

**FACTORS INFLUENCING MOTHER'S
CHOICE OF PLACE OF DELIVERY IN
SOROTI DISTRICT, UGANDA**

BY

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Declaration

I, Anne Rita Akinyo, hereby declare that this was my original work and has never been submitted for any award in any institution of higher learning.

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Dedication

To my daughters, Prona, and Ananda whose birth inspired me to conduct this study.

To my mother Rose Agwau Amulen and all those women who have ever been pregnant and given birth, whose efforts have brought joy to many families through a risky and painful process.

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Lists of abbreviations

ANC	Antenatal Care
CBO	Community Based Organizations
NGO	Non Governmental Organization
TBA	Traditional Birth Attendant
UPE	Universal Primary Education
UBOS	Uganda Bureau of Statistics
WHO	World Health Organization

Abstract

This study on factors that influence mother's choice of place of delivery intends to establish reasons why mothers decide to deliver in the different sites. The main objective of the study was to understand factors influencing choice of place of delivery in Soroti. A total of 320 mothers with babies less than three years old were sampled. A logistic model regression was fitted to establish the association between the independent variables and place of delivery.

Of the 87.5% of the expectant mothers who had planned to deliver in health unit, less than a half (42.2%) deliver from the health units. Yet only 3.3 % of the home deliveries were attended to by a health worker. Place of residence had a strong influence on place of delivery. A majority of the rural residents delivered at home (90.6%). Four in ten of the respondents reported that the reason for delivering at home was because of labor onset which was sudden and quick. In FGDs, a majority of the respondents reported that labour started at night when it was difficult to access the health units due to lack of transport and security reasons.

Mother's age at first pregnancy had influence on mother's place of delivery. The results revealed that the majority of the mothers who had their first pregnancy at 12-14 years delivered at home (71.4%) as compared to those who were 25-29 years (17.6%). Parity was seen to have a strong influence on place of delivery ($P = 0.000$). The majority of mothers with higher birth order delivered at home (78.2%).

Educational attainment of these women was low. Educational level of a mother is a very important factor in accessing utilization of health unit during birth. Of the women who delivered from health unit, a majority (78.3%) had post secondary education. Home deliveries were common among women with primary level education (70.3%). the P value was 0.000.

It was further established that the majority of the women attended ANC. But attendance of most mothers started in the second trimester (58.1%). During ANC, little was talked about the danger signs of pregnancy hence level of knowledge was quite low. About nine in ten of the women who did not attend antenatal care, delivered at home.

At multivariate level of analysis, independent variables that showed a strong influence on place of delivery were residence ($\beta = -2.132$), length labour ($\beta = -2.254$), health unit charge ($\beta = -1.522$), ANC attendance ($\beta = 2.799$), distance to health unit ($\beta = -1.232$), occupation ($\beta = 1.640$) and education attainment ($\beta = 0.213$).

The recommendations made were as follows; Girls should be encouraged to finish their education so as to delay the age of conceiving and marriage. Parents, schools, local authorities need to enforce age at marriage and girl child should be kept in school.

During antenatal visits mother should be educated about the danger signs of pregnancy and risk of delivering at home. Also health workers need to encourage mothers to have health unit deliveries. Health workers should encourage husbands to attend these visits with their wives. They should provide financial and moral support throughout the pregnancy and during delivery.

Since transport was found to be the biggest challenge to most of the mothers during time of delivery, ambulances provided in Health Center III should always be on stand by with enough fuel for emergency cases. Government should improve on the facilities in the health units in the rural areas.

Therefore, findings highlight that "choice" is not an inert concept influenced only by women's preferences. The perception of choice varied among women and was influenced by several factors.

CHAPTER ONE

Introduction

1.1 Background

In developing countries, pregnancy and childbirth are the leading causes of disability and death among women of reproductive age. The majority of maternal deaths occur either during or shortly after delivery. According to United Nations Children Fund (UNICEF, 1996), pregnancy and childbirth related complications claim lives of at least 585,000 women every year in developing world. Pregnancy related problems include anemia, bleeding, infection, damage of the uterus, obstructed labor and abortion. Nearly all maternal deaths in developing countries occur among the vulnerable and disadvantaged population groups and yet most of these causes are preventable. Although the main causes of maternal mortality are well known and the knowledge as well as appropriate technology to reduce it has been available, maternal health problems are still highly prevalent in most African societies.

WHO (1997) found that 92% of women receive antenatal care from a trained health worker but when it comes to delivery time, most of them do not deliver at health units, but instead deliver elsewhere. It was estimated that about 15% of deliveries have complications that require skilled medical intervention. Yet only 53% of deliveries in developing countries take place with the assistance of a skilled birth attendant compared to 99% in developed countries. The WHO findings though relevant, are over generalized.

Some countries have been able to apply a combination of simple interventions that are available and affordable to reduce maternal death. Good quality health care during the critical period of labor and delivery was the single most important intervention for preventing maternal and newborn morbidity and mortality. All women should have access to basic maternal care during pregnancy and delivery. These include quality antenatal care and safe delivery whether it was at home or in health facility as well as postpartum care for mother and infant. Place of delivery and assistance during delivery are important variables that influence the delivery outcome and health of the mother and

the infant. This was because the skills of the person attending to the delivery determine whether the provider can manage any complications and observe hygienic practices.

The greatest challenge in maternity care was its unpredictability especially at delivery. She argues that life threatening complications can arise suddenly without warning throughout the whole process of pregnancy and during delivery. The presence of a skilled and knowledgeable person was essential to ensure that the complications are managed appropriately.

The place of delivery should be accessible, affordable and acceptable by the mother. One of the critical pathways to reducing maternal mortality was improving the accessibility, utilization and quality of services for the treatment of complications during pregnancy and childbirth.

It was also important to investigate the factors that may influence the mothers' utilization of these services in order to put in place measures that could attract women to seek delivery care services.

1.1.1 Health care delivery systems in Soroti district

Soroti district has 36 health centers of which three are of health center IV status, fifteen are Health Center III and seven are Health Center II. Soroti Hospital was the main referral hospital in the region and it has most of the needed facilities to handle emergency cases referred from other districts of Kaberemaido and Katakwi. Health Center IV was located at county level with at least 2 midwives and an ambulance. Health Center III was in all sub-counties having a Clinical Officer and at least a midwife. In the government Health Center II, there are only nurses who refer difficult cases to Health Center III. In all the above facilities no fee was charged but mothers are expected to provide gloves and other basic requirements during delivery. Records from the health centers indicated that antenatal attendance was high but the seeking of delivery care was low.

1.1.2 Socio-economic activities

Originally, the Iteso traditional social organization had been a predominantly pastoral economy. But has been affected by external political control and has changed to a money economy based on growing of potatoes, sorghum, cotton, groundnuts and animal rearing. Trading activities are carried out on small and large scale in cattle markets. Items traded include animals, birds, food crops, mats, pots, charcoal and firewood. Quarrying was being done at Soroti rock and a lot of women are also involved in this activity. Black smithing was on a small scale especially in Moruapesur where utensils commonly known as '*okwenyu aiyam*' are made.

