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Factors Influencing Delivery by Skilled Birth Attendants Among Women who have had Previous Births in the East Mamprusi Municipality in the North East Region of Ghana

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ABSTRACT

Background: Childbirth has been an important part of human race. It is a natural phenomenon, nonetheless it has been linked with a number of risks, which may result into untoward outcome such as maternal and neonatal mortality. The increased rate of unsupervised delivery in developing countries underpins the escalating mortality rate surrounding childbirth. Maternal and neonatal mortality can be scaled down to 23–50% by 90% coverage of skilled delivery. Hence, delivery by skilled birth attendants puts women in better position to receive care and imparts positively on the delivery outcome of the mother and her child. The study therefore aims at ascertaining factors influencing delivery by skilled birth attendants among women who have had previous births in the East Mamprusi Municipality in the North-East Region.

Methods: Cross-sectional survey was conducted among 389 women within the East Mamprusi Municipality who have had previous births. A multi stage sampling technique was used for the study and primary data was collected with the use of a semi-structured questionnaire.

Results: Approximately 96.8% of the respondents were cognizant that skilled delivery occurs at a health facility under the supervision of trained midwife or doctor. Also 65.8% considered the attitude/behaviour of midwives, doctor, nurses or other health personnel during health facility delivery to be friendly. On the whole majority of the respondents, 311 (83.2%), showed satisfaction to ANC services provided at the health facility at the time they gave birth to their last child. Educational level ($p < 0.001$), religion ($p < 0.001$), number of children ($p < 0.001$), husband level of education ($p < 0.026$) and availability of NHIS ($p < 0.001$) were statistically associated with use of skilled delivery. Most of the respondents were of the view that availability of TBA (58.0%), proximity to health facility (64.2%), night/ bad weather/ poor roads (73.5%), lack of transport to health facility (58.3%), realized or informed late (65.5%) and not having enough time to go (64.2%) are bottlenecks to delivery under skilled birth attendants.

Conclusion: Women within the East Mamprusi Municipality have a high knowledge with regards to skilled delivery and posit that skilled delivery is very important. Educational level of woman, religion, number of children, husband level of education and possession of NHIS are factors associated with utilization of skilled delivery.

Introduction

Globally, studies thus far have shown that 287 000 mothers die from complication of pregnancy and childbirth with an estimate of 85% of the total global burden of maternal death occurring in Sub-Saharan Africa and Southern Asia [1,2]. The increased lifetime risk of dying prematurely from pregnancy is one in 41 in developing countries, compared to one in 3300 in developed countries, making maternal mortality a social equity indicator particularly in these countries [2,4].

Inasmuch as problems which do arise during the time of delivery are hard to predict, they can be effectively managed, and deaths prevented through health facility delivery equipped with skilled birth attendants placed in an enabling environment [5].

Feyissa and Genemo, indicated that women who deliver in health facilities are in a better position to receive care and supervision of the delivery by a skilled birth attendant which has a positive outcome on the survival of the mother and baby [6]. It is therefore, particularly important that all births are attended

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by skilled health professionals, as timely management and treatment can decrease the risk of antepartum hemorrhage, postpartum hemorrhage, and transmission of HIV/ AIDS and make the difference between life and death [7].

Notwithstanding the great public health effort, evidence shows that there is disparity in maternal health care service utilization between developed and developing countries. World Health Organization, reported that the proportion of skilled delivery was between 95% and 98% in developed countries [3]. On the other hand, the proportion of skilled delivery in developing countries has been reported to be very low. This is partly due to the reason that significant number of women in developing countries, particularly in the Sub-Saharan countries, do not have the opportunity to be attended to by skilled personnel during childbirth. Studies have reported a proportion between 48% – 70% of skilled delivery in developing countries [6,8,9]. According to the Ghana Health Service, the proportion of skilled delivery in Ghana is 56.2% which is below the national target of 80% [10]. The above statistics indicates that women in developing countries, particularly Ghana, are still engaging in unskilled delivery, thus, assisted in delivery either by traditional birth attendants (TBA) or relative, delivered by them at home. This is usually informed by factors such as cultural beliefs, social factors like educational background and income level of husband, easy accessibility and affordability as well as quicker service during delivery (Ogunlesi, 2005; WHO, 2010) [11,12].

