

Birth Preparedness and Complication Readiness among Pregnant Women in Hohoe Municipality of Ghana

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Abstract: Introduction: Maternal deaths are unacceptably high in developing countries. The MDGs were therefore set to reduce it by two-third by the close of 2015. Methods: We conducted a cross sectional descriptive study among pregnant women attending antenatal clinics in the Hohoe Municipality. Data was collected using a structured questionnaire from 261 pregnant women who attended antenatal clinic from five randomly selected facilities between June and July 2014. In-depth interview was conducted with five midwives from randomly selected facilities to assess their knowledge on birth preparedness and complication readiness. Focus group discussion was held with health committee members in the same five selected communities in the Municipality. Results: Knowledge of danger signs among the pregnant women was high (Abnormal presentation 90.2%, umbilical cord prolapse 85.8%, swollen feet and face 86.3%, preterm baby 85.1%, heamorrhage 93.5%, loosing liquor 90.4%) but midwives did not educate them on birth preparedness and complication readiness at the antenatal clinic. Educational status, marital status and parity has no association with level of birth preparedness and complication readiness (Education: OR=1.252, CI; 0.669, 2.345; p-0.713; Marital Status: OR=1.048, CI; 0.546, 2.008; p-0.713; Parity: OR= 0.977, CI; 0.452, 2.008; p-0.952; Residence: OR=1.252, CI; 0.669, 2.345; p-0.482). The level of birth preparedness and complication readiness among pregnant women attending ANC at Hohoe municipality is very low (19.2%). Conclusion: Strengthening information, education and communication system in all health facilities and involvement of community members in BP/CR plans is very crucial in reducing maternal mortality and improving the health status of women.

Keywords: Birth preparedness and complication readiness, pregnant women, birth plan, Hohoe, Ghana.

1. INTRODUCTION

Child birth is one of the greatest events in every woman's life. The expectant woman and her family must prepare for the experience of labour and delivery. They must understand the importance of birth preparation in order to prevent complications.

Despite the efforts of the Safe Motherhood programme, maternal mortality is still a common problem mainly in developing countries. The major causes are anaemia, heamorrhage, eclampsia, infections, abortions and complications of obstructed labour. These deaths only represent a small portion of the total burden of morbidity and mortality.[1]

Lack of advance planning for use of skilled birth attendant for normal births, and particularly in-adequate preparation for rapid action in the event of obstetric complications are well documented factors contributing to delay in receiving care.[2] Frequency of maternal death in Ghana depends not only on the risk of an average pregnancy but on the fertility rate. The average fertility rate is 4.0. Ninety-nine percent of the 529,000 women who die annually occur in the less developed countries. The situation is most dire for women in Sub-Saharan Africa where 1 woman in 16 is likely to die of pregnancy-related complications as compared with only 1 in 2,800 women in developed regions [1]. Ghana has a maternal mortality rate of 350 per 100,000 live births [3].

In 1987, for the first time, the international public health community publicly recognized and agreed to address a long-neglected, little-understood problem, the dramatically high rates of maternal death and disability prevalent in the developing world, especially in sub-Saharan Africa and South Asia. Women have a risk of dying in pregnancy and childbirth that is 50-100 times greater than that of women in the developed world in addition to developing complications such as incontinence, fistula, uterine prolapse and infertility. Maternal mortality rates are as high as 700 per 1000,000 live births in some developing nations. This enormous discrepancy highlights one of the most striking aspects of maternal mortality burden on poor countries [4], [5].

Even though the concept of birth preparedness and complication readiness is one of the simple, cost effective and most practicable means of reducing maternal morbidity and mortality, it is not widely used by women and their significant others

Birth-preparedness and complication readiness is a comprehensive strategy which seeks to promote the timely utilization of skilled maternal and neonatal health care. The main elements include: knowledge of danger signs; plan for where to give birth; plan for a birth attendant; plan for transportation and saving money as well as identifying a potential blood donor and a supporter at birth.

The role of BP/CR is to improve the use and effectiveness of key maternal and neonatal services through reducing delays in deciding to seek care. It motivates people to plan to have a skilled provider at every birth. [2], [6]-[8]

There are evidences from Nepal, Burkina Faso and India emphasized that BP/CR improves the knowledge of mother about danger signs and leads to improvement in care seeking behaviour during obstetric emergency.