1.2 Statement of the Problem

The causes of maternal death are similar throughout the world and they include severe bleeding, infection, hypertensive disorders of pregnancy (eclampsia or convulsion) prolonged or obstructed labor, and complications of unsafe abortions (WHO, 1999). The majority of maternal deaths occur during or shortly after delivery. Good quality health care during the critical period of labour and delivery was the single most important intervention for preventing maternal and newborn morbidity and mortality. (Ransom and Yinger, 2002)

In Uganda, however, home deliveries are common and they have resulted to a number of maternal and neonatal deaths due to poorly managed deliveries and inadequate care during the critical hours of life. It was even known that the majority of these mothers seek medical care during pregnancy than at delivery time when care is most needed, and also during postpartum period. According to UBOS (2002), 37% of births occur at health facility, 63% are delivered at home or at traditional birth attendants. Only four in ten births are assisted by a trained health worker, while 18% are assisted by a traditional birth attendant, 28% are assisted by a relative or friend and 14% were self deliveries (UBOS, 2000). These findings represent a worrying situation for Uganda and needs to be addressed by all concerned bodies.

Otim (1981) in his study in Lira, established long distance from unit and cost of transport encouraged home delivery. Distance to health unit was a major factor contributing to

choice of location of birth. This coupled with lack of transport to health unit kept many women away from seeking health care.

Basing on the fact that although various efforts have been put in place to increase the percentage of mothers who deliver from the health unit under the assistance of a trained health worker, the majority of mothers still deliver at home without skilled attendants. Maternal health services have been improved upon in all the health centers in Soroti district. However, many women do not utilize these facilities and instead seek delivery care from high risk places. This study, therefore, was set to understanding factors that influence place of delivery in Soroti district.

1.3 The Objectives of the study

The general objective of the study was to identify factors influencing choice of place of delivery in Soroti. The specific objectives were;

- To determine attendance of antenatal care in relation to place of delivery.
- To establish mother's planned place of delivery in relation to actual place of delivery.
- To examine mother's perception and attitudes towards different delivery places.

1.4 Hypotheses

1. Women who attend antenatal care at least 5 times are likely to delivery at a health facility.
2. Health unit charges are not likely to influence on place of delivery.
3. Distance to a health unit influences health unit delivery.
4. Length of labour does not influence on place of delivery.

1.5 Significance of the study

The study aims at examining the role of socio-economic and demographic factors that influence choice of place of delivery. The results will provide information that may be

used to design and improve on service provision in community based health units especially in Soroti district.

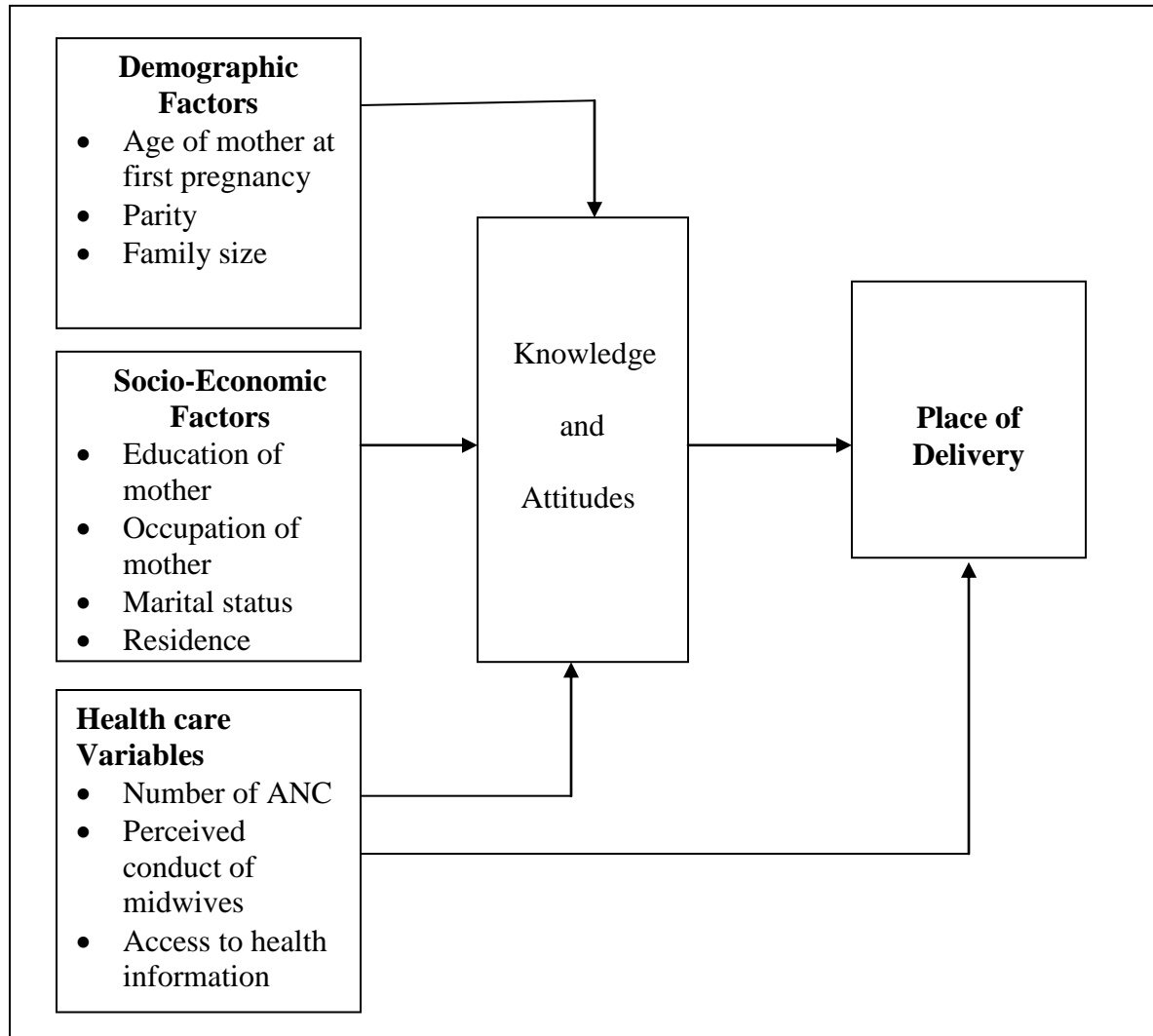
The Government, NGOs and CBOs may use these findings to improve safe motherhood. Results on women's attitudes towards different delivery sites, together with recommendations given will provide solutions on how to encourage women to use health units for delivery and how to improve on these sites. Academicians may further develop areas for research work basing on the findings from this study.

1.6 Conceptual Framework

The conceptual framework explains the relationship between the independent variable, intervening variables and dependent variable (Figure 1.1). Independent factors include demographic variables (age of a mother at first pregnancy and parity). Socio economic factors on the other hand are education, marital status, occupation and residence. Health care variables are accessibility to health information, perceived conduct of midwives, number of ANC attendance. Knowledge and attitude are the intervening factor. The dependent variable was the place of delivery (health unit or at home). Independent variables affect dependent variable directly or through the intervening variable.

Age of a mother at first pregnancy may influence on place of delivery when age is taken as proxy for knowledge. Young women may be less informed about the importance of seeking professional assistance during delivery and yet their pregnancies are of high-risk associated with complicated births. Young women often feel shy about pregnancy and fear to seek medical care and attend antenatal care due to public opinion about the pregnancy. They often give birth at home or at a TBA's. Therefore, knowledge, attitude as well as perception of such mothers towards seeking delivery care were likely to differ from that of older women.

Figure 1.1 The conceptual framework of factors that influence choice of place of delivery.



Parity, on the other hand, plays a part in influencing place of delivery. Mothers with low parity are most likely to seek health care during delivery. This was due to uncertainties, risk and anxiety about pregnancy outcome. High parity mothers however, are more comfortable with home delivery since they could have had past successful experiences of childbirth at TBAs or at home. Hect (1985) in his study found out that women with 3rd and higher child order tended to deliver at home. In general low order births are more likely to be delivered in a health facility than higher order births (UBOS, 2002).