This current study therefore seeks to

- To assess the knowledge and attitude of women who have had previous birth towards delivery by skilled birth attendant
- To identify the perceived barriers to the delivery by skilled birth attendants
- To determine the factors influencing delivery by skilled birth attendants among women who have had previous birth.

Method

Setting and Design

The study was conducted at the East-Mamprusi district in the Northern part of Ghana. A cross-sectional study design was used for the study. This type of study is usually conducted to estimate the prevalence of the outcome of interest for a given population, commonly for the purpose of public health interventions. The data was based on socio-demographic characteristics of participants, the social and cultural beliefs, knowledge of women who have had previous births on skilled delivery, attitude of women who have had previous births towards skilled birth delivery and factors influencing skilled delivery among women who have had previous births. Quantitative method was used to quantify all the measurable variables from the data.

Target population

Women who have had previous birth were the target population. However, the inclusion criteria covered women who delivered with the assistance of skilled attendant. Their inclusion was appropriate because they are considered as key stakeholders as far as the factors influencing skilled births among women who have had previous births is concern.

Sample size

The Cochran's (1977) formula below was used to calculate an appropriate sample size from the target population. As reported in the Ghana Demographic Health Survey, the rate of delivery by skilled birth attendants in Northern Region is 36.4% [13].

$$N = z^2p\ (1\text{-}p)/d^2$$

Where N = required sample size

Z = 95% confidence level of standard value of 1.96 from statistical table

P = estimated proportion of 36.4% (0.36)

d = margin error of 5% (0.05)

$N = (1.96)^2(0.36)(1\text{-}0.36)/(0.05)^2 = 354$

A 10% non-response rate = 35, hence the total sample size for the study is 389.

Sampling technique

A multi stage sampling technique was employed for this study. According to the 2000 population and housing census, the East-Mamprusi district (now a Municipality) has 5 districts, 142 communities and 11, 281 households.

In the first place, simple random sampling technique was employed to select a community from each of the five (5) districts constituting the East Mamprusi Municipal. The communities selected were Nalerigu, Gambaga, Langbinsi, Sakogu, and Gbintiri.

Moreover, systematic random sampling technique was used to select households from the selected communities. The sampling interval for each community was estimated by dividing the number of households in each community by the number of households allocated to each community based on the sample size. Hence, communities with more households had higher representation. After getting the sampling interval for the households, the first house was selected by taking a spin from any relevant landmark. The sampling interval was then used to select the remaining households. The number of households that were selected in each community was obtained by dividing the number of households in each community by the total number of households in the district.

In the chosen households, the simple random sampling technique was used to select a participant. Instances where there were more than one eligible participant in a household, a simple random method (the lottery method) was used to select one. That is "Yes" and "No" were balloted for the selection of the participants.

Data collection and analysis

A semi-structured questionnaire was employed to gather primary data from the participants. Close ended questions were accompanied with very possible responses to allow participants easily select the most applicable to them while open ended questions were left open to allow participants to feed in their own responses. In the data collection, informed consent and permission to participate in the study was sought from each participant. The questionnaires were reviewed after collecting the data. They were examined to check completeness, accuracy and consistency of responses to detect and eliminate error. The data was then analyzed using STATA. Frequencies, percentages, means, cross tabulations and chi-square were used in the analysis. The association between respondents' socio-demographic characteristics vis-a-vis skilled delivery was tested for using chi square ($\chi 2$) test at a significance level of 0.05.

Result

Socio-Demographic Characteristics of Respondents

A total of 389 respondents were interviewed. However, 374 fully answered the questions yielding a response rate of 96.1%. The minimum and maximum age recorded were 18 years and 46 years respectively, whereas the mean age was found to be 27.84 with a standard deviation of 5.44. Pertaining to marital status, majority of the respondents, 308 representing 82.4% were married. In terms of education, a little above one-third of the respondents, 126 representing 33.7%, had secondary education. Moreover, more than half of the respondents, 195 representing 52.1%, were Christians. It was also found that 132 representing 35.3% of the respondents were self-employed. Also, 217 representing 58.0% of the respondents indicated that their average monthly income is less than GH₵500 . The study also revealed that nearly all the respondents, 368 representing 98.4%, have registered with NHIS. Table 1 shows the socio-demographic characteristics of the respondents.