1.1 The Concept of the three delays leading to maternal mortality:

Safe motherhood concept on maternal mortality identifies three delays in seeking, reaching and obtaining care as the key factors leading to maternal death. To put the underlying causes of maternal death in context, the Three Delays Model was created that goes beyond clinical diagnosis, to examine more closely the socio-economic, cultural and political barriers that contribute to delays in the management of obstetric complication. [9]

Delay in decision making may be due to financial problems and also significant others not available to allow the pregnant woman to visit a health facility. Delays in reaching care may be due to the distance from a woman's home to a facility, poor condition of roads, and lack of ambulances or emergency transportation. Delays in receiving care may be as a result of lack of skilled attendant at birth, poor skills of healthcare providers, short supply of commodities and basic equipment as well as lack of space in the facility to accommodate larger numbers of expectant mothers. [9], [10].

1.2 The concept of Birth Preparedness:

Birth preparedness and complication readiness is a safe motherhood strategy whose objective is to promote the timely use of skilled maternal and neonatal care during delivery or obstetric emergencies by reducing delays at the stages of institutional care as well as labour. It entails making plans prior to birth to ensure that a pregnant woman is prepared for normal birth and complications. Decisions are made and documented on choice of birth, the preferred skilled birth attendant, items required for birth, birth companion, getting a compatible blood donor and arranging in advance for transport. Other elements of birth preparedness include knowledge of expected date of delivery, signs of labour, arranging for someone to take care of the family during delivery, importance of postnatal care, importance of exclusive breastfeeding and contraception. [11], [12].

1.3 The practice of Birth Preparedness and Complication Readiness:

While there is no universal definition of birth-preparedness, many packages that address birth-preparedness promote the following: (i) preparation for normal birth by selecting a place of delivery and skilled birth attendant; (ii) preparation of

essential items for delivery, such as a clean delivery-kit; (iii) knowledge of danger signs for mother and newborn and when to seek help; (iv) knowledge of where and to whom to go for help; (v) arranging access to funds and means for emergency transportation and medical care; and, (vi) prior identification of blood donors. [13].

Interventions to reduce other barriers to seeking care include perceptions of poor quality of care and cultural differences, and these must also be addressed. [1],[14]

This study seeks to explore pregnant women's views on importance of birth preparedness and complication readiness in Hohoe Municipality in the Volta Region of Ghana.

The general objective was to determine the extent to which pregnant women prepare towards childbirth in the Hohoe Municipality. Specifically we investigated whether they were educated on birth preparedness by midwives, determined their knowledge on the importance of birth preparedness and complication readiness and to assess whether pregnant women know the complications associated with childbirth.

2. METHODS

2.1 Setting:

We conducted a descriptive cross-sectional study in the Hohoe Municipality, situated in the centre of the Volta Region. Hohoe, the capital, was created in 1979. The Republic of Togo borders the Municipality to the east, while to the west is Kpando Municipality. To the north-west is Jasikan District and to the south is Ho Municipal. The Akwapim-Togo ranges which separates the Municipality from the Republic of Togo extends beyond the country's eastern boundary all the way to Western Nigeria. Hohoe Municipality has 21 health facilities with one Municipal referral hospital to manage the health situations of the populace. Also, the headquarters of the West African Onchocerciasis Research Centre is located in the Municipality.

2.2 Study Population:

The study population included women within the reproductive age group in their first, second and third trimester of pregnancy, who were attending antenatal clinic in the selected health facilities. Their inclusion was irrespective of age, parity, educational and economic background. Average of 446 pregnant women were registered at ten antenatal clinics in the Municipality in the year 2012.

2.3 Sampling:

The sample size of 261 was calculated using level of confidence of 95%, margin of error 5% and estimated level of awareness in the population to be 20%, using the formula for calculating sample size for small sample, [15].

We conducted the study among women residing in the target area. The inclusion criteria were women, with at least 3 months of current pregnancy, permanent resident of the study area. Women who were mentally disabled and severely ill were excluded.