Residence of a mother was another factor that would influence on place of delivery. Mothers who resided in the rural areas are likely to deliver at home with the assistance of a TBA. This could be due to long distance to health facilities coupled with poor transport and lack of money. Otim (1981) in his study in Lira found out that long distances and poor transport encouraged home delivery. However, the urban resident mothers would deliver at health unit due to close proximity and they have access to information about service provision thus making timely decision on which health unit to deliver from. This was further supported by Koblinsky (1995) who found that 80-90% of births took place at home due to poor transport and the cost involved in institutional delivery.

Marital status was also observed to influence place of delivery. Utilization of health services during delivery was high among the married and cohabiting women. Women living with their spouses are encouraged and motivated to seek health unit delivery care. The spouse assists the mother in making decision to ensure that the pregnancy and birth are safe. Unlike the single women who often lack people to care for them during pregnancy and at delivery.

Education of women exposes them to knowledge about health seeking behavior through reading and interactions. Education also influences on attitudes and perception towards use of health units for ANC and delivery. Therefore, mothers with some education would most likely deliver in a health facility as compared to their counterparts with little or no education.

A woman's occupation determines her income level which in turn influences on place of delivery. Women employed in the formal or business sectors, have stable incomes earnings and can afford the services being provided at the health units. Due to the nature of environment they work in, they are also exposed to health information which enables them make right decisions concerning their health. Whereas those who have agriculture as their main occupation, practice subsistence type of farming which is mainly for home consumption. These women have less income and therefore, they cannot afford some of the basic health requirements.

Antenatal care is very crucial component of preventive health care intended to maintain the health of expectant mothers. Through antenatal care, detection and treatment of some abnormalities is done, establish contact with health care provider, make delivery plan based on the woman's unique needs, resources and circumstances. Attendance of antenatal care has some influence on place of delivery. Women who attend antenatal care more than five times are more likely to deliver at a health facility compared to their counterparts (UBOS 2000). Attendance of antenatal care implies that these mothers get more advice and knowledge about pregnancy and its associated dangers.

Women, who are knowledgeable about danger signs of pregnancy and risk associated with childbirth, will seek medical care earlier enough when they notice these signs. Having good knowledge about pregnancy and childbirth are very important factors in influencing place of delivery. Mothers with limited knowledge about this will often take long to make a decision on whether to get medical help when need arises.

1.7 Outline of dissertation

The dissertation was presented in six chapters. Chapter one looked at the background of the study, statement of the problem, significance of the study, objectives of the study, conceptual framework and the hypothesis. The second chapter looks at the literature review. Chapter three covers the methodology used for the study. Chapter four covers the background characteristics of the study while chapter five discusses the factors that influence place of delivery. The sixth chapter covers the summary, conclusion and recommendation of the study.

CHAPTER TWO

Literature Review

2.1 Introduction

Previous studies on place of delivery have observed that demographic, socio-economic, cultural and service accessibility are the determinants of place of delivery. Death of a woman due to pregnancy and childbirth has been associated with women's powerlessness and unequal access to employment, finances, education, basic health care and other resources. These factors set the stage for poor maternal health even before a pregnancy occurs and during childbearing.

Young maternal age, high parity, rural residence, low maternal education, low economic status and few ANC visits have been observed to be associated with higher probabilities of home or TBA deliveries. These factors have been observed to vary from one setting to another and from one country to another. For example Navaneetham et al (2002) observed that the level of maternal education was not a significant predictor for delivery at a health unit in Andhra Pradesh and Tamil Nadu states in India, but was a strong predictor in Karnataka and Kerala states.

Evidence from previous research in Latin America, Asia and Africa suggests that maternal education was one of the strongest determinants of utilization of modern health services both for preventive and curative purposes even after controlling for other variables. Generally, maternal education enhances female autonomy in that women develop greater confidence and capabilities to make decisions regarding their own health, as well as of their children as reported by Caldwell et al (1983).

2.2 Clean and safe delivery

Clean and safe delivery was essential for both mother and child since it reduces their chances of infection and of long-term irreversible disability such as brain damage. Tetanus toxin vaccination protects mother and baby against tetanus infection but clean delivery helps prevent tetanus spores from entering the body in the first place. It also prevents maternal and neonatal infections. Safe delivery also necessitates use of

antibiotics for prolonged premature rupture of the membranes and appropriate use of oxytocics after delivery. Certain traditional practices of expelling the baby too suddenly from the womb are not safe for both the mother and the infant.

A clean delivery was that which was attended to by a trained health worker in a medical institution using aseptic delivery and umbilical cord care. Emphasis on cleanliness should be on hands (finger nails), a clean surface for delivery, clean cutting and care of the cord and keeping the birth canal clean by avoiding harmful traditional practices such as putting herbs and other substance into the vagina. Hospital and health centers are always equipped for delivery with midwifery kits, a regular supply of sterile gloves and drapes, bedding, towels, cleaning materials, soap and antiseptic solutions as well as equipment for sterilizing instruments and supply.

Safe delivery was where the birth attendant monitors progress to avoid prolonged labor that can lead to birth asphyxia and brain damage in the baby and hemorrhage, infection and shock in the mother. In a health facility, labor can easily be monitored unlike in the home deliveries that attendants may let labor go on for more than 12 hours which results in complications and death.

2.3 Service related factors

Quality maternal health services are needed for all women during pregnancy, delivery and in postpartum to ensure good health for both the mother and the infant. These services must be accessible, affordable, effective, appropriate and acceptable to women who need them. Reduction of maternal mortality has been a concern to many organisations and, therefore, maternal health services have to be of quality if this was to be achieved. Quality maternal health services are determined by availability of competent providers, drugs and equipment, physical facilities and infrastructure, linkages to other health service and referral system (Moore, 1998).

However, studies conducted indicate that inefficiency of staff and poor rapport between staff and mothers were barriers to institutional delivery (UNICEF, 1994). Lynch (1991) found that most women deliver outside health units because of the delivery technique that

exposes their bodies to strangers. They preferred to deliver in squatting position, which was not the case in health units.

2.4 Physical factors

Physical barriers often prevent women and their families from getting to care in time. Transportation was a major barrier in countries where the geography poses challenges or where road systems are not comprehensive or well maintained. In remote areas, vehicles are often scarce and in poor conditions.

A study conducted by World Health Organisation (1995) found that poor transport contributed to 75% of home delivery and out of these, 82% was helped by TBAs. One in three women lives more than 5 kilometres from the nearest health facility in rural areas. Eighty percent of rural women live more than 5 kilometres from the nearest hospital. The scarcity of vehicles especially in remote areas makes it extremely difficult for women to reach a health facility on time. Walking was a primary mode of transport even for women in labour.

According to UNICEF (1994), about three quarters of pregnant women (76%) receive antenatal care from midwives and nurses. At delivery time, two thirds of them do not give birth under a trained attendant and 17% deliver alone. Reasons for this were identified as long distance to the nearest unit and cost of travel.

In Malawi, a study found that 90 percent of women wanted to deliver in a health care facility, but only 25 percent of them did so. Reasons given were that there was not enough time to reach health facility from the onset of labor. In rural Tanzania, 84 percent of women who gave birth at home intended to deliver in a health care facility but did not due to distance and lack of transportation. In Uganda, Otim (1981) found that long distance from unit and cost of transport encouraged home delivery.