Table 1: Socio-demographic characteristics of respondents

Variable	Frequency (N = 374)	Percentage (%)
Age (years)		
<20	8	2.1
20-29	237	63.4
30-39	115	30.8
40+	14	3.7
Mean±S.D = 27.84±5.44		
Marital status		
Single	31	8.3
Married	308	82.4
Divorced	13	3.5
Cohabiting	22	5.9
Level of education		
None	55	14.7
Basic education	99	26.5
Secondary education	126	33.7
Tertiary education	94	25.1
Religion		
Traditional	8	2.1
Christian	195	52.1
Muslim	171	45.7
Occupation		
Government worker	110	29.4
Unemployed	105	28.1
Self-employed	132	35.3
Other	27	7.2
Number of children		
1	87	23.3
2	163	43.6
3	74	19.8
4	35	9.4
5	10	2.7
6	5	1.3
Mean±S.D = 2.29±1.09		
Average monthly income		
Less than GH₵500	217	58.0
GH₵500-GH₵1000	128	34.2
More than GH₵1000	29	7.8
Husband's level of education		
Basic	59	15.8
Secondary	134	35.8
Tertiary	181	48.4
Husband's occupation		
Government worker	211	56.4
Self-employed	146	39.0
Unemployed	17	4.5
Are you registered with NHIS?		
Yes	368	98.4
No	6	1.6

Knowledge and Attitude of Respondents on Skilled Delivery

With regards to the knowledge on skilled delivery, the study revealed that 96.8% of the respondents were cognizant that skilled delivery is a delivery process which occurs at a health facility under the supervision of trained midwife or doctor. Additionally, 93.6% of the respondents were aware of the nearest health facility where one can receive skilled delivery care in the district during their last child birth. As many as 97.9% of the respondents regarded health facility delivery (skilled delivery) as important whereas 2.1% viewed it as not important. The study also found that 97.6% of the respondents were cognizant of that ANC is a pathway to skilled delivery whereas 2.4% were ignorant in that regard. Moreover, 98.7% of the respondents knew that during ANC women are advised to attend a health facility for antenatal checkup.

It was also found that majority of the respondents, 99.5%, were apprehensive that midwives, doctor, nurses or other health personnel should wash hands before assisting with delivery. Again, 98.1% of the respondents were apprehensive that midwives, doctor, nurses or other health personnel should wear hand protection while assisting with delivery and 90.4% of the respondents also knew that midwifes, doctor, nurses or other health personnel should wash hands before cutting cord. Similarly, 90.4% of the respondents were cognizant that the position of the mother taken during delivery can affect the delivery process (Figure 1).