In this study, five ANC clinics were randomly selected from the 10 ANC clinics in the municipality. The names of the 10 clinics were written on pieces of paper and rolled. All rolled papers were put into a single basket. All the papers were well shuffled. One rolled paper was picked one after the other until 5 clinics were picked. The numbers of clients to be interviewed with a structured questionnaire in each clinic were proportionately determined from the total clients registered and attending clinic during the study period.

Participants for Focus group Discussion were selected from the communities where the clinic serves. The groups comprised mothers with children less than 5yrs, queen mothers and Health committee members in the communities. An in-depth interview was conducted for all in-charges of ANC clinics selected for study.

2.4 Data Collection Techniques:

Data was collected by means of a structured questionnaire using an interview schedule. Respondents' queries and clarifications were answered by the researcher. The questionnaires consist of both open and closed ended questions. Self introduction was made by the researcher to each participant before starting each interview to create rapport so that participants could relax. Purpose of the study was explained to each participant

Respondents were asked what they understood by birth preparedness. Answers were coded and analyzed. They were also asked to respond Yes or No, whether birth preparedness was important or not. The responses were graded strongly agreed, agreed undecided, disagreed or strongly disagreed. The number of times they attended ANC was also asked. Answers ranged from none, once to more than 6. Respondents were also asked to strongly agree, agree, undecided, disagree or strongly disagree to type of education given at ANC. They were asked to respond Yes or No to decision on place of delivery. Likewise type of arrangement for transport to clinic was also asked. It may be on foot, taxi, and motorbike or passenger car. Respondents were asked to answer “Yes” or “No” to whether they have made arrangement to deliver with a skilled attendant. They were also asked to respond “Yes” or “No” to whether arrangement was made for blood transmission in case of emergency. Clients were also asked to strongly agree, agree, undecided, disagree or strongly disagree to a list of complications of delivery. Similarly, they were asked to strongly agree, agree, undecided, disagree or strongly disagree with traditional activities such as clothing, naming ceremony, outdooring. Finally clients were asked to answer Yes or No to whether they save money towards their delivery.

At the end of each interview, respondents were given time to ask questions.

In all 261 questionnaires were administered in five selected communities in the municipality. The breakdown is as follows:

Table I: Distribution of Respondents by Selected Sub districts in Hohoe Municipality

SUBDISRICT	TOTAL NUMBER OF CLIENTS REGISTERED (JUNE-JULY)	TOTAL NUMBER OF CLIENTS INTERVIEWED(JUNE-JULY)
AGUMATSA	54	27
ALAVANYO	80	40
HOHOE	305	152
LIKPE	40	20
SANTROFI/AKPAFU	44	22
TOTAL	522	261

2.5 Focus group discussion:

Five focus group discussions were conducted with five (5) health committees’ members in the five selected communities where the study was done. Participants were made of 5 to 9 in a group. They were all residence in their various communities and were selected by the community members to form the health committees in their communities.

2.6 In-depth interview:

The midwives in the five selected facilities where the study was conducted were interviewed with an interview guide on birth preparedness and complication readiness.

2.7 Quality Control:

This was greatly ensured by covering various research questionnaires and following strict procedures of administering questionnaire. Supervisors followed the team to the field to supervise all the data collection sessions to ensure that data was really collected from the participants. Ethically, each participant completed a consent form before participation in the study. Each participant was reminded that participation was voluntary and discussion would remain confidential. After each day, questionnaires were edited and corrections made. Pretesting was done in order to remove any ambiguity and make sure all questionnaires were well understood before the main data collection was done. All field assistants were trained together thoroughly. Data entered into EPI INFO software, Version 3.4.5 was verified and coded for consistency. Researcher verified how data was coded and entered into the computer.

2.8 Data Processing and Analysis:

Data collected was cleaned, validated and analysed using EPI version 3.5.4.

All variables significantly associated with birth preparedness and complication readiness was included in a multivariate logistic regression analyses in order to determine their independent effect. The results are presented as odds ratio (OR) and 95% confident interval (CI).

The raw data from focus group discussions and in-depth interviews were analysed using thematic analyses procedures.