Distance to health unit was a major factor contributing to choice of location of birth. This coupled with lack of transport to health unit keeps many women from seeking health care. Mothers who are nearer to health units will always seek for medical care as soon as

a need arises as compared to their distant counterparts. A catchments area to a health unit was normally taken to be a radius of 5 kilometers and yet only 27% of Ugandan population was within walking distance to a health unit (UNICEF, Uganda 1995).

2.5 Economic and socio-cultural barriers

The cost of arranging emergency transportation can be very expensive. These costs include the price of hiring a private vehicle and fuel expenses. The opportunity cost, or loss of productive time of the person accompanying the sick woman, can also pose an obstacle. Bittencont (1995) found that it was mainly economic disparities that influenced choice of maternity site. He noted that mothers deliver at home because they are not able to pay the fees charged at health units.

Strong cultural beliefs and attachment were found to be an important factor among mothers who believed in TBA. Mothers liked TBAs because they had trust in them since they were from the same community and at times had blood relationship. Many women also say they prefer to rely on TBA because health workers are rude and unsympathetic. In Sao Paulo, a case-control study was undertaken to investigate maternal and health risk factors associated with a home delivery. It was noted that a significantly higher proportion of mothers of children not born in a hospital were teenagers (less than 20 years old) and had not completed their primary education.

Many cultures cannot accurately tell the length of the gestation period. The Wan tribe in Ivory Coast believes that infants are born at 10 months, 12 months or even 18 months (Linkages, 1998). These beliefs significantly affect any discussions about expected delivery dates and have a substantial impact on provision of antenatal care, especially during the first trimester. Some cultural norms dictate that women are secluded in their homes or their mobility limited during certain times, such as menstruation, pregnancy, or the first 40 days after giving birth. This severely limits women's access to health care services, because they must get their husband's permission and be accompanied.

It was also observed that married women are more likely to receive ANC and have health unit delivery. This was due to the fact that their partners encourage them to seek health care. Whereas the single, separated and widowed women had few seek ANC and health

unit delivery due to lack of support and encouragement during pregnancy and at time of birth. These groups of women hardly have someone to escort them to health unit when labor starts and thus end up having home delivery.

According to Hecht (1985) nearly 99% of all US births have occurred in hospitals since 1976. Women most likely to have non-hospital births or non-physician deliveries are women who live in the neighboring Island counties especially those living outside population centers, those reporting no prenatal visits, no pregnancy complications, and no intense labor and delivery complications. Women delivering at home tend to be older than either physician or midwife attendants in hospitals and are more likely to be having a 3rd, 4th, or higher order child.

Suci (1999) in his study revealed that utilization of modern maternal health services was higher during pregnancy and declines during delivery. He noted that women who avail themselves for antenatal care were found to use modern maternal services more frequently. Pre-existing determinants, which include age at first birth and the number of children before the last pregnancy, were found to be significant determinants, as well as the distance to the nearest health center.

In Morocco and Tunisia, a study was carried out to establish the association between maternal health care utilization and numerous cultural and socio-economic factors. Seventy one percent of survey respondents had given birth in a health facility in Morocco and 62% in Tunisia had some prenatal care. Positively associated with use of maternal health services were urban residence, higher standard of living, education and exposure to the media; negatively related to prenatal care and a hospital delivery were earlier age at marriage, age at first pregnancy, higher parity, and number of household members.

Mothers who reside in urban area are three times more likely than mothers in rural areas to receive antenatal care and the chances that they will deliver from a health unit are very high. The proportion of birth delivered in a health facility was much higher in urban areas (79%) than in rural areas (31%) (UBOS, 2002). This was due to close proximity to a

health center, level of awareness of the existence of service, literacy rate and affordability of the health services.

Similarly, socio-economic factors such as education and occupation influences place of delivery. Those with secondary or higher education are three times more likely to deliver at a health facility (72%) than those with no education (21%). Education exposes women to health information of the dangers of pregnancy and childbirth and she gets in a position to make fast decisions concerning her health and seek for help. Whereas mothers with no education are unwilling to seek maternal services and have limited knowledge about danger signs of pregnancy and the readily available maternal services provided in health units.

A woman's occupation determines her wealth status that has a direct relationship with the place she delivers her baby. Birth to women in the highest quintile of the wealth index are more likely to be delivered in a health facility, while those in the lowest quintile are most likely delivered at home since they cannot afford health unit services. Wealthier women are likely to attend antenatal care services and receive information on services available and thus deliver in a health unit.

Mothers who attend antenatal care four or more times are more likely to deliver at a health facility (53%) than their counterparts who do not attend antenatal care (8%) (UBOS, 2000).

CHAPTER THREE

Methodology

3.1 Scope of the study

The study was conducted in Soroti district, which is located in Eastern Uganda. Soroti district is made up of four counties; Soroti Municipality, Soroti, Serere and Kasilo. The study was conducted in two counties of Soroti Municipality and Serere. The urban county was purposively selected for comparison with the rural county. Soroti Municipality has developed social services such as health units, transport, educational facilities, access to information and many employment opportunities for mothers. While Serere County is rural with few health units, poor transport, low educational level and agricultural nature of employment and limited access to information. The study compares the different factors experienced in the urban and rural settings that influence mothers' choice of place of delivery.

3.2 Sample design

Sampling was done at four different levels. A rural and an urban county were sampled for the study. A rural county was randomly selected from the three rural counties and Soroti Municipality was purposively selected by its nature of being an urban county. Thereafter, two sub-counties were randomly selected from each of these counties and two parishes from each of the sampled sub-county, and finally two villages were also randomly sampled from each of the selected parishes.

In total, 16 villages were visited during the fieldwork as indicated on Table 3.1. A listing exercise was done with the help of the Local Councilors (LCs). All households were listed while identifying women with children below the age of three years. Then systematic sampling was used to select eligible respondents from the villages. A sample unit was a household and the study unit was a woman with a child below the age of three years. Twenty respondents were randomly sampled from each village making a total of 320 respondents in the district.

Table 3.1: Sampled areas in the district

County	Sub-county	Parish	Village	
Soroti Municipality	Eastern	Kengere	Swaria	
			Kengere Cell	
		Akism Ward	Police Barracks	
			Akism Cell	
	Central	Senior Quaters	Majengo 1	
			Majengo 2	
		Nakatunya	Nursery Cell	
			Nakatunya	
	Serere	Kateta	Kateta	Ojokodori
				Acume
Kelim			Awucot	
			Akism	
Keyere		Orupe	Opari	
			Opa	
		Olupe	Aojakitodi	
			Keye	

3.3 Data Collection Instruments

Quantitative and qualitative methods were used for collecting data from the field. The individual questionnaire was used to collect quantitative data. This questionnaire was divided into two sections: The first section covered the demographic and socio-economic aspects of the respondents; such as age, marital status, religion, education and occupation. The second section covered information relating to pregnancy and delivery. This method generated quantifiable information about the different variables being investigated, which made it possible to carry out analysis at univariate, bivariate and multivariate levels.

Focus group discussion guide was used for collecting qualitative data. This method provided in-depth understanding of mothers' perceptions and attitudes towards different delivery sites.

3.4 Training of interviewers

Three female interviewers who were well acquainted with the local language of the area were recruited. They were trained on the aims and objectives of the study, its importance, and their role in ensuring that the study was a success. The training was conducted for three days and during training, role-play was employed to ensure that the instrument was thoroughly understood. The questionnaire was also translated into Ateso. A pre-test was carried out before the actual data collection exercise was embarked on to ensure that the questionnaire covered all aspects of the study and that there was consistency in the flow of questions.