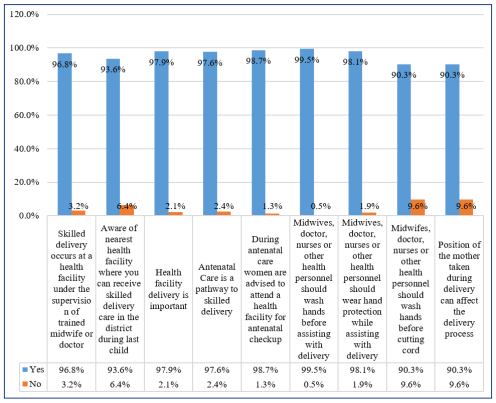

Figure 1: Knowledge of Respondents on Skilled Delivery

Attitude

In terms of attitude of respondents towards skilled delivery at the time they gave birth to their last child, the following findings were obtained. Majority of the respondents, 246 (65.8%), considered the attitude/behaviour of midwives, doctor, nurses or other health personnel during health facility delivery to be friendly. More than half of the respondents, 211 (56.4%), also perceived the environment (room temperature, arrangement of equipment and beds) of the labour-ward in the health facility to be good. Similarly, 209 representing 55.9% of the respondents also held a good opinion about the environment (room temperature, arrangement of equipment and beds) of the laying-ward in the health facility. On data collected for the cost of delivering at health facility, 218 (58.5%) of the respondents considered it as being moderate. Moreover, 213 (57.0%) respondents in their opinion considered the time taken before they were attended to by midwives, doctor, nurses or other health personnel when labour set-in to be normal. On the whole majority of the respondents, 311 (83.2%), showed satisfaction to antenatal care services provided at the health facility at the time they gave birth to their last child. Table 2 details the findings.

Table 2: Attitude of Respondents on Skilled Delivery

Variable	Frequency (N = 374)	Percentage (%)
Opinion about the attitude/behaviour of midwives, doctors, nurses or other health personnel during delivery		
Very unfriendly	16	4.3
Unfriendly	22	5.9
Friendly	246	65.8
Very friendly	90	24.1
Opinion about the environment (room temperature, arrangement of equipment and beds) of the labour-ward in the health facility		
Bad	19	5.1
Slightly bad	17	4.6
Neutral	38	10.2
Slightly good	89	23.8
Good	211	56.4
Opinion about the environment (room temperature, arrangement of equipment and beds) of the laying-ward in the health facility		
Bad	12	3.2
Slightly bad	16	4.3
Neutral	48	12.8
Slightly good	89	23.8
Good	209	55.9
Opinion about cost of delivery at health facility		
Very expensive	29	7.8
Expensive	86	23.1
Moderate	218	58.4
cheap	46	10.7
Opinion about the time taken before attended to by midwives, doctor, nurses or other health personnel when labour set-in.		
The waiting time was very long	88	23.5
The waiting time was normal	213	57.0
The time was very short	73	19.5
Opinion about the quality of services provided by midwives, doctor, nurses or other health personnel at health facility.		
Bad	8	2.1
Slightly bad	13	3.5
Neutral	50	13.4
Slightly good	76	20.3
Good	227	60.7
Satisfied with the antenatal care services provided at the health facility		
Very dissatisfied	5	1.3
Dissatisfied	13	3.5
Neither	7	1.8
Satisfied	311	83.2
Very satisfied	38	10.2

Delivery Type Among Respondents During their Previous Birth From the study it was also found that 366 (97.9%) of the respondents had skilled delivery during their last birth with a mere 8 (2.1%) having unskilled delivery (See Figure 2). Among those who had skilled delivery, 86.1% were assisted by Midwives, 11.5% assisted by Nurses and 2.4% assisted by Doctors. Also, 50.0% of those who had unskilled delivery were assisted by their neighbours with equal percentage (25.0%) being assisted by their mother and mother-in-law. Moreover, 44.4%, 26.3%, 13.4%, 12.1% and 3.8% of the respondents respectively outlined that decision on place of delivery came from both partner, solely the woman, a health worker, solely the man, and a relative.

Perceived Barriers to the Utilization of Skilled Delivery Among Women who have had Previous Delivery

Respondents were presented with certain factors and asked to indicate which among those factors serve barriers to the utilization of skilled delivery. The result from 387 respondents who responded is presented in Figure 2.

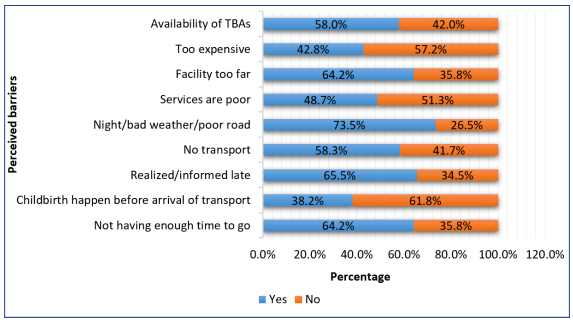

Figure 2: Perceived Barriers to the Utilization of Skilled Delivery Among Women who have had Previous Delivery

Association Between Respondents Socio-Demographic Characteristics and Skilled Delivery

The association between respondents' socio-demographic characteristics vis-a-vis skilled delivery was tested for. A chi square ($\chi 2$) test was conducted to establish the association between these variables at a significance level of 0.05. It was revealed that a statistically significant association existed between socio-demographic characteristics including educational level, religion, number of children, husband's level of education and possession of NHIS with respect to skilled delivery.