Audio tapes from the FDG were transcribed verbatim and comparison with written notes was done for completeness, accuracy and as quality assurance measure. In order to verify the quality, the notes were read over and key words and significant statements were highlighted.

Qualitative analyses comprised the extraction of common statements from responses by respondents to the in-depth interviews and focus group discussions. Quotes illustrating some of the responses were obtained. Identified themes and sub-themes that emerged from each interview were reviewed by the researcher and similar themes were grouped together.

2.9 Ethical Consideration:

Ethics is a system of moral values that is concerned with the degree to which research procedures adhere to a profession as legal and social obligations to the study participants. Due to the sensitive nature of patient records which were used in this study, appropriate procedures were used in pursuing in obtaining the required documents for analysis. Ethical approval of the study was sought from Ghana Health Service Ethical Review Board as well as permission obtained from the Volta Regional Administration and Hohoe Municipal Health Directorate.

The purpose of the study was explained and written consent obtained from each respondent before the study. Those that did not consent to participate in the study were reassured that they would suffer no consequences as a result of not participating. Study subjects were told that they were free to withdraw from the study at any time without suffering any consequences and were assured of confidentiality.

2.10 Measures to reduce risk:

The methods and tools used in the study posed no risk to research participants. However, while participants may find some of the questions too private as they border on reproductive history it assured that the participants were not necessarily obliged to respond. Also, we ensure that the privacy and confidentiality of respondent were guaranteed and no part of this information was divulged and the highest level of confidentiality was applied to every bit of the information provided. Maximum privacy was ensured as much as possible.

2.11 Training of research assistance:

Five (5) Research Assistants, all health workers were employed. They were trained on how to administer questionnaire, translate technical terms to local language and to obtain verbal consent from all participants before questionnaire were administered.

2.12 Pre Testing:

The instrument was pre tested on 10% of sample size in the Jasikan District which was an adjacent district. Questions not worded correctly to the understanding of target respondents were corrected.

2.13 Limitation of study:

There could be some difference in understanding the questions though the researchers were fluent in the languages used as the people respondents were of diverse ethnic groups.

3. RESULTS

3.1 Socio-demographic characteristics:

A structured questionnaire was administered to 261 pregnant women all of whom responded, giving a 100% respondent rate.

3.2 Descriptive Epidemiology (Univariate Analysis):

Out of the 261 women interviewed, 42.9% were between the ages of 20-25 and they form the majority while 13.8% were between the ages 12-19. Majority of the study respondents were Christians forming 87.4% of the study population, 27 (10.3%) were Muslims, 3(1.1%) were pagans while 3(1.1%) were traditional worshippers.

Out of the 261 respondents, 128 (49.0%) were petty traders, 33 (12.6%) were civil servants, 52 (19.9%) were students (school dropouts as a result of pregnancy) and 48(18.4%) were farmers respectively.

Thirty respondents (11.5%) had never been to formal school. Majority (59.0%) had primary education, 43(16.5%) had secondary education while 34 had tertiary education.

A total of 170(65.1%) of the respondents were married, 55(21.1%) were in courtship, 34(13.0%) were single, while 2(0.8%) were widowed.

Table II: The socio-demographic characteristics of the study participants

Age of respondent	Frequency	Percentages
12-19	36	13.8%
20-25	112	42.9%
26-34	81	31.0%
35 and above	32	12%
Total	261	100%
Marital Status		
Courtship	55	21.1%
Married	170	65.1%
Single	34	13.0%
Widowed	2	0.8%
Total s	261	100%
Educational Status		
Never	30	11.5%
Primary	154	59.0%
Secondary	43	16.5%
Tertiary	34	13.0%
Totals	261	100%
Occupation		
Civil Servant	33	12.6%
Farming	48	18.4%
Petty trading	128	49.0%
Student	52	19.9%
Total	261	100%

Out of the 261 interviewees, 154(58.2%) were interviewed at Hohoe sub-municipality, 40(15.3%) at Alavanyo, 22(8.4%) at Sankotrokofi/Akpafu 27(10.3%) at Agumatsa while 20 (7.7%) were interviewed at Likpe sub Municipality. These clients were proportionately selected from the five sub municipalities.

