

Factors Associated With The Utilization Of Skilled Delivery Services In The Ga East Municipality Of Ghana. Part 1: Demographic Characteristics

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Abstract: The survival and wellbeing of a mother is important in addressing the Millennium Development Goal (MDG 5) which aims at improving maternal health by reducing maternal mortality. The health care that a mother receives during conception, delivery and postnatal is crucial in preventing complications which lead to disability or death of the mother or child. Even with the best possible antenatal care, any delivery can become complicated. Therefore skilled assistance is essential (GSS 2009). In the more developed countries, skilled attendance is about 99.5% whereas that of Africa is 46.5% (WHO, 2008) and Ghana was 59% in 2008 (GSS 2012) below the WHO target of 85% in 2010 (WHO, 2005). The Ga East Municipality of Ghana has a skilled delivery trend of 29.8% in 2008, 31.6% in 2009 and 37.5% in 2010 respectively (Ga East District Annual Report, 2010). Factors associated with this trend is unknown and needs to be investigated. The main objective of this study is to determine the various factors associated with utilization of skilled delivery services in the Ga East Municipality. Specifically it seeks to determine the proportion of births attended to by skilled birth attendants, identify the socio- demographic characteristics associated with access to skilled delivery services, and also to identify the barriers to the utilization of skilled delivery services. A cross sectional descriptive study design was used. Quantitative research methods were employed using structured pretested questionnaire. A study population of women (15- 49 years) who have delivered within one year prior to the study in the Ga East Municipal area was used. Stratified sampling and simple random sampling were employed using a sample size of (394) participants. The data entry and analysis was done using the Statistical Package For Social Sciences (SPSS) software. Association between variables was determined using the Chi Squared Test. The findings showed that a majority of respondents 371 (94.1 %) attended ANC. About 79 % had skilled assistance at delivery with the remaining 21% delivering at home. Maternal education, occupation and household income as well as religion showed statistical association with the utilization of skilled delivery. The study sort to find out what the barriers to utilization of skilled delivery and these include: transportation difficulty 43%, high cost of care 27.7%, high cost of transport (25.3 %). A few cited influence of family decisions, poor attitude of health workers and poor quality care as some of the challenges. The rest were traditional / cultural or religious reasons. These challenges need to be addressed to improve skilled delivery services in the district.

Index Terms: Antenatal Care, Skilled Delivery, Traditional Birth Attendant.

1.1 Background

Pregnancy and childbirth are vital events in the life of a woman. So, there is the need to pay special attention to mothers from the time of conception to postnatal stage. Access to skilled delivery care helps in reducing maternal mortality, [a major public health problem] particularly in sub-Saharan Africa, where half (50.4%) of all maternal deaths worldwide occur (WHO 2007) Maternal mortality is confirmed to be one of the greatest health divisions between developed and developing countries with about 99% of all maternal deaths estimated to occur in the developing world. By far the greatest burden of this tragedy is felt in African countries, which account for 40% of the global total pregnancy related mortality (UNFPA, 2010).

The lifetime risk of maternal death specifically due to pregnancy-related complications is 250 fold higher in developing than in developed countries (WHO 2003). It has however been estimated that 88-98% of these deaths invariably are avoidable with about 70% of these being related to five direct obstetric conditions, which are post-partum haemorrhage, puerperal sepsis, pre-eclampsia and eclampsia, obstructed labour and abortion (AbouZahr 2003). Thus acquiring the aid and skills of maternal care to manage these complications to reduce maternal mortality as well as improving maternal health. The risk of maternal death is about 175 times greater in some parts of the developing world than in the industrialised countries (Stanton et al., 2000). The context and causes of maternal mortality and morbidity as stated above are well known (Ronsmans and Graham, 2006); but there are estimates that for every maternal death, another twenty (20) women develop some form of life-long morbidity related to pregnancy and or childbirth which is very alarming (WHO 2004). The detrimental effect of maternal death on household income, household productivity, and household disintegration has been discussed (WHO 2005). It is also reported in a study by Cotter et al., (2006), that in sub-Saharan Africa, although women attend antenatal clinics (ANC) but do not seek skilled attendance when they are in labour. But this varies from country to country. This however means that a significant number of those who receive health services during the antenatal period still deliver without adequate obstetric care. The urgency and magnitude of the problem prompted the International community to include the improvement of maternal health in the Millennium Development Goals with the aim of reducing maternal