3.5 Fieldwork

Fieldwork was conducted for 5 days and the supervisor had the responsibility of ensuring that the questionnaires were properly filled. The researcher distributed and received completed questionnaires every morning and evening. A total of 320 questionnaires were filled at the end of the field work. There was 100% response from the respondents.

For the FGD, three different categories of groups were chosen for the discussion basing on delivery sites and place of residence. A total of six focus group discussion groups were conducted.

3.6 Quality control

This was ensured at all levels of the study. Qualified interviewers were selected for data collection and they were thoroughly trained before fieldwork commenced. While in the field, interviewers were closely monitored to ensure that they interviewed the sampled households. Field experiences and problems that were encountered were shared amongst the team on a daily bases.

3.7 Data management

The researcher with the help of two coding assistants developed a coding format for the open-ended questions. Codes were then allocated to corresponding responses. Thereafter, data entry templates were designed using EPIINFO (Version 6). EPIINFO system

provides a useful error-checking tool during data entry. Thereafter, the data were entered and then exported to SPSS (Version 10) for cleaning and analysis.

At the univariate level of analysis, descriptive analysis of the variables was carried out. These variables include level of education, place of residence, religion, age, marital status, parity, ANC attendance, means of transport to the health unit, sources of information.

The second level of analysis was bivariate analysis whereby the association between the independent variable and dependent variables was investigated. In this analysis, the chi square (χ^2) statistic was used to test for the significant relationship between selected independent and dependent variables. The χ^2 statistic takes the form;

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{\left(O_{ij} - E_{ij}\right)^2}{E_{ij}}$$

where $i=1, \dots, r$ and $j=1, \dots, c$

O_{ij} was the observed frequency

E_{ij} was the expected frequency assuming independence

r was the number of categories of the independent variables

c was the number of categories of dependent variables

In this study, it is assumed that the level of significance for all chi-square test is 0.05.

Multivariate analysis using a logistic regression model was then carried out to further examine the strength of significant factors towards place of delivery. Logistic models are regarded to be appropriate statistical techniques for multivariate analysis of dichotomous variables. The logit model is particularly useful for explaining the variation in one binary response variable in terms of one or more explanatory variables, which may be discrete or continuous (C. Chatfield A. J. Collins (1980)). The model measures the probability P of 'Using a given MHS' and this probability is confined to the range $[0, 1]$ and is given by $\log [P / (1 - P)]$, where P is the probability of using that MHS.

To understand better the interpretation of the logistic coefficients, a rearrangement of the equation for the logistic model can be written in terms of the odds of an event occurring. The odds of an event occurring are defined as the ratio of the probability that it will occur to the probability that it will not occur.

The logit, which is the log of odds becomes;

$$\mathbf{\log [Prob (event)/ Prob (no event)] = a + b_1X_1 + b_2X_2 + \dots + b_p X_P}$$

Note that “e” raised to the power b_i indicates the factor by which the odds change when the i^{th} independent variable increases by one unit. A positive value of b_i indicates that the factor is greater than 1, hence the odds are increased. If b_i is negative, this means that the factor is less than 1, hence the odds are decreased. When b_i is 0, the factor equals to 1, which implies that the odds are unchanged.

In order to determine the most influential factors in determining choice of place of delivery, ‘Enter’ approach was used. The variables that were included in the model, had to meet specified criteria of having a level of significance of 5 percent at bivariate level. All variables in the model that are listed on the FSTEP keyword are then examined and the variable with the highest level of significance is selected for inclusion in the model or excluded if it meets exclusion criteria. Such investigation of the relationship that may exist between different independent variable and the dependent factor is important to assess their relative importance in predicting changes or variations in the dependent variable

CHAPTER FOUR

The Background Characteristics of the Respondents

4.1 Introduction

This chapter presents the distribution of respondents by selected socio-economic, demographic factors and health factors that are expected to have a bearing on influencing mother's choice of place of delivery. These factors include age, marital status, religion, educational levels, occupation, parity, mother's age at first pregnancy and antenatal care attendance.

4.1.1 Distribution of the respondents by age

Age of a mother is a very important factor in reproduction. The study focused on mothers in the reproductive age group 15-49. Figure 4.1 shows that the majority of the respondents (70.3%) were aged 20 to 34. Those who were 35+ of age were 16.9%.

Figure 4.1: Percentage distribution of the respondents by age groups.

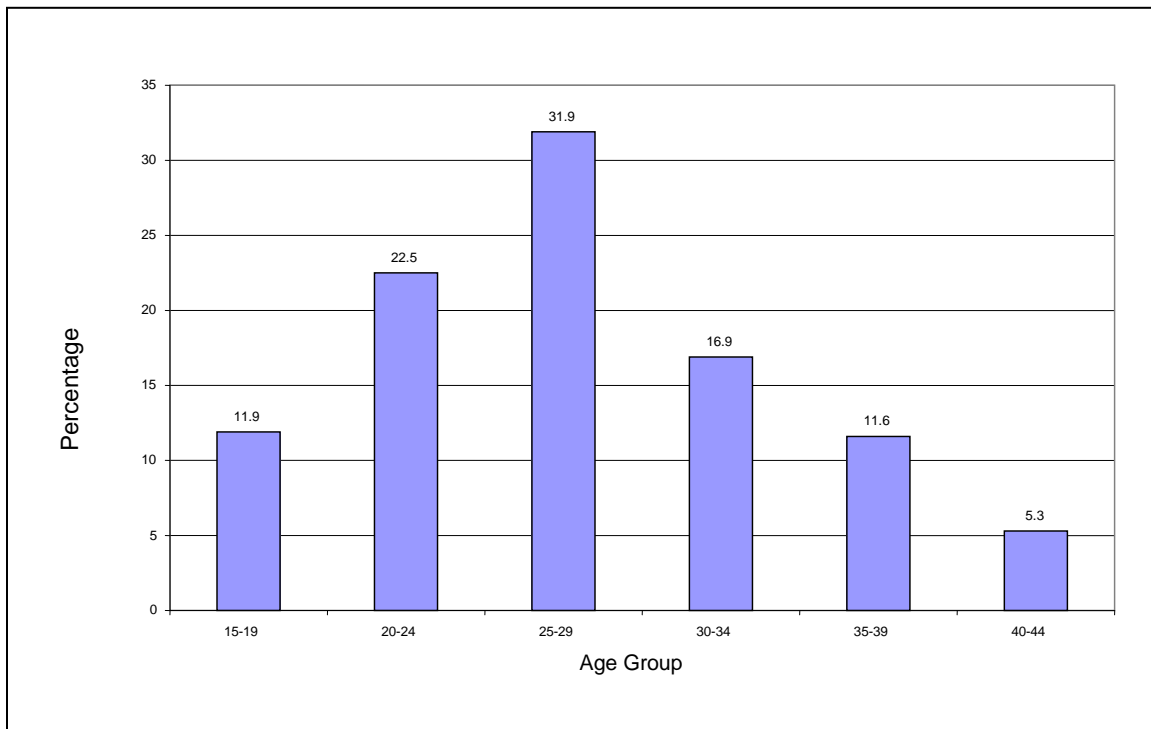


Table 4.2: Percentage distribution of the respondents by selected characteristics