3.3 Obstetric History:

Among the 261 respondents, 53(20.3%) were Nullipara, 151(57.9%) had 1-2 children, 42(16.1%) had 3-4 children and 15(5.7%) were having 5 and above respectively.

All the 261 (100%) respondents were ANC attendants as data was collected from the selected five health facilities in the Municipality.

Respondents attending ANC were 261 out of which 102(39.1%) attended 3-4 times, 91(34.9%) attended 1-2 times while 68(26.1%) attend 5 or more ANC sections.

Among the multiparous, 151(72.6%) were having 1-2 children alive, 44(21.2%) were having 3-4 children alive, while 13(6.35) are having 5 and above alive.

3.4 What is birth preparedness?

Out of the 261 respondents, only 5 (1.9%) were able to define what birth preparedness entails, 180(69.0%) said buying of baby items, 72 (27.6%) said buying things that the mother will need in the labour ward while 2(0.8%) said it was in the hands of God and 2(0.8%) responded they don't know.

All the respondents agreed that birth preparedness was very important.

3.5 Reason for preparation toward giving birth:

Out of the 261 respondents, 178(68.2%) said the items will be needed by mother and baby, 27(10.3%) said it will help mother and baby to be healthy, 55 (21.1%) said it reduces financial stress during and after labour, while 1 (0.4%) said to stop child bearing and take care of the other siblings.

3.6 Importance of birth preparedness:

Out of 261 respondent who were asked how they agreed/disagreed to some of the importance of birth preparedness, 102(39.1%) agreed that early detection and treatment of complications were a way of preparedness towards delivery, 11(4.2%) disagreed, 136(52.1%) strongly agreed and 12(4.6%) were undecided.

On reduction of maternal mortality, 106(40.6%) agreed, 7(2.7%) disagreed 136(53.3%) strongly agreed while 9 (3.4%) were undecided.

On reduction of infant mortality 116(44.4%) agreed that some of the importance of birth preparedness 9(3.4%) disagreed, 125(47.9%) strongly agreed while 11(4.2%) undecided.

Whether increase in antenatal clinic attendance was one of the importance of birth preparedness 116(44.6%) of the respondents strongly agreed, 114(43.8%) agreed while 17(6.5%) undecided and 13(5.0%) disagreed. Whether it helps mothers deliver healthy babies, 158(60.5%) strongly agreed, 97(37.2%) agreed, 3(1.1%) disagreed, while 3(1.1%) were undecided.

As to whether midwives educated clients on decision on the following during ANC, planning where to deliver 137(52.5%) responded yes while 124(47.5%) said no.

Where to go when any health problem occurs, 139(53.3%) responded yes while 122(46.7%) said no. Arranging with a health professional to assist during delivery, 121(46.5%) responded yes while 139(53.5%) said no.

Signs of complications of pregnancy and child birth, 138(52.9%) responded yes, 123(47.1%) said no.

Arranging for transportation to health facility, 93(35.6%) responded yes while 168(64.4%) said no.

Identifying an emergency donor, saving money for delivery, 82(31.4%) 112(42.9%) responded yes respectively while 179(68.6%) 149(59.1%) responded no.

3.7 Knowledge of danger signs/complications of child birth:

Most (30.3%) of the women strongly agree that abnormal presentation of the foetus was a danger sign, while 10(3.8%) disagreed.

Out of 261 respondents 147(56.3%) strongly agreed that umbilical cord prolapsed was a complication of child birth, 77(29.5%) agreed to it and 24(9.2%) were undecided while 13(5.0%) disagreed that it was a complication. 80(30.7%) agreed that swollen feet face/ankle were complications as well as danger sign of pregnancy 12(4.6%) disagreed, 145(55.6%) strongly agreed while 24(9.2%) were undecided.

Of the 261 respondents, 180(69.0%) strongly agreed that haemorrhage was a complication as well as a danger sign in pregnancy, 64(24.5%) also agreed. One person (0.4%) strongly disagreed, 4(1.5%) were undecided while 12(4.6%) disagreed

Out of 261 respondents, 159(60.9%) strongly agreed that loosing liquor was a danger sign, 77(29.5%) agreed and 16(6.1%) disagreed while 9(3.4%) totally undecided.