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mortality by 75% between 1990 and 2015. The strategies to address the problems of maternal mortality include one proven effective strategy which is the provision of access to basic emergency obstetric services by employing life saving skills such as assisted deliveries (Paxton et al., (2005). Access to these services is a key element in meeting the global target for skilled delivery of 80% by 2010 and 90% by 2015. It is however important to note that, in addressing the issue of expectant mothers having access to skilled attendants, it is important that there is provision of easy to reach health facilities with the necessary motivated workforce, equipment and drugs and enabling environment as well as adequate referral systems. In Ghana several efforts are being made in this direction by training more midwives to replace the large numbers of midwives going on retirement, new midwifery schools are being put up with some existing health assistant schools being upgraded to midwifery schools as well as the placement of non practising midwives to maternity units. Both local government and Ministry of Health (MOH) have collaborated to expand existing health facilities to create space for more maternity units. In order to bring health services to the door step of the communities, the CHPS programme is being implemented in both rural and urban settlements although the implementation strategies vary slightly. The National Health Insurance Scheme (NHIS) and the Free Delivery Service concepts are also being implemented in all public health facilities as well as some accredited private clinics. The World Health Organization (WHO) estimated that skilled attendance has reached 99.5% in developed countries whereas that of developing countries is 46.5% for Africa and 65.4% for Asia (WHO 2008). Such information consequently has gone a long way to put all nations on their feet in a bid to improve skilled attendance services. The Ghana Demographic Health Survey (GDHS) report for 2008 however shows that, over nine in ten mothers (95%) receive antenatal care from a health professional whereas only 59% of deliveries were assisted by skilled personnel. Traditional birth attendants (TBAs) on the other hand assisted with 30% and about one in ten births is assisted by relatives or receives no assistance at all (GSS 2009). This brings to the fore that addressing the issue of maternal health should not be left at the doorstep of the health ministry and that it will take a concerted effort of government, nongovernmental agencies and inter sectoral collaboration. With this notion, it has been realised that a lot more proactive strategies are required to meet the set targets for the Fifth Millennium Development Goal (MDG 5) by year 2015.

1.2 Statement of the problem

Labour and delivery are the shortest and most critical period during pregnancy and childbirth because most maternal deaths arise from complications during delivery. Even with the best possible antenatal care, it is established that delivery could be complicated and therefore skilled assistance is essential to safe delivery care. For numerous reasons however, many women do not seek skilled care due to cost of service, the distance to the health facility, and quality of care thereby bringing about a low coverage of 59% skilled deliveries despite the various strategies being put in place (GSS, 2009). Assessment of the trend of skilled delivery services in the Ga East Municipal area compared to antenatal services shows that although antenatal services is at an appreciable level of 67% in 2010, skilled deliveries however is

as low as 37.5% and a marginal increase of about 6% over the previous year's coverage. With the introduction of the 'free delivery services' which is in place to solve the problem of cost of services and the establishment of a CHPS compound, health education on benefits of utilization of maternity services, together with other activities towards improving maternal health in the municipality, it is expected that expectant mothers in the district will take advantage of such strategies to have skilled attendance during delivery which will thereby show a corresponding increase in the coverage of skilled deliveries; but this is however not the case. The coverage of 37.5% for skilled birth attendance which is below the national target of 60% and global targets of 85% in 2010, is a source of concern and this calls for the need for a study to find out the factors contributing to this low trend of skilled deliveries (Table 1). In addition to the low trend of skilled deliveries, there were two (2) maternal deaths, in 2010 giving an MMR of 42/100,000 Live Births as compared to 24/100,000 Live Birth in 2009.

Table: 1 Trend of skilled deliveries in Ga East Municipality

Indicators	2006	2007	2008	2009	2010
Antenatal Care	60.7%	64%	72 %	63%	67%
Skilled delivery	28.6 %	29%	29.8%	31.6%	37.5%

Table 2 Trend of skilled delivery in the Greater Accra Region

Year	2006	2007	2008	2009
Performance	42.2%	43.1%	50.2%	47.9%

With reference to the trend of skilled delivery in the Greater Accra Region it was observed that there was slight increase from 2006 to 2008 and then there was a sharp drop from 2008 to 2009 which altogether is lower than the global targets (Table 2).

Table 3 Trend of national maternal health performance

Indicator	Performance			
	2006	2007	2008	2009
Institutional MMR (1000 Live Births)	187	224	200	169.9
ANC	88.4%	91.1%	97.4%	92.1%
Skilled Delivery	44.5%	32.1%	44.2%	45.6%

It is expedient to make a close observation of the trend of national maternal health performance in order to compare the figures attained with global targets and also whether there are increases in the trend or not. Table 3 shows that institutional maternal

