born[] 4.Fourth born [] 5. Others (Specify)..... If any of the above is mentioned, then go to QP3

p3	Could you please tell me the reason why this born has to be delivered at home? 	
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