However, the analysis did not find a statistically significant association for age, marital status, respondents' occupation, respondents' average monthly income and husband's occupation vis-a-vis skilled delivery. Table 3 details the findings.

Table 3: Association Between Respondents Socio-Demographic Characteristics Vis-a-Vis Skilled Delivery

Variables	Skilled delivery (N = 374)		x^2	P - value
	Yes	No		
Age				
<20 years	8	0		
20-29 years	232	5	0.6030	0.896
30-39years	112	3		
40+ years	14	0		
Marital status				
Single	31	0		
Married	301	7	3.1000	0.376
Divorced	12	1		
Cohabiting	22	0		
Level of education				
None	49	6		
Basic education	97	1	23.9557	**0.001***
Secondary education	124	1		
Tertiary education	93	0		
Religion				
Traditional	4	4	91.8387	**0.001***
Christian	195	0		
Muslim	167	4		
Occupation				
Government worker	108	2		
Unemployed	104	1	3.0650	0.382
Self-employed	127	5		
Other	27	0		
Number of children				
1	87	0		
2	163	0		
3	67	7	24.8228	**0.001***
4	34	1		
5	10	0		
6	5	0		
Average monthly income				
Less than GH₵500	213	4	1.3190	0.517
GH₵500-GH₵1000	124	4		
More than GH₵1000	29	0		
Husband's level of education				
Basic	55	4	7.2620	**0.026***
Secondary	132	4		
Tertiary	179	2		
Husband's occupation				
Government worker	209	2	4.5101	0.105
Self-employed	140	6		
Unemployed	17	0		
Has NHIS				
Yes	362	6	28.3464	**0.001***
No	4	2		

*Chi-Square statistic is significant at the 0.05 level

Discussion

According to the study, knowledge of women who have ever given birth with regards to skilled delivery is relatively high in East Mamprusi Municipality. In fact, 96.8% of the women knew that skilled delivery occurs under the supervision of a midwife, a nurse or a medical doctor. A similar percentage of the respondents were cognizant that skilled delivery is important. The relevance of skilled delivery lies in its ability to prevent death associated with child birth. WHO, stipulated that skilled delivery is an imperative approach to reduce childbirth related deaths. Moreover, 97.6% of the respondents were apprehensive that ANC is a pathway to skilled delivery [6]. Study conducted by Birungi and Ouma and Maureen and Peter (2008) established that women who attended ANC frequently admitted that they were going to have skilled delivery [14,15]. Anwar asserted that the probability that a woman will utilize or seek for skilled attendance during delivery will increase if they use ANC regularly [16]. A reason underpinning ANC as a pathway to skilled delivery is that pregnant women are advised and entreated during ANC service to utilize skill delivery during child birth. It can also be construed that women who go for ANC are educated on issues pertaining pregnancy and child birth. Such women are sensitized with the risks associated with delivery done without the assistance of a trained birth attendant (home or unsupervised delivery). They are also fed with the benefits of skilled delivery services which enable them to develop interest in skilled delivery over unskilled delivery.

Apparently, respondents attitude towards skilled delivery was reflective in their satisfactory level of the skilled delivery services which they received during their last delivery. On the whole, approximately 83% of the respondents showed satisfaction with regards to the services rendered at health facilities during their last childbirth. This finding corroborates as that of Abdalla, (2018) and Bitew et al. (2015) [87].The former researcher revealed that in Tamale Metropolis, 80.0% of postnatal women present at various health facilities were satisfied with childbirth services whereas the latter reported that 81.7% of women in Debre Markos town of northwestern Ethiopia showed satisfaction to services of childbirth provided in government hospitals.