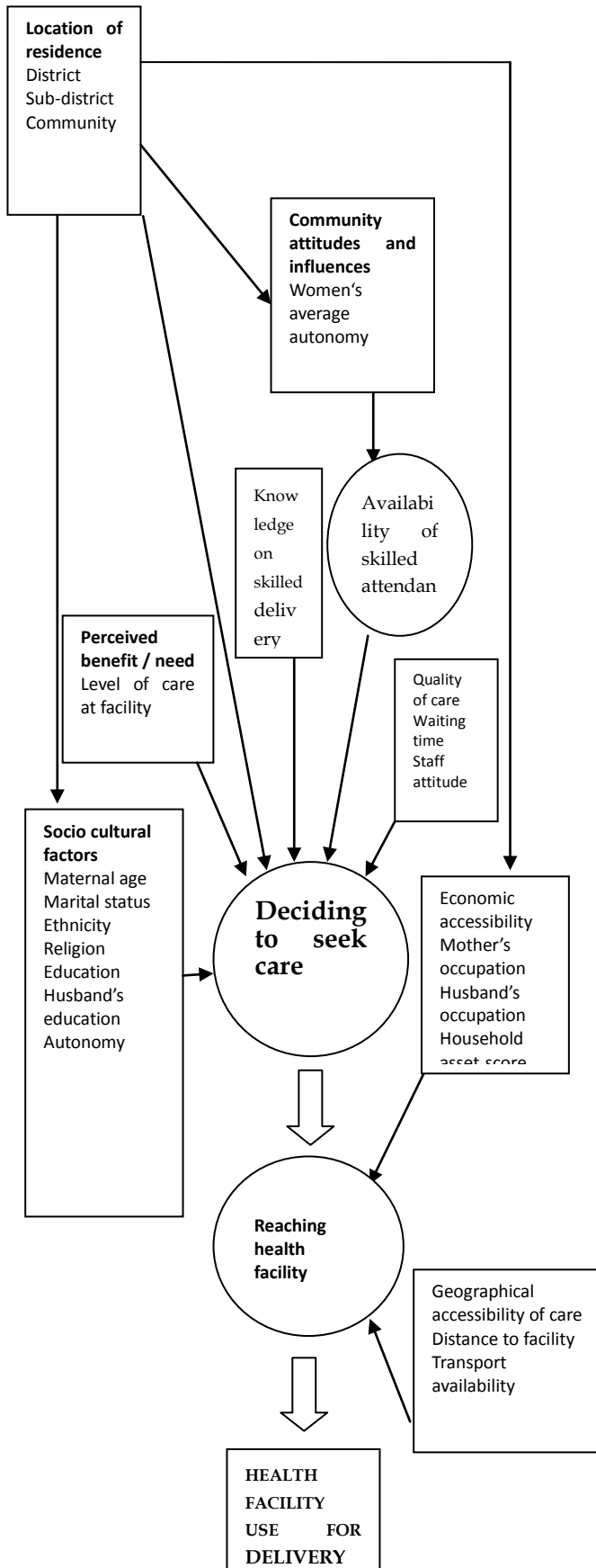


Figure 1 Conceptual Framework on Skilled Delivery

mortality fluctuated from 2006 to 2009 with the highest figure of 224 occurring in 2007 and declining significantly thereafter.

Conceptual framework on factors that influence skilled delivery use

This framework considers person related factors as well as health facility factors. The person related factors include the mother's socio-demographic characteristics as well as socio-cultural factors and the perceived benefit and need of facility use. It also considers how community attitudes influence family decision making with the location of residence influencing other factors. Knowledge on skilled birth attendance is also an important factor and all these together have influence on the decision to seek care. Economic and geographical accessibility mainly influence whether the woman actually reaches the facility. The health facility factors are related to availability of skilled delivery services as well as the quality of care rendered in terms of waiting time and staff attitude (Gabrysch et al., (2011) (Figure 1)

1.3 Justification

The findings on factors associated with skilled delivery will equip local policy makers and stakeholders at the facilities with the relevant information to inform policy on their health services for quality improvement on health care.

1.4 Research Questions

In order to achieve the objectives of this research, the following research questions were formulated:

- What proportion of women in the district made use of skilled attendants during their most recent delivery?
- What are the general characteristics of women who delivered at facilities with skilled delivery services?
- What are the barriers to the utilization of skilled delivery services?

1.5 Objectives

1.5.1 General objective:

The general objective of the study is to determine factors that are associated with utilization of skilled delivery services in the Ga East Municipality.

1.5.2 Specific objectives

The specific objectives of the study are:

- To determine the proportion of births attended to by skilled birth attendants in the municipality.
- To identify the socio-demographic characteristics associated with access to skilled delivery services in the municipality.
- To identify the barriers to the utilization of skilled delivery services in the municipality.

1.6 The study area

The Ga East Municipality [Fig 2] is one of the eight (8) districts in the Greater Accra Region of Ghana. The area is located at the North Eastern part of the region and is one the newly created districts carved out of the former Ga District.

2.0 Demographic Characteristics

The district has a total population of 320,853 as at 2010 with a growth rate of 4% with the WIFA (15-49 years) forming 28.5% of the total population (Table 4). The district is bordered on the north by the Akwapim South District in the Eastern Region and on the west by the Ga West district, the south by Accra Metropolis and in the east by the Adenta Municipal area with Abokobi as the capital. There are thirty-four (34) communities comprising mixed settlements, urban, peri-urban and rural areas with about 82% of the entire district settlement being urban. The economic activities are Public Services and trading being the dominant occupations in the municipality, followed by craftsmanship or artisanship with few engaged in subsistence farming. There are a few who are employed in small and medium scale enterprises as factory hands or casual workers. Some are engaged in hawking in goods for companies for some form of daily commission. A few of the work force in the district are unemployed reflecting the high poverty level and their inability to pay for the health care services offered. The district is a Ga community but could be said to be heterogeneous since it is made of a mix of many of ethnic groups in Ghana but with Ga –Adangbes, Akans, Ewes and people from the three northern regions of Ghana forming the majority. The Ga culture is maintained but then individuals also adhere to their own ethnic cultural practices. Two major festivals are celebrated in the district, namely Dokobi which is celebrated by the inhabitants of Sessemi and Homowo celebrated by the people of Boi, Teiman and the other Ga communities in conjunction with the people of Teshie and La. The district has been divided into Four (4) Sub- Municipal areas, which are Danfa, Madina, Dome and Taifa. Some important areas worth noting are Abokobi which is one of the initial settlements of the Basel missionaries in Ghana and is therefore an important landmark of the Presbyterian Church of Ghana. It is the political seat of the district and therefore has the Municipal Assembly as well as other decentralised departments including the Municipal Health Directorate. The town is well planned with good environmental sanitation and has a serene environment. The Ghana Atomic Energy Commission is located at Kwabenya (Taifa sub-district); The