3.8 Multivariate Analysis:

Generally, 80.8% of respondents were not well prepared while 19.2% were well prepared. Only 21(8.0%) identified a blood donor, 22 (8.4%) identified a skilled attendance, 237(90. %) planned where to deliver and 75% of the respondents arranged for transport for delivery. The level of birth preparedness and complication readiness was computed from key elements of birth preparedness such as; saving money for delivery, arrangement for transport, identified a skilled attendant to assist at birth, identifying a blood donor in case of emergency. Taking four steps was considered being well prepared for delivery and emergency obstetric care.

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The level of birth preparedness and complication readiness of the respondents was not affected by neither the educational background, nor marital status or their parity and place of residence. (Crude OR: Education: OR=1.252, CI; 0.669, 2.345; p- 0.713; Marital Status: OR=1.048, CI; 0.546, 2.008; p-0.713; Parity: OR= 0.977, CI; 0.452, 2.008; p-0.952; Residence: OR=1.252, CI; 0.669, 2.345; p- 0.482

The adjusted multivariate model also confirmed that these variables do not have any significance on the level of birth preparedness and complication readiness. These are shown in the table below. (Table 4)

On the other hand, age of respondent less than 25yrs is as likely to increase the BPCR level (OR = 0.545; CI: 0.022, 0.228, p-value 0.001)

Table III: Level of birth preparedness and complication readiness among respondents

Level of birth preparedness and complication readiness	Frequency	Percentage
Identified a skilled attendance	22	8.4%
Arranged for transport	197	75%
Saved money	207	79.3%
Arranged for blood donor	21	8.0%
Planned where to deliver	237	90.8%
Number of steps taken		
0	3	1.1%
1	14	5.4%
2	88	33.7%
3	106	40.6%
4	46	17.6%
5	4	1.5%
At least 4 steps	50	19.2%

Table 4: Level of BPCR among ANC attendants in Hohoe municipality

Variables	Well Prepared	Not well Prepared	Chi-square P-value
Age <25	23	125	0.001
> 25	27	8	
Residence			0.481
Urban	30	115	
Rural	20	96	
Education			0.713
Never	5	25	
Educated	45	45	
Marital			0.864
Married	33	137	
Single	17	74	
Parity			0.952
0	10	43	
1+	40	168	
ANC Attend	34	136	0.636
1-3	16	75	
4+			

3.9 In-Depth Interview:

In-depth interview with midwives on what they understood by the expression birth preparedness and complication readiness, whether it was important for one to prepare towards delivery and why, as well as what birth preparedness plan

they took their clients through at the clinic? They were also asked which relative they thought can support clients in birth preparedness and why? Complications they think clients can experience during delivery were also asked.

Respondent A, during the in-depth interview outlined some of the expressions as *“Those who have not delivered before should be informed what you will need and time of delivery so they can be ready. If the person has not taken her malaria drugs she will be sick, we teach them what to experience during labour. Preparation is important, pregnant women will know what to take along and the outcome of labour. Mother-in-law should accompany the pregnant woman because they have experience of care”*.

“Post partum haemorrhage (PPH) and eclampsia and high blood pressure (B/P) are some of the complication a pregnant woman can experience.”

Respondent B, who was the in charge of one of the facilities in the municipality, said *“pregnant women with bad obstetric history we tell them to prepare so that if they will go for C/S to get three units of blood down.”*Complications means anything can happen, bleeding, foetal heart drop, high blood pressure, so many complications,”

“Birth preparedness is very important because if you don't prepare, the patient may die”.

“We list some things that they will need for delivery and personal hygiene. Through the list they will bring along and complications that will occur during delivery like PPH.”

“Mother-in-law must support because she will feel free to say everything.”

Other midwives in facilities C and D indicated similar understanding of birth preparedness and complication readiness. One had this to say *“pregnant women are prepared towards things they will need during and after delivery like baby things, transport, educating them on how delivery take place, getting a relative to take care of your children, getting ready for C/S. Another had this to say “suggesting vehicle to take you to hospital and also husbands should be the best support during preparation to provide help as they are the decision makers”*.