Variables	Frequency	Percent
Marital Status		
Single	51	15.9
Married/Cohabiting	252	78.8
Widowed/Separated	17	5.3
Religion		
Catholic	148	46.3
Anglican	116	36.3
Muslim	15	4.7
Education Level		
No education	61	19.0
Primary	145	45.3
Secondary	68	21.3
Post secondary	46	14.4
Occupation		
Unemployed	129	72.1
Employed	49	15.4
Business Women	40	12.5
Age at first pregnancy		
12 – 14	35	10.9
15 – 19	192	60.0
20 – 24	76	23.8
25 – 29	17	5.3
ANC Attendance		
0	16	5.0
1-3	147	45.9
4 or more	157	49.1

Trimester when first attended ANC		
First	14	4.4
Second	186	58.1
Third	105	32.8
Parity		
One	59	18.4
Two	90	28.1
Three	93	29.1
Four or more	78	24.5
Length of labour pain (hrs)		
1-4	44	13.8
4-8	138	43.1
8-12	94	29.4
12 or more	44	13.8
Means of transport		
Foot	160	50.0
Bicycle	146	45.6
Motorcycle	2	0.6
Car	12	3.8
Radio programs most listened		
News	176	74.3
Plays/drama	85	26.6
Music	128	40.1
Educational programs	100	31.3
Health	98	30.6
Sports	4	1.3

Announcements	173	54
Support from spouses		
Money	144	45.4
Transport	77	24.4
Accompanying to health unit	67	20.4
Baby & delivery requirements	160	50.0
Others	93	28.8
Level of awareness of danger signs of pregnancy		
Bleeding	83	26.0
High fever	33	10.3
Abdominal pains	115	36.0
Swelling of hands & feet	64	20.0
Reasons why mothers fail to deliver in health units		
Health units are distant		35.7
Quick/sudden delivery		43.2
No transport		20.9
No money		14.3
I did not want		7.5
Night delivery		3.4

4.1.2 Distribution of the respondents by marital status

Looking at the marital status of the respondents, the married included those married traditionally, formal marriages and cohabiting. Most of the respondents (78.8%) were married, 15.9% were single and only 5.3% were divorced/separated (Table 4.2). During analysis, the divorced, separated and widowed were considered as one group.

4.1.3 Distribution of the respondents by religion

Religious denominations of the respondents were categorized into three broad groups; Catholic, Anglican and Muslims. Table 4.2 shows that the majority of the respondents were Catholics (46.3%), followed by Anglican (36.3%) and 4.7% were Muslims.

4.1.4 Distribution of the respondents by level of education

Education of the respondent was measured by highest level completed. These were categorized as no education, primary, secondary and post secondary education. Results from Table 4.2 show that 45.3% of the respondents had primary education, 21.3% had secondary and 14.4% had post secondary education.

4.1.5 Distribution of the respondents by main occupation

Occupation of a woman is to some extent an indicator of her income status, which in turn determines whether she can afford the services and requirements at the health unit. From Table 4.2, seven in ten of the respondents were unemployed. About 15% were employed in the private and public sector and 12.5% were in business. From these results, it was evident that very few women earn from their occupation. Unemployment ties women to dependency on men or society.

4.1.6 Distribution of the respondents by age at first pregnancy

Table 4.2 shows that the majority of women (60%) had their first pregnancy at 15-19 years and only 5.3% at 25-29 years. It was also seen that those who had first birth at an early age 12-14 were quite many (10.9%). This, therefore, shows that most of the women get their first pregnancies at younger ages and this predisposes them to so many health risk and pregnancy related complication. This also denies them from attending higher education and obtain good paying jobs.

4.1.7 ANC Attendance

Antenatal care attendance is said to influence health unit deliveries. Results from Table 4.2 shows that there was high attendance of antenatal care with 49.1% attending 4-11

times while 45.9% attended 1-3 times. It was further seen that 58.1% had had their first visit in the second trimester and 32.8% in the third trimester and only 4.4% in the first trimester. This implies that many women started attending check-ups in the second trimester. This was risky since complications could arise in the first trimester without being detected early enough. In many instances, women consider pregnancy as a normal state and in other societies they do not admit that they are pregnant for fear of attracting evil spirits (Linkages, 1998) and so they do not go to health centers for antenatal care attendance.

4.1.8 Parity of mothers

The parity of the respondents was also investigated. Results on Table 4.2 shows that 24.5% of the mothers had had four or more births. It also shows that 29.1% of the mothers had three births and 28.1% two births.

4.1.9 Length of labour pain

The duration of labour has in some instances influenced delivery place. However, result from Table 4.2 indicates that the majority of the respondents (86.2%) had labour that lasted for more than four hours. This means that the average time taken before delivery was quite long and a mother could access the health unit and therefore avoiding a home birth.

4.1.10 The main means of transport to a health unit

The majority of the respondents either walked (50%) to health units or used bicycles (45.6%). The use of motorized transport means was very minimal (4.4%). The use of foot or bicycle by expectant mothers was very challenging and resulted to loss of time while trying to access health units. It was also very difficult for a labouring woman to sit on a bicycle and cover a long distance to the health unit.

4.1.11 Access to information

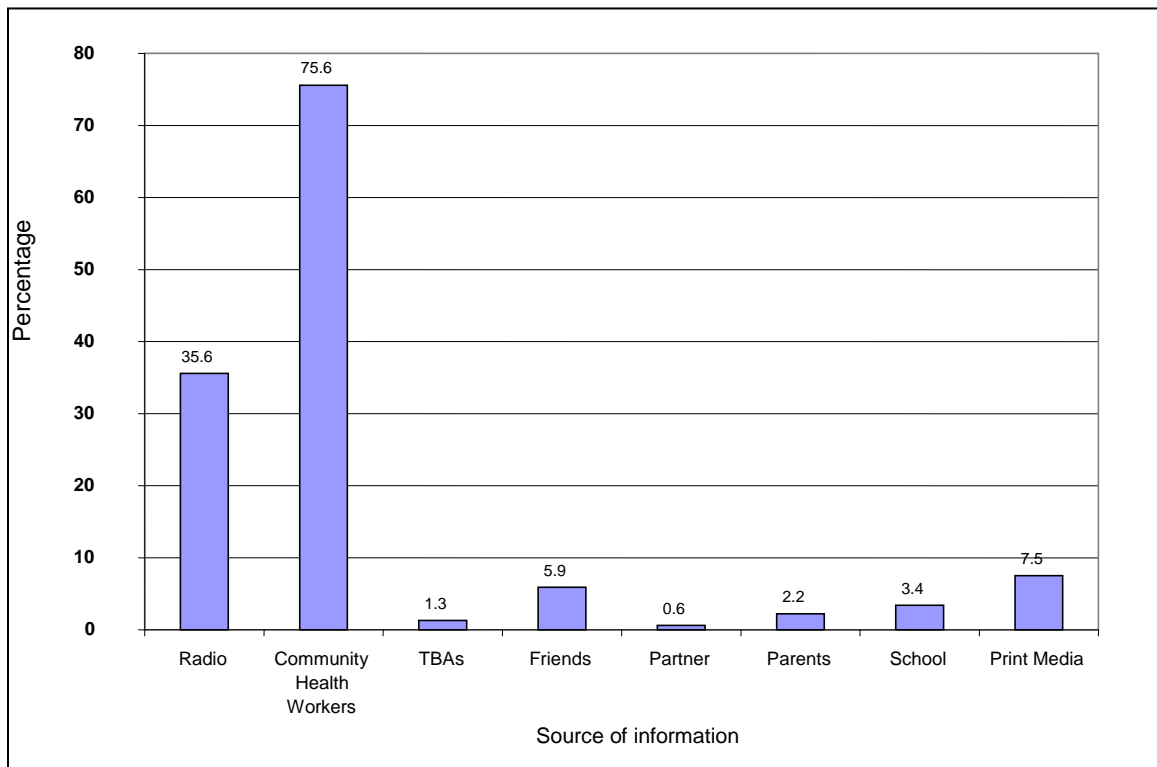
The study reveals that 54.4% of the households owned radio sets and 52.5% listened to radio on a daily bases. The programs most listened to was news (74.3%) followed by

announcements (54%). However, the distribution of programs most listened to by mothers did not favor educational (31.3%) or health related programs (30.6%) which are more informative. Households were more inclined to listening to news or announcements during specific hours and thereafter the radios were switched off.