largest Psychiatric Hospital in Ghana is located at Pantang (Danfa sub-district) which has two Nurses Training Schools. The district has a total of about forty-three (43) health facilities made up of 6 public facilities (13.3%), One (1) quasi government (GAEC), one (1) faith based hospital (CHAG) and the remaining 35 (81.4%) are private facilities. There is one CHPS compound located at Taifa one of the sub-districts. All these health facilities render outpatient curative care services but then only eight (8) have skilled delivery facilities. There is collaboration between District Health Management Team (DHMT) and some of the private health care providers. Twenty five (25) of the private facilities send monthly reports to the Municipal Health Directorate. There is no district hospital but the Pentecost Hospital which is a Faith based hospital situated at Madina serves as the first referral point for emergency obstetric care. The Greater Accra Regional Hospital (Ridge Hospital) which is about 22 km away serves as the next referral level for emergency obstetric care. The municipal area has no ambulance but falls on one from the Pentecost Hospital. The major health problems in the district are malaria, poor sanitation and lack of potable water with malaria ranking first among the first ten top diseases. The Ga East Municipal Assembly collaborates with the health directorate to have quarterly review meetings to identify health problems and come up with strategies to address such problems. There are plans underway to provide more public health facilities especially within the Taifa and Dome sub districts where there are none in order to improve health services within the district. The School of Public Health of the University of Ghana collaborate with the Municipal Health Directorate [MHD] in the supporting the Community-based Health Planning and Services [CHPS] programme in the district. Non governmental agencies such as 'Focus Region' also supports the MHD with logistics as well as financially. There were two (2) maternal deaths, in 2010 giving an Maternal Mortality Rate [MMR] of 42/100,000 Live Births as compared to 24/100,000 Live Birth in 2009. One death was due to haemorrhage and the other due to amniotic fluid embolism.

Table 4 Population of the Ga East Municipality

AGEGROUP	%	Madina Sub-M	Dome Sub-M	Taifa Sub-M	Danfa Sub-M	Total
Total % In Municipal		37	26	23	14	100
0-11mths	4	4,749	3,337	2,952	1,797	12,823
12-24mth	2.21	2,624	1,844	1,631	993	7,091
24-60mth	6.63	7,871	5,531	4,893	2,978	21,273
5-14yr	22.08	26,212	18,420	16,294	9,918	70,844
15-49yr WIFA	28.5	33,834	23,775	21,032	12,802	91,443
15-49 MEN	27	32,053	22,524	19,925	12,128	86,630
50-60yr	4.58	5,437	3,821	3,380	2,057	14,695
60+yr	5	5,936	4,171	3,690	2,246	16,042
TOTAL	100	118,716	83,422	73,796	44,919	320,853

3.0 Methods

3.1 Type of study

A cross sectional descriptive study was employed in the Ga East Municipal area which is one of the districts in the Greater Accra Region of Ghana.

3.2 Study population

The study was conducted among women of reproductive age group of (15- 49 years) who have delivered within one year prior to the study in the Ga East municipality by skilled or unskilled attendance.

3.3 Study location

The study was conducted in the Ga East Municipal area which is one of the districts in the Greater Accra Region of Ghana. The municipality has a total population of 320,853 as at 2010 which has been divided into (4) four sub- districts.



Figure 2. Map of Greater Accra Region illustrating the location of Ga East Municipality

3.4 Variables

The dependent variable is acceptance of skilled delivery and the independent variables include: Socio-Demographic Characteristics such as Age, Marital status, Parity, Religion; Socio-economic status such as level of education of the mothers, occupation, household income, accessibility to health care facility in terms of time spent from home to health care centre, availability of transportation, decision making, attitude of health care staff.

3.5 Sample size determination

The proportion of skilled deliveries in the Ga East Municipality in 2012 was 37.5%. To calculate the sample size, n represents the required sample size; t the confidence level at 95% (standard value of 1.96) and p the estimated prevalence of 37.5% skilled delivery; m is the margin of error

at 5% (standard value of 0.05).

The formula is:

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

$$n = \frac{1.96^2 \times 0.375(1-0.375)}{0.05^2} = 360$$

10% non – response adds up to a total of 396 participants

3.6 Sampling method

A stratified sampling method was employed to select the sub district study sample according to the sub district categorization (4 sub-districts). The communities in each sub district were compiled and Simple Random Sampling was used to select one (1) community from each sub districts. On facing each community from the main entry road, each house on the left as one entered the community was chosen as the starting point. Every third house was then selected and women who had children up to one year were identified in a household and interviewed. Where there were more than one eligible respondent only one of the lot who agreed to partake in the study was randomly selected to participate through balloting. The eligible respondents in each community were interviewed to give a total of 396 participants. In case of the absence of an eligible respondent, the interviewer moved to the next house until the target respondent was obtained. Out of this number two were rejected leaving 394 for data entry and analysis. The sample size per sub district according to the sub district population were as follows:

Madina - Zongo 147 in the Madina subdistrict,

Adenkrebi 55 in the Danfa subdistrict,

(Kwabinya Abuom) 91 in the Taifa subdistrict

Grushietown) 103 in the Dome subdistrict which sums up to 396 respondents.