This study found that attitude portrayed by health personnel who assist in skilled delivery was considered to be friendly or very friendly by 89.9% of the respondents. Moreover, 60.7% of the respondents viewed the quality of services provided by health personnel during their last child birth to be good. It was also found that 56.4% and 55.9% of the respondents opined as good the environment of the labour-ward and the laying-ward in the health facility respectively. Most of the respondents (58.4%) also considered, as moderate, the cost of delivery at health facility. Also, a similar percentage of respondents considered the time taken before they were attended to by a health professional when labour set in to be normal. These attitudinal perception underscores the high rate of satisfaction of respondents toward skilled delivery during their last birth. A previous study by Dzomeku et al. and Avortri et al. in Ghana argued that interpersonal behaviour such as friendliness of health personnel; interpersonal skills such as providers skills and competence; therapeutic communication such as politeness, among others influence women's satisfaction with child birth services. And subsequently, satisfied women likely adhere to treatment, trust whiles using health care services confidently (Changole et al, 2010) [18-20].

With regards to factors which militate against the utilization of skilled delivery, majority of the respondents opined the following:

- **Availability and Accessibility of Traditional Birth Attendants (TBAs)**
  TBAs have been recognized as one of the significant blockades to the use of skilled delivery by most pregnant women. Most women opt for the services of TBAs during child birth because they are easily accessible. TBAs live with pregnant women in one community and hence closer to them than trained birth attendants who are stationed in health facilities. The services TBAs are also affordable in the sense that they do not have specific charges for their services. A study in Nigeria by Ogunlesi (2005) found that women utilized the services of TBA during delivery because they provide cheap services to them. TBAs are able to get pregnant women to prefer their services because they are sensitive to women's need, their cultural values and also preserve the dignity of women [11].
- **Proximity to Health Facility**
  Proximity to health facilities influence choice of place of birth. Usually most pregnant women would hesitate to travel far distances to seek for skilled delivery. Far distance to health facilities is also reported by Tiimob as a bottleneck to skilled delivery [21]. According to Tiimob, 75% of respondents indicated that long distance to health centers compelled women to opt for home delivery. Indeed, where there is far distance to a health facility, women may have to board a vehicle to the facility. This becomes a hindrance in instances where a woman cannot get a vehicle to the facility or even foot transportation cost. Therefore, under such situation, a woman will eventually resort to home delivery.
- **Night/ Bad Weather/ Poor Roads**
  Respondents from the study opined that night, bad weather and poor nature of roads linking communities and health facilities potentially impede skilled delivery utilization. As a result of bad weather and poor roads, women who will even want to have skilled delivery will not be able to achieve that expectation. Sudden labour onset at night and a bad weather condition also makes access to skilled delivery impossible as during such conditions, it becomes difficult and also there is no enough time moving from one's residence to health care center to deliver.
- **Lack of Transport to Health Facility**
  In fact, transport unreliability and inability of pregnant women to plan in advance for proper means of transport to nearest health facilities makes a high percentage of women who desire skilled delivery to resort to home or unskilled delivery. A study by Hazemba and Siziya (2008) in rural Tanzania revealed that 34% of mothers who delivered at home were actually resolved to utilized health facility however transport issues and challenges instigated them to deliver at home.
- **Realized/ Informed late**
  In various communities, women are generally accustomed to giving birth at homes. It takes a lot of effort through education to get women develop interest in seeking skilled

delivery. Therefore, inability to feed pregnant women with such information early enough for them to deliberate upon it, will definitely result in those women delivering at home.

- **Not having Enough time to go**
  Majority of women do not utilize skilled delivery because they do not have enough time to move from their homes to health facilities. Typically, in case of sudden onset of labour, local birth assistance are called in to assist pregnant women to deliver instead of moving to health facility to give birth.

Factors influencing skilled delivery were also ascertained in the course of the study and were found to include respondent's educational level, religion, number of children, husband level of education and availability of NHIS.