Another midwife at facility E expressed that *“preparation before delivery means getting ready with the entire things baby and mother will need.”*

3.10 Focus Group Discussion:

Focus group discussions (FGDs) were conducted in the five selected communities in the municipalities.

3.11 What do you understand by the expression Birth preparedness?

Though participants agreed that it was very important to prepare towards birth, majority of them have other reasons for preparation

One participant said *“What one has to do before birth”*. Another participant had this to say *“getting ready by attending antenatal clinic”*. A male participant from Alavanyo said *“getting the things for the baby ready”*.

One of the committee chairmen said complication readiness means

“Getting a vehicle for standby in case the woman is in labour in the night she can be taken to the clinic”

Another participant's contribution was *“between 8 and 9 months, the woman can fall sick and this can affect her baby”*

Some of the participants said bleeding can lead to death therefore the woman need to attend ANC regularly.

“Getting blood and money as well as transport ready” one of the participant made this statement.

3.12 What are some of the ways to prepare towards delivery?

The general perception of the participants was that one need to get every item the midwife will need during delivery as well as the baby and mother items.

One participant said *“food and medicine should be made available for the woman”* while another male participant said *“getting necessary things ready”*. Another participant said *“pocket should be rich if not male scrotum will shrink”*

Some participants from Likpe community said *“make sure the woman attends clinic, take her drugs, get items for baby and mother and make arrangement for transport”*.

Another male participant said *“budget for time so that you can have time to stay at home and help your wife so that she can have enough rest.”*

When asked which relatives do you think can help a woman in birth preparedness and why?

All the participants in the various communities suggested the husbands and mothers of the woman.

"The mother because she will feel free and tell her what she wants, the pregnant woman will not feel shy" said a participant. Another participant from Santrokofi/Akpafu said *"the husband is the decision maker so he should be with her when the nurses want her to buy something, the man will provide the money"*.

What are some of the complication a woman can experience during pregnancy and labour?

One of the participants said *"ectopic, anaemia, assault by husband, malaria, eclampsia, bleeding."*

4. DISCUSSION

The level of preparedness and complication readiness among pregnant women who attends ANC in Hohoe Municipality is very low and this might be related to the absence of relevant measures to promote birth preparedness and complication readiness. Out of 261, only 50(19.2%) took 4 steps out of five recommended birth preparedness and complication readiness plans. This level of BPCR is confirmed among stakeholders during FGD in the communities where majority were not able to mention three steps of the recommended steps of the component of BPCR. This level of BPCR among clients at the ANC is expected as in-depth interview with midwives who are to educate the clients also shows their ignorance about majority of the components.

The low level of awareness may be a cause of failure to recognize the complications when it occurs hence the delay in the decision to seek care as indicated by Thaddeus and Maine [9]

Out of the 261 respondents, only 5(1.9%) were able to define what birth preparedness entails. 180(69.0%) said getting baby items (layette) is very important as a way of preparing towards child birth and complication readiness. During FGD in the communities, majority of the community members laid emphasis on baby and mother items. The midwives during in-depth interview also mentioned a list usually given to mothers to prepare for delivery. This list comprises of baby dresses, dettol, soap, sponge, towel, napkins, pampers and food flask. This provision for baby and mother items might be attributed to the Ghanaian culture of welcoming a baby as a visitor by providing clothing for them. Lack of preparedness is a bottleneck in reduction of maternal mortality. Promoting BP/CR improves preventive behaviour, improves knowledge of mothers about danger signs.[9] (Fullerton et al 2005)

In this study, respondents' knowledge of danger signs and complications during pregnancy and labour (cord prolapsed, swollen feet/face/ankle, abnormal presentation, haemorrhage) was very high as compared to other studies conducted in Southern Ethiopia and Indore in India which indicate lack of knowledge of women and a possible chance of poor pregnancy outcome. But this level of knowledge about danger signs by respondents as well as community members does not translate into high level of BPCR as stated above. This is as a result of midwives not laying emphasis on the importance of BPCR at ANC. Kakaire et al [16] explained that maternal mortality remains a public health challenge worldwide. Upgrading the skills and competence of health providers and enhancing referral system can significantly impact on maternal health service delivery.[17]

A WHO study by Villar et al [18] indicated that women who received four ANC visits with effective interventions are as likely to have better pregnancy outcomes. In this study all the respondents were antenatal clinic attendants yet, 124(47.5%) said they were not informed about planning towards where to deliver. Out of 261, 122 making 46.7.3% respondents were not informed by the midwives about where to go when any health problem occur, and only 21.8 % (57) were told by the midwives at the clinic to arrange with a health professional to assist them during delivery. This will contribute to the first delay which mostly happens in the community as illustrated by Thaddeus and Maine [10] in their study.