3.6.1 Pilot study: The questionnaire was pre – tested in the Adenta Municipal area which has similar population to test for clarity, validity and reliability of the questions after which this was revised accordingly and finalised for use. The researchers closely monitored the field assistants during data collection to ensure that data were collected from participants as scheduled. Administered questionnaire were checked daily for completeness and accuracy. To ensure quality control, completeness of each questionnaire was checked to ensure internal consistency.

3.6.2 Data processing and analysis

Data cleaning was done manually to identify incomplete, incorrect and inaccuracies. Data analysis was done using the Statistical Programme for Social Sciences (SPSS) Version 16.

3.6.3 Statistical methods:

Data was analyzed using descriptive analysis of frequencies and cross tabulations. Background characteristics were analysed using frequencies. Data were presented in tables, pie chart and histogram. The association between background characteristics and outcome were compared with the Chi

Square test.

3.7 Ethical considerations / issues

Ghana Health Service - Ethical approval was obtained from the Ethical Review Board of the Ghana Health Service through the School Of Public Health, University of Ghana.

Approval from the study area- Approval was obtained from the Municipal Director of Health Services

Participants of the study - The study was conducted among women of reproductive age group of (15- 49 years) who have delivered within one year prior to the study in the Ga East municipal area.

Potential risks / benefits – The study was conducted in the participants own environment. There was no threat of potential risk since no drugs nor chemicals were administered. Participants benefited from the study since interventions on improvement of skilled delivery services will be put in place.

Privacy and confidentiality- Privacy was ensured during the data collection process and after the study. The researchers and assistants kept all information about participants to the study alone.

Compensation – Some form of refreshment was provided for participants of the study.

Data storage- A back-up storage facility in the form of hard disk of CD Rom was provided. All questionnaires were put in a well labelled sealed large envelope and kept in a metal cabinet under lock and key.

Voluntary consent – Participants were informed through a written informed consent that participation was voluntary and that she had the option to stay out of the study at any point and time during the study.

Conflict of interest- There was no conflict of interest in the study.

3.8 Limitations of the Study

Sampling bias may have been inadvertently introduced due to purposely restricting respondents to births within 1 year of survey

Recall bias – The recall period in the study was maintained at 1 year (12months), but this was still a sufficiently long period to be affected by recall bias.

The views and opinions of respondents and the analysis represent the population.

3.9 Assumptions

To achieve the objectives of the study, the following assumptions were made: That the opinions expressed by the respondents would be fairly representative of the views of the general population and that these findings can be extrapolated to the general population That the respondents understood the questions. That the field workers were careful in the administration of the questionnaire and that the answers

provided by respondents were not altered prior to entry. That the respondents were truthful and did not give socially desirable answers. That data entry for analysis was correctly done.

4.0 Result and Analysis

This study is a summary of the results of the research. For clarity, some of the findings of the study are presented in frequency tables and charts. In all a total of three hundred and ninety-four (394) mothers were interviewed.

Socio-Demographic Characteristics of Respondent

More than half 202 (51.3%) of the mothers were within the age group of 25- 34 years, with the younger age group of 16- 20 years forming 37 (9.4%), the minimum age was 16 with maximum age at 43 years; the mean age was 28 [Table 5]. A relatively high proportion 294 (74.6%) were married with 67 (17.0%) cohabiting and 25(6.3%) being single, there were few who were separated or divorced 4 (1.0%) and widowed 4(1.0%). Most of the mothers had 2-3 children; 186 (47.2%). On the issue of religion, majority 284 (72.1%) of the respondents were Christians; 284 (72.1 %) Moslems 88 (22.3%) and others were 22 (5.6 %) (Table 5). Ethnic groups were as follows: Akans 133 (33.8%); Ewes 84 (21.3%), Ga-Adangbes 75 (19.0%), Hausas 52 (13.2%) and others at 50 (12.7%). On Education, JSS level was 189 (48.0%) SSS were 60 (15.2%) and Tertiary level was 26 (6.6%). About 54 (13.7%) of them had no formal education. The major occupation among mothers was trading, 178 (45.2%). This was followed by house wives and unemployed [100 (25.4 %)]; skilled workers were 64 (16.2%), professionals (mainly teachers, nurses) were 26 (6.6%) with unskilled workers about 14 (3.6%), and a few farmers at 12 (3.0%) (Table 5) The educational background of the respondents' partners [Table 5] showed that 21(5.3%) had no formal education, but then with the majority who were educated, about 185 (47%) had basic education (Primary & JSS) with the remaining being SSS 90 (22.8%) and 70 (17.8%) having received tertiary education. The source of income of the main provider for the household was mainly by regular employment forming 252 (64.0) with a chunk of 135 (34.3%) being irregular. About a quarter of their husbands were artisans 100 (25.4%) with 67 (17.0%) being professionals and 52 (13.2%) being traders. The average monthly income per household had majority of it ranging between \$US 69.77-208.62 (47.9%) and about a quarter earning less than \$US 69.77. About 72 (18.3%) earn \$US 209.32-\$ US 209.32 – 348.18 and a few 33 (8.4%) earning \$US 348.87 or more.