Educational background of pregnant women have been identified through previous studies to influence place of delivery. Hazemba et al. found a strong association between skilled delivery viz-a-viz education. Hazemba and colleague ascertained that women who were educated were comprehensive about issues of obstetric complications and could take personal decisions on issues relating to their own health. A similar study by Kitui et al. reported on women who had attained higher education to be 7.46 times probably to make use of skilled delivery than those without education [22]. Tiimob also found that 87% of respondents claimed that educational level of women could influence where they seek for delivery. It can be inferred that women who have higher education better understand the importance of skilled delivery and hence utilize it during delivery. Moreover, husband's level of education as influencing place of delivery, in this case skilled delivery, can be associated to a similar reason that men with higher education are apprehensive of the merits that come with skilled delivery [21].

Religion of pregnant women also significantly influence the use/patronage of skilled delivery. A study conducted in Kenya, found that religion predicts place of delivery. Kitui and colleagues found that place of delivery differ with respect to religious associations. According to their report, Muslim women as well as women belonging to no religion were less probably to give birth in a health facility than those women who are Protestants or their other Christians.

Number of children is also associated with skilled delivery. According to Kitui and colleagues women having children were unlikely to utilize the service of health facilities during delivery as likened to women without a child. A feasible reason for deterring women with children who have ever had skilled delivery from latter seeking skilled delivery could be linked to the unfriendly treatment they receive at the health facility. The rude and unfriendly behaviour of health workers towards pregnant women which later deter them from using skilled delivery have been reported by Adeyemi, and Kabakyenga et al., [22,23].

NHIS also was found to influence skilled delivery. reported on a similar finding, that having insurance cover increases the probability of seeking skilled delivery in a health facility. Insurance has an influence on skilled delivery because women who possess NHIS card are exempted from the payment of certain fees and charges as they utilize the service of health facilities during delivery. Women who do not possess NHIS card on the other hand bear full cost of service delivery when they patronize the services of skilled birth attendants at various health facilities. Hence women without NHIS card would not show interest in delivering at health facilities due to the cost which may be deemed exorbitant for them, whiles those enrolled on NHIS will not have to bother about any cost and hence fully utilize skilled delivery.

Conclusion

Women within the East Mamprusi Municipality have a high knowledge with regards to skilled delivery and posit that ANC is a pathway to skilled delivery. Interestingly, there is a high utilization of skilled delivery among women in the East Mamprusi Municipality as the study brings to light that majority of the respondents accessed skilled delivery during their last birth. Enabling/Need factors that influence skilled delivery among women within the Municipality include access to health facility, close proximity to health facility, affordability of service, knowledge on the benefit of skilled delivery, service covered by health insurance, frequency of ANC attendance, perception of risk of pregnancy, and concern for safe delivery. Additionally, educational level of woman, religion, number of children, husband level of education and possession of NHIS are also socio-demographic factors ascertained to have an association with utilization of skilled delivery [24-26].

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Ethical Approval

All study protocol was reviewed and apporved by the Institutional review board of KNUST- The Committee on Human Research and Publication Ethics (CHPRE) with Reference: CHRPE/AP/599/19.

Competing Interest

The authors declare that they have no competing interests.

References

1. World Health Organization. World population data sheet. WHO, Geneva. 2013.
2. Gedefaw G, Abebe E, Nigatu R, Mesfin B, Addisu A. Institutional delivery service utilization and factors influencing it among mothers who gave birth in Woldia Town, Ethiopia: a community-based cross-sectional study. Gynecology & Obstetrics (Sunnyvale). 2018. 8:1-7.
3. World Health Organization. Maternal and Child Health Fact Sheet. WHO, Geneva. 2012. Available from: http://www.who.int/mediacentre/factsheets/fs348/en/.
4. World Health Organization. Trends in maternal mortality: 1990 to 2015 – estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. WHO, Geneva. 2015.