4.1.12 Sources of information on safe motherhood

When women were asked what their main source of information about safe motherhood was, the majority mentioned community health workers (75.6%), followed by radios (35.6%). Figure 4.2 shows that print media (7.5%), friends (5.9%), schools (3.4%), parents (2.2%), TBAs (1.3%) and partners (0.6%) contribute very little information to these women. The TBAs who are normally considered by health authorities to be partners in safe motherhood matters did not contribute significantly to safe motherhood information. So did parents and schools, and yet most of the mothers conceive their first borne when they were barely 19 years of age, and these sources are expected to be at the forefront of disseminating safe motherhood information. The implication of this was that there was over reliance on health workers for all health related information and yet accessing them was constrained by other factors.

Figure 4.2: Percent distribution on sources of information on safe motherhood



4.1.13 Support by spouses

Mothers were asked the kind of support that was given by their spouses and the following were given as the main ones. Most of the spouses gave support in form of purchasing for the baby delivery requirements, besides providing money. However, accompaniment of mothers to the health unit was low (20.4%).

4.1.14 Awareness with regards to danger signs of pregnancy

The level of spontaneous awareness of the danger signs of pregnancy was quite low. Of the respondents interviewed, 43.4% admitted having been told about the danger signs of pregnancy during antenatal, and in fact 88.6% of those told admit knowing where to go in case they noticed any of the signs. Unfortunately, top of mind awareness about these signs are rather low (Table 4.2). Only 36.0% stated that they were knowledgeable about abdominal pains, 26.0% of vaginal bleeding, 20.0% of swelling of hands and feet and 10.3% of high fever. This implied that these mothers may experience the above signs but fail to relate them to the danger signs of pregnancy because to lack of knowledge.

4.1.15 Reasons given by mothers for failure to deliver at the health unit

In order to understand which factors influence choice of place of delivery, the study draws results from a multiple response question as to why mothers failed to deliver in health units and yet a majority had planned to do so (95.6%). Table 4.2 presents reasons that were given by the mothers. About 43% said that onset of labour was quick/sudden, health unit were distant (34.4%), lack of transport (20.9%) and lack of money for health unit requirements (14.3%).

CHAPTER FIVE

Factors influencing place of delivery

5.1 Introduction

This section looks at bivariate analysis where dependent variables were cross tabulated with the different explanatory factors. The dependent variable was place of delivery (health unit/home). While the explanatory factors were divided into three categories; social factors, demographic factors and health care factors. Social factors were residence, religion, marital status, occupation, distance and education. Demographic variables were age and parity while health care factors were attendance of antenatal care, duration of labour and perceived conduct of health workers.

5.2 Planned and actual place of delivery

During the study, the mothers were asked where they had planned to deliver from and 95.6% of them reported that they had planned to deliver in health units. However, result on Table 5.1 shows that the plan was not achieved. On the contrary, only 42.2% of the planned deliveries took place at health units. Implying that, the majority of the deliveries (57.8%) occurred at home. This was a worrying phenomenon considering the fact that most of the home delivers were attended to by untrained persons. In the focus group findings were making complex decisions, and weighing up perceived advantages and disadvantages associated with the different option. Perceptions of safety and inter-related socio-economic factors were particularly important.

Table 5.1: Comparison of planned and actual place of delivery

Planned		Actual	
		Health unit	Home
Health unit	95.6	42.2	57.8
Home	4.4	52.9	47.1

5.3 The factors that influence place of delivery

This section presents influence of social, demographic and health factors on health care services during delivery.

5.3.1 The social factors

This section describes the relationship between social factors and use of health care services during delivery. These factors include residence, religion, marital status, distance, occupation and education.

5.3.1.1 Marital status

Marital status in some societies often affects health seeking behavior of women. Results on Table 5.2 indicate that 47.1% of widowed/separated, 41.7% of the married and 45.1% of the single mothers had health unit deliveries. Further analysis showed that there was no significant relationship between marital status and place of delivery ($p = 0.93$).

This finding dispels the notion that health-seeking behavior was affected by marital status.

5.3.1.2 Place of residence

Results from Table 5.2 shows that 76.3% of the urban residents delivered in the health unit as compared to 9.4% from the rural residents. Bivariate analysis of these two variables showed very strong significant relationship between residence and place of delivery ($p = 0.000$).

Most mothers in the rural areas were said to prefer the traditional health system while hospital and health institution deliveries are generally preferred to in critical hours of delivery. The remoteness of rural areas coupled with lack of vehicles for transport, distant health units, lack of money and health unit requirements and fear of health unit encouraged many mothers to deliver from home/TBAs.

5.3.1.3 Religion

Some religion discourages certain values and practices among women such as use of contraceptive, receiving delivery care from male health workers. All this ultimately affects women's health care seeking behavior. Results indicate that there is a significant association between religion of mothers and use of delivery care services ($p = 0.100$). The

table shows that 60.6% of Catholics, 32.1% of Anglican and only 7.3% of Muslims sought health unit services.

Table 5.2: The respondents seeking health unit delivery by social factors

Variables	Percentage delivering in the Health Unit	
Marital Status		
Single		43.1
Married/Cohabiting		42.5
Widowed/Separated		47.1
$\chi^2 = 0.14$	df = 2	p = 0.930
Residence		
Urban		76.3
Rural		9.4
$\chi^2 = 146.1$	df = 1	p = 0.000
Religion		
Catholic		43.9
Anglican		37.9
Muslim		66.7
$\chi^2 = 4.71$	df = 2	p = 0.100
Education level		
Primary		29.7
Secondary		73.5
Post secondary		78.3
$\chi^2 = 53.76$	df = 2	p = 0.000
Occupation		
Farmer		28.9
Business		62.3
Employed		82.5
$\chi^2 = 53.1$	df = 2	p = 0.000
Distance to health unit		

Less than 5 km		68.6
$\chi^2 = 122.7$ df = 1 p = 0.000		
Age at first pregnancy		
12 – 14		28.6
15 – 19		35.4
20 – 24		57.9
25 – 29		82.4
$\chi^2 = 22.80$ df = 3 p = 0.000		
Parity		
1		57.6
2 – 3		55.6
4 – 5		38.7
6 – 12		21.8
$\chi^2 = 25.97$ df = 3 p = 0.000		
No of antenatal visits		
0		12.5
1-3		31.3
4+		56.1
$\chi^2 = 24.30$ df = 2 p = 0.000		
Length of labour		
1 – 4		38.6
4 – 8		33.3
8 – 12		43.6
12 or more		75.0
$\chi^2 = 24.02$ df = 3 p = 0.000		
Perceived conduct of mid wives		
Good		41.8
Rude		67.2
$\chi^2 = 19.35$ df = 2 p = 0.000		

5.3.1.4 Educational level

Educational level of a mother is a very important factor in accessing information and utilization of health unit. Evidence from various studies suggests that maternal education was the most important determinant of use of health care services in developing countries (Becker et al, 1993; Cleland, 1990; Elo, 1992). Results reveal that of the women who delivered from health units, 78.3% had post secondary education and 29.7% had primary education (Table 5.2). Home deliveries were common among women with primary level education (70.3%). The table shows that educational level has got a significant influence ($p = 0.000$) on place of delivery.