Table 5 Socio-Demographic characteristics of respondents

Variables	Number (N=394)	Percentage %
AGE (YEARS)		
16-20	37	9.4
21-24	86	21.8
25-34	202	51.3
35 & above	69	17.5
PARITY		
< = 1	111	28.2
2-3	186	47.2
4-10	97	24.6
MARITAL STATUS		
Married	294	74.6
Cohabiting	67	17
Single	25	6.3
Separated/ divorced/ Widowed	8	2.0
HIGHEST EDUCATIONAL LEVEL		
No formal education	54	13.7
Primary	63	16
JSS	189	48
Other (vocational)	2	0.5
Senior Secondary School (SSS)	60	15.2
Tertiary	26	6.6
EMPLOYMENT STATUS		
Employed	294	74.6
Unemployed	100	25.4
ETHNIC GROUP		
Akans	133	33.8
Ewes	84	21.3
Ga-Adangbe	75	19.0
Hausas	52	13.2
Others	50	12.7
RELIGION		
Christians	284	72.1
Moslems	88	22.3
Other	22	5.6

Determinants to health care

Taking into consideration the time taken to get to the nearest health facility, it took almost half 196 (49.7%) of the respondents' [30-40 minutes] time to get to the nearest health facility. The rest of the mothers 58(14.7%) spent from 40-60 minutes with 22(5.6%) spending more than one hour. Those who use taxi / bus in getting to nearest health facility were 322 (81.7%); 59 (15%) of them walked to health facilities; about 13 (3.3%) used their family cars (Table 6). The cost of transport to nearest health facility had majority 238 (67.4%) spending \$US 0.60-2.09 and a quarter 100 (25.4%) spending \$US 2.79-4.18, those who spent \$US 6.97-20.93 were 14(3.6%) \$US 4.88-6.28 were also 14 (3.6%) Distance in terms of time taken to get to the nearest health facility was statistically significant : $X^2 = 50.85$

Table 6 Mode of commuting to the nearest health facility

Mode of commuting	Number	%
Own Car	13	3.3
Taxi / Bus	322	81.7
Walking	59	15.0
Total	394	100.0

Antenatal attendance and place of delivery

Majority of the mothers 371 (94.1%) were ANC attendants with 23 (5.8%) non attendants. Of those who attended, 199 (50.5%) attended 4-7 times; 135 (34.3%) attended 8-10 times and 20 (5.1%) attended 11 or more times, with 34(8.6%) attending 2-3 times, and 6 (1.5%) attending only once (Table 7). Those who did not attend ANC gave reasons such as the use of herbs 7(30.1%) financial constraints 4(17.2 %) and one person 1 (4.3%) complaining of no clinic in the community. Another 1 (4.3%) complained of lack of transport. One respondent 1(4.3%) complained that her husband died and was not allowed to go out. Response on Impression about ANC services showed that majority 316 (86.6%) liked the services given with 49 (13.4%) not liking services.

Table 7 ANC attendance and place of delivery

ANC	Hospital	Health centre	Maternity home	Private clinic	Home / TBA	Numbers (%)
Non-Attendant	2	2	1	0	18	23 (5.8)
Attendant	185	79	32	10	65	371 (94.1)

Among the respondents who attended the antenatal clinic, 306 about 82.4% used skilled delivery services whereas 65 (17.5%) of them used unskilled delivery. Of those who utilized ANC services, 65 (17.5 %) of delivered at home and at the TBAs. Analysis showed that there is a significant association between ANC attendance and skilled delivery

$$X^2 = 51.07 \quad p = 0.00$$

Out of the 394 respondents, 187 (47.5%) delivered at the hospital, 81 (20.5%) at the health centre, 43(10.9%) delivered at maternity home / private clinic and about 83 (21%) utilized unskilled delivery (Table 7).

Table 8: Socio-economic determinants of skilled delivery**4.3 Socio –economic determinants of skilled delivery**

Variable	Place of delivery			p - value
	Home / TBA	Health Facility	Totals	
Occupation				0.00
Professional	0 (0.0%)	26(6.6%)	26	
Non professional	59(15%)	209(53.0%)	268	
Unemployed	24(6.1%)	76 (19.2%)	100	
Average monthly income				0.00
<\$US 69.77	35(8.9%)	65(16.5%)	100	
\$US 69.77-208.62	36 (9.1%)	153(38.8%)	189	
\$US 209.32	7(1.8%)	65(16.5%)	72	
\$US ≥ \$US 348.87	2(0.5%)	31(7.8%)	33	
Mother's Education				0.00
Formal education	18(4.6%)	36(9.1%)	54	
Primary / JSS	57(14.5%)	195 (49.4%)	252	
SSS /other	6 (1.5%)	56 (14.2%)	62	
Tertiary	0(0.0%)	26 (6.6%)	26	

Occupation

Findings from the study showed that out of the 26 professionals among respondents all of them (100%) utilized skilled delivery services. Out of the 268 Non professional (15%) delivered at home while (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 (Table 8)

Average household monthly income

Mothers who fell within the average household monthly income of \$US 69.77-208.62 were the majority with 153(38.8%) having skilled delivery as against 36 (9.1%) having home deliveries. Those with < \$US 69.77 had majority 65(16.5%) delivering at the health facility and 35(8.9%) had home deliveries. About 16.5% of those in the US\$ 209.32-348.18 bracket had skilled delivery as against 1.8% having home deliveries. About 7.8% of those in the US\$ ≥ 348.87 bracket had skilled delivery 0.5% had home deliveries (Table 8).