Transportation is a barrier to health seeking behaviour. From this study, 64.45% (168) said they were not told to arrange for transport to the health facility in case the need arise. However, 75% of them made arrangement for transport ahead of childbirth compared to results from studies conducted by Mullany et al in Nepal [19] where 53.9% did not arrange for transport, whilst George et al [20] found in a descriptive study that 83% of mothers did not prepare in terms of transport ahead of delivery. Though there is community-based ambulance in the municipality, none of the respondents mentioned the ambulance as their first choice of arrangement for transport during emergencies. This might be due to immediate

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availability, affordability (clients are to pay for the fuel), accessibility and ignorance about the ambulance system. The ambulance system is to reduce the second delay that contributes to maternal death. But this level of transport arrangements by clients will not reduce this second delay thus contributing to maternal death.

Though 42.9% saved money for delivery, majority (59.1%) still said they were not told about the need to save money towards delivery. Out of the five communities where FGD were conducted only one community has transport arrangement plan and one other has community money contribution mechanism towards emergencies. It is very important to plan where to deliver because hospital delivery is recommended in this setting where every pregnant woman is supposed to be delivered by a skilled attendant.

It is evidenced that heamorrhage is one of the major causes of maternal mortality in sub-Saharan Africa. A substantial proportion of pregnant women attending antenatal clinic in Hohoe Municipality were not able to identify an emergency blood donor. In this study only 8.0% made arrangement for emergency blood transfusion. This predisposes client to maternal death as a result of severe heamorrhage. However, there is no mechanism in place in all the FGD communities for blood donation during emergencies.

This study shows that, residence, educational status, marital status and parity have no association with level of birth preparedness and complication readiness). Though only 11.5% (30) never had any education, there is no difference between them and those that have some level of education. This might be explained that whether educated or not, once midwives at ANC do not educate the clients on BPCR, their level of preparedness will not improve. This is contrary to findings by Urasser et al, [21] that women with primary education and above were twice as much likely to be prepared for birth and complications compared to those with no formal education.

However, age of respondent less than 25yrs is more likely to be associated with high level of birth preparedness and complication readiness. These age groups form the majority of the respondents and are students, they might seek information on birth preparedness and complication readiness from others sources like the internet, books and also from colleagues elsewhere.

This study found that 248 (95.05) of the respondents gave high priority to baby clothing whiles 210 (80.5%) strongly agreed that naming ceremonies are equally important rather than critical components of birth preparedness and complication readiness such as identifying an emergency blood donor. This assertion is not different from the findings from all the FGD. Majority of them also mentioned baby and mother items as necessary preparation for the mother's delivery at the hospital. The midwives during the in-depth interview stressed on the list of items given to mothers and silent on birth preparedness plan as recommended by JHPIEGO [22]. This implies that there is the need to increase education at the antenatal care units on birth preparedness and complication readiness plan.

5. CONCLUSION

The level of birth preparedness and complication readiness among pregnant women attending antenatal clinic at Hohoe Municipality is low.

Though pregnant women's knowledge about danger signs is very high, it is not translated into high level of birth preparedness and complication readiness.

Midwives understanding of birth preparedness and complication readiness are low therefore they are not able to educate and prepare pregnant women who attend ANC at their facilities adequately.

Pregnant women are not well equipped to make adequate preparation towards births

Apart from one community which mentioned that they have mechanism in place for transportation and money as community loan to assist pregnant women in case of emergencies, there are no such plans in the other communities.

Pregnancy is a unique experience for a woman and each pregnancy will be uniquely different for her. It is therefore very important that a woman has an adequate knowledge about birth preparedness plan.

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