5. Meron Mehari Kifle, Hana Fesehaye Kesete, Hermon Tekeste Gaim, Goitu Seltene Angosom, Michael Berhane Araya. Health facility or home delivery? Factors influencing the choice of delivery place among mothers living in rural communities of Eritrea. Journal of Health, Population and Nutrition. 2018. 1: 1-15.
6. Feyissa TR, Genemo GA. Determinants of institutional delivery among childbearing age women in Western Ethiopia: unmatched case-control study. PLoS ONE. 2014. 9: 1-7.
7. Awoke W, Abeje G. Institutional delivery service utilization in Woldia, Ethiopia. Science Journal of Public Health. 2013. 1: 18-23.
8. Abdalla NA. Factors influencing women's satisfaction with child birth. 2018. Amano A, Gebeyehu A, Birhanu Z. Institutional delivery service utilization in Munisa Woreda, South East Ethiopia: a community based cross-sectional study. BMC Pregnancy and Childbirth. 2012.12: 105
9. Kidanu S, Degu G, Tiruye TY. Factors influencing institutional delivery service utilization in Dembecha District, Northwest Ethiopia: a community-based cross-sectional study. Reproductive Health. 2017. 14: 98.
10. Ghana Health Service (GHS). 2016 Annual Report. Ghana Health Service, Accra. 2017. 61.
11. Ogunlesi TA. The pattern of utilization of prenatal and delivery services in Ilesa, Nigeria. International Journal of Epidemiology. 2005. 2: 1540-2614.
12. World Health Organization. World Health Statistics: Maternal mortality ratio in developing countries. WHO, Geneva. 2010.
13. Ghana Statistical Service (GSS), Ghana Health Service (GHS), ICF International. Ghana Demographic and Health Survey 2014. Rockville, Maryland, USA: GSS, GHS, and ICF International. 2015.
14. Birungi H, Ouma WO. Acceptability and sustainability of the WHO focused antenatal care package in Kenya. Frontiers in Reproductive Health Program, Population Council, Institute of African Studies, University of Nairobi. 2006. 25.
15. Maureen M, Peter M. Determinants of skilled birth attendant utilization in Afghanistan. American Journal of Public Health. 2008. 98: 1849-1856.
16. Anwar I. Inequity in maternal health-care services: evidence from home-based skilled-birth-attendant programmes in Bangladesh. World Health Organization, Geneva. 2008.
17. Bitew K, Ayichiluhm M, Yimam K. Maternal satisfaction on delivery service and its associated factors among mothers who gave birth in public health facilities of Debre Markos Town, Northwest Ethiopia. BioMed Research International. 2015. 2015: 1-7.
18. Dzomeku MV. Maternal satisfaction with care during labour: a case study of the Mampong-Ashanti District Hospital Maternity Unit in Ghana. International Journal of Nursing and Midwifery. 2011. 3: 30-34.
19. Avortri GS, Beke A, Nkrumah GA. Predictors of satisfaction with childbirth services in public hospitals in Ghana. 2011.
20. Changole J, Bandawe C, Makanani B, Nkanaunena K, Taulo F, et al. Patients' satisfaction with reproductive health services at Gogo Chatinkha Maternity Unit, Queen Elizabeth Central Hospital, Blantyre, Malawi. Malawi Medical Journal. 2010. 22: 5-9.
21. Tiimob RW. Factors associated with choice of place of delivery by women in the Savelugu/Nanton Municipality. Doctoral dissertation. 2017.
22. Adeyemi E. Socio-economic differentials in health care choices: implications for maternal mortality in Nigeria. PhD Thesis; Department of Sociology, Lagos State University, Nigeria. 2007.
23. Kabakyenga JK, Ostergren PO, Turyakira E, Pettersson KO. Influence of birth preparedness and decision-making on location of birth and assistance by skilled birth attendants among women in South-Western Uganda. PLoS ONE. 2012. 7.
24. Cochran WG. Sampling techniques (3rd ed.). New York: John Wiley & Sons. 1977.
25. Ghana Statistical Service (GSS), Ghana Health Service (GHS), ICF International. Ghana Demographic and Health Survey 2014. Rockville, Maryland, USA: GSS, GHS, and ICF International. 2015.
26. Hazemba A, Siziya S. Choice of place for childbirth: prevalence and correlates of utilization of health facilities in Chongwe District, Zambia. Medical Journal of Zambia. 2008. 35: 53-57.