Mother's education

Findings from the study showed that out of the 26 who had tertiary education utilized skilled delivery services. Majority of the mothers attained primary and JSS levels out of which 15.1% delivered at home while (66.3%) delivered at the health facility. Mothers who attained the SSS level had 1.6 % of them delivering at home with 18% delivering at the health facility. For those who had no formal education 4.6% delivered at home with 4.6% delivering at the health facility. All the three socio – economic variables stated above showed significant association with choice of delivery (Table 8)

5.0 Discussion of Results

This study discusses the important findings from the study in relation to the study objectives, literature review and the key variables. The discussions were based on the socio-demographic background characteristics in relation to skilled delivery and presented as follows:

5.1 Socio- demographic characteristics associated with skilled delivery

The participants for this study are within the 'women in the fertile age' WIFA bracket with majority being married and cohabiting respectively.

Maternal age

Out of the 394 respondents, majority 202 were in the category of 25-34 years with 35 (8.9%) of them delivering at home and 167 (38%) at the health facility. This reflects a trend that probably many more women deliver at an earlier age. This is similar to the findings in the report of the Ghana Demographic Health Survey 2008, where the percentage of births assisted by a skilled provider shows that mothers within the age bracket of 20-34 use more skilled delivery (GSS, 2009). An analysis of the results for age, showed no significant influence on place of delivery.

Marital status

Of all the respondents, majority were married (76.4%) with 13.7% delivering at home and about 61% at the health facility. Those who were cohabiting had 4.3% deliver at home and about 13% at the health facility. About 2.3% of the single mothers delivered at home with 4.1% seeking care at the health facility. Mothers who were either separated, divorced or widowed had less than 1% delivering at home and about 1.3% at the health facility. An analysis of the results for marital status showed no significant influence on place of delivery. This is a remarkable trend which means that probably many more women who are married or cohabiting have a joint consent with their partners and are being encouraged to have skilled delivery. A study by Mpembeni et al., (2007) however showed a different picture in that a significantly higher proportion (57.1%) of women who are single delivered with a skilled attendant compared to their married counterparts (41.8%). The study further explained that a woman who is educated, single and of higher socio-economic status is able to make wise decisions about her own health than her counterparts.

Parity

Majority of the mothers had 2-3 children and out of these 8.1% had home deliveries and about 40% had institutional deliveries. Respondents who were having babies for the first time had 4.6% of them delivering at home and 23.6% at the

health facility. Of those who had 4 children and above, 8.4% had home deliveries with 16.2% having skilled delivery. Although parity had no significant influence on skilled delivery in the analysis of the result, it is however a problem not having all primiparous delivering at the health facility. It has been found in a number of studies that Primiparous women patronize skilled delivery services than women of higher parity groups (Bell *et al.*, 2003, Mills *et al.*, 2008). Trends from the Ghana DHS of 2003 and 2008 shows quite a consistent pattern; (GSS 2009). Demographic Characteristics associated with skilled Delivery A study by Yanagisawa *et al* (2006) found that younger age showed a significant negative association with skilled attendance yet despite the strong correlation between age and parity, there was no association between parity and skilled attendance. Other studies have also confirmed significance of parity with utilization of modern maternity services where older, higher parity mothers tend to use a health facility lesser than younger, lower parity mothers (van Eijik *et al.*, 2006), (Mwaniki *et al.*, 2002) Among those who delivered at home 53 (63.9%) mentioned that it was their first time delivering at home. About (36.1%) responding in the negative. Majority of respondents 55 (66.2%) who delivered at home did not have problems or complications but the remaining 28(33.7%) claimed they had problems. Majority cited excessive bleeding 8 (28.6%), and about 4(14.3%) had retained placenta. Other problems cited were perineal tear, general weakness, bleeding & fainting, prolonged labour. A few 3(10.7%) had babies that were very weak that they could not cry. Majority of the deliveries were by skilled attendants 311(79%) with the remaining 81 (20.5 %) delivering at home and 2 (0.5%) with the TBA.

Cost of skilled care

Out of the number of respondents who sought skilled delivery services, about 184 (59.5%) of them did not pay for the services but then 125 (40.5%) paid for the services. For those who did not pay majority 172 (55%) had their services covered by NHIS with 7 (2.2%) from their employers. Of those who paid for the services, majority 73 (65.2%) paid cost of services ranging between \$US 14.65-55.12 with 13(11.6%) paying less than or equal to US 13.95. An amount of \$US 261-302.13 was paid by 2 (1.8 %) respondents. As a way of assessing mothers' registration with NHIS; about ninety-nine percent (393, 99.7%) of the respondents responded to this question. More than half 211(53.7%) are not currently valid members of the NHIS; about 46.3% are members in good standing. When asked the reasons for not having the card, about (53.1%) had no money to pay the premium. About 16.1% registered but their cards had expired and had not renewed their status then. About 14.7% said they were not interested in NHIS because they would have to pay certain bills at the health facility. About 4.7% did not give any response as to why they are had no membership with NHIS. About 4.7% attributed their non-membership to time wasted during processing before seeing a doctor. About 6.6% stated other reasons. For those who liked skilled delivery services majority (50.8%) responded that the staff were nice and friendly. About 45.1% said they did their best. A few (4.0%) however responded that the staff were harsh to them. When assessing the rate of services the majority 188 (60.5%) rated the health providers' attitude as good; 36 (11.6%) as excellent, while 71 (22.8%) rated as 16(5.1%) average and poor respectively. The mothers' impression about skilled delivery services showed that

majority 317 (80.4%) liked the services given to skilled attendance; however 19.6% did not like the services rendered.

5.2 Socio-demographic characteristics associated with skilled delivery

With regards to how the Socio-demographic characteristics are associated with skilled delivery the following are the findings:

Maternal age

Out of the 394 respondents, majority 202 were in the category of 25-34 years and 35 (8.9%) of them delivering at home and 167 (38%) at the health facility. Respondents within the bracket of 21- 24 had 5.1% and 21.2% of them delivering at home and at the health facility respectively. Mothers within the age category of 35 and above had 4% delivering at home and 13.6% at the health facility. Thirty seven of (37) were in the age bracket of 16-20 with 12 (3%) delivering at home and 25(8.0%) delivering at the health facility. An analysis of the results for age, showed no significant influence on place of delivery.

Parity & Marital status

Mothers having babies for the first time (primiparous) had 4.6% of them delivering at home and 23.6% at the health facility. Of those who had 4 children and above 8.4% had home deliveries with 16.2% having skilled delivery. Of all the respondents, majority (76.4%) were married with 13.7% delivering at home and about 61% at the health facility. Those who were cohabiting had 4.3% delivering at home and about 13% at the health facility. About 2.3% of the single mothers delivered at home with 4.1% seeking care at the health facility. Mothers who were either Separated, divorced or widowed had less than 1% delivering at home and about 1.3% at the health facility. An analysis of the results for marital status and parity showed no significant influence on place of delivery

Religion

Christians were the majority of respondents out of which 15% and about 57% delivered at home and at the health facility respectively. The next religious group were Moslems having 2.8% delivering at home and 19.5 at the health facility. A few were either traditionalist or belonged to other religious affiliations with 3.3% delivering at home and 2.3% at the health facility. Religion however had an influence ($X^2 = 42.78$ $p = 0.011$) on place of delivery.

Socio-demographic characteristics associated with skilled delivery

Future choice of place of delivery

When asked finally about where to deliver in future, majority 354 (89.8%) of the mothers said they will deliver at the health facility, which is a remarkable claim. About 22 (5.6 %) however claimed they will deliver at home with about 18(4.6%) saying they did not know. This means that mothers are skeptical about skilled attendance at delivery.

6.0 Conclusion and Recommendation

The factors that motivate home delivery and thereby discouraging institutional delivery were established as high costs skilled care (real or perceived), lack of transport as well as its high cost, poor attitude of medical personnel and family members decision on home delivery, presented the greatest obstacles to the uptake of skilled attendance. Most of the mothers who delivered at home wished to use health facilities but for want of vehicle, there was no other option but to deliver at home or with a TBA. The issue of the role of cost in skilled care is a major factor, considering the average household income levels and occupation of families in the municipality. Misperceptions of costs as well as entrenched poverty take precedence over all other factors that impede the use of accessible facilities regardless of the benefits of skilled attendance or proximity to health facilities, the inability to pay medical bills will still remain a challenge to be addressed.

Recommendation

In view of the findings, strategies to increase the availability and accessibility of health services should be a priority in the Ga East Municipality. Assemblymen, Unit Committee Members and various transport unions such as the GPRTU should support expectant mothers in labour with arrangements for transport in terms of in areas where there are transportation difficulties. Local political leaders must vigorously address the poor road network problems in the municipality. There is the need for the district assembly to complete the projects started on health infrastructure in the district especially in the Dome and Taifa sub districts that lack delivery facilities. The CHPS programme being initiated at Dome and Madina Zongo should be facilitated for staff to have a closer interaction with community members especially the household heads so as to make better decisions in addressing the health issues of the family. There is also the need for the MHD to promote domiciliary midwifery by training more Community Health Officers (CHOs) and providing them with delivery kits and motor bikes especially in areas where there are no health facilities. Safe motherhood support groups must be formed to hold advocacy meetings on the importance of skilled birth attendance with chiefs, opinion leaders and above all, elderly women in the communities to encourage expectant mothers to go for good skilled attendance during delivery. It is also important that health promotion activities on maternal health issues are enhanced. It is also expedient to have continuous programmes for health staff on human relations and communication skills in order to improve upon services rendered. Advocacy on educating the girl child must be strengthened by the Ghana Education Service (GES) as well women's advocacy groups both locally and at the regional level and efforts made to enrol, as well as retain them in school to the tertiary level or train them in the acquisition of vocational skills. All these when implemented will help improve the uptake of skilled delivery in the district.

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