5.3.1.5 Occupation

Mother's occupation also influenced place of delivery. Of those who were employed, 82.5% had health unit deliveries. While 62.3% of the businesswomen and 28.9% unemployed delivered at the health unit. Only 28.9% of the unemployed delivered at the health unit. Further analysis showed there was a strong relationship between place of delivery and occupation ($p= 0.000$).

5.3.1.6 Distance to the nearest health unit

Women also considered the social costs of traveling to a more distant referral hospital. In particular, the support required from relatives or friends to look after older children while the woman was in hospital influenced her decision of where to give birth. About seven in ten of those who delivered in the health unit lived near them. Among those who delivered at the home, 92.6% mentioned that they lived far away from the health unit. However 7.4% delivered at the health unit although they lived far from them. Distance to the nearest health unit had a significant relationship with place of delivery ($p = 0.000$).

Home deliveries were common in rural areas due to the distant health units coupled with lack of transport. Scarcity of vehicles makes it extremely difficult for a mother in labor to reach a health unit. Walking was the primary mode of transport (50.0%) in these areas. Even women in labor have been subjected to walking which is much slower due to pain and the weight exerted at the lower abdomen when labor begins. This was supported by the focus group discussion results that health units were far and there was lack of

transport to the health unit. Women who had to travel to a distant unit were often concerned about timing, whether they would arrive in the delivery unit before the baby was born.

5.3.2 Demographic factor

This section covers two variables namely age of a mother at first pregnancy and parity.

The relationship between these factors and place of delivery was examined and presented in Table 5.2.

5.3.2.1 Age at first pregnancy

A mother's age at first pregnancy had some influence on mother's place of birth. The result on Table 5.2 shows that of the mothers who had their first pregnancy at 12-14 years, only 28.6% delivered at the health unit. Those who had their first pregnancy at age 25-29, 82.4% delivered at the health unit. This means that mothers who conceived their first pregnancies at an older age were more likely to deliver at the health unit. This relation was significant ($p = 0.000$).

Many of the mothers who had their first pregnancy at a young age did not have health unit delivery simply because they had less education, little or no knowledge which was instrumental for decision making concerning their health, shaping their attitudes, values and recognition of a problem. Other adolescent mothers get shy, feel alienated and sometimes stigmatized by the pregnancy.

5.3.2.2 Parity

Childbearing experience of the respondents was gathered to facilitate better understanding of place of delivery. Mothers with low parities particularly those with first pregnancies have a lot of uncertainties, risks and anxiety about pregnancy outcomes and as such, they receive pregnancy care more than women with higher parities. This explanation was strongly supported by the cross tabulation of parity and place of delivery as shown in Table 5.2 Of the mothers who had had one child, about six in ten of them delivered in a health unit as compared to those who had more than six children only

21.8% had health unit delivery. Parity had a strong influence on place of delivery ($p = 0.000$).

5.3.3 Health care factors

The health care factors that were considered were antenatal care attendance, length of labour, and perceived conduct of health workers.

5.3.3.1 Antenatal care attendance

Results from Table 5.2 indicate that number of antenatal care attendance influenced on place of delivery. About 87% of mothers who did not attend antenatal care delivered from home. Of those who attended antenatal care more than 4 times, 56.1% delivered from a health unit.

5.3.3.2 Perceived Conduct of midwives

Nurses were said to be rude as compared to TBAs who were generally friendly. Because of the trust built in a TBA, mothers in the rural area had preferred them to health workers. “Some of these TBA had even managed to handle deliveries that are breech and difficult, and yet some nurses send labouring mothers to theatre so quickly. This scared them from health unit delivery.”

At Health Center II, mothers were being referred by nursing aids to TBAs for delivery. The reason given was that these nurses did not have midwifery training. It was also noted that these nurses were only available at day time. It had been very difficult for the mothers to get assistance at night, and yet labour pain knows no time.

There was a belief among women that, health unit delivery needs when one has a relative working at the health unit.

“When you have no one you know at the health unit and no money as well, nurses will just assure you that if you are playing around and not giving anything, you will end up in the theatre for an operation or return home with your language”
(Home delivery).

This has scared even those who have never experienced such from delivering at the health unit.

5.3.3.3 Duration of labour

The longer the labour, the more likely was it for the mother to deliver at a health unit. Seventy five percent of the mothers whose labour lasted for 6–12 hours delivered from the health units. These women had ample time to move to the health unit for delivery as compared to their counter parts whose labour lasted for less than four hours. However, a majority of the mothers experienced pain in the night when it was difficult to access the health units due to lack of transport and insecurity. Length of labour showed a strong influence in determining choice of place of delivery ($p= 0.000$). Results from the focus group discussion indicated that most women had sudden onset of labour that started at night when it was very difficult to access the health unit resulting to home deliveries.

“Usually onset of labor was sudden. For some women it took about one to two hours without much pain ending with a delivery.” (Home Deliveries)

Suggested ways of encouraging mothers to deliver in health units

The respondents suggested the following as ways of encouraging mothers to deliver in health units. Mothers expect to be taught on what to do and how to care for themselves. About 67% of the respondents said improved service provision was the most important way of encouraging mothers to deliver in health units. Mothers expect proper service provision in terms of treatments and operations in the event of complications. Health workers should encourage all mothers to attend antenatal, have them educated about danger signs of pregnancy, early delivery preparations, upkeep of babies and give advise on family planning (where to go and best methods).

The level of care prior and after delivery was also important. In meeting these expectations and solving mainly the logistical barriers, mothers believed that this would set a conducive environment for delivering at the health units.

5.6 The results of logistic regression model

Table 5.3: Logistic regression model for factors that determine choice of place of delivery

Variable	β	Wald	p	Exp(B)
Age at first pregnancy				
12-14				1.000
15-19	-1.065	0.612	0.434	0.434
20-24	-1.166	0.903	0.342	0.342
25-29	-1.641	1.906	0.167	0.167
Times attended ANC				
0		6.833	0.033	1.000
1-3	2.449	3.848	0.050	0.080
4-11	2.799	4.207	0.040	0.436
Distance				
Less than 5 km	0.000			1.000
More than 5 km	-1.232	3.134	0.077	4.008
Length of labour (hrs)				
1-4		14.053	0.003	1.000
4-8	-2.122	11.732	0.001	0.000
8-12	-2.254	11.274	0.001	0.101
12 or more	-2.631	5.377	0.020	0.208
Fee payment				
No	0.000			1.000
Yes	-1.522	13.902	0.000	4.384
Residence				
Urban	0.000			1.000
Rural	-2.132	10.784	0.001	0.138
Occupation				
Unemployed	0.000			1.000
Business	1.640	4.710	0.190	0.190
Employed	1.370	3.150	0.250	0.250
Level of education				
No Education		2.017		1.000
Primary	0.110	0.581	0.446	0.688
Post Secondary	0.213	0.121	0.728	1.371
Parity				
One		0.420		1.000
Two	-0.244	0.154	0.695	0.779
Three	-0.077	0.017	0.897	0.959
Four or more	-0.094	0.025	0.875	0.887

A logistic regression model was fitted based on all variables that showed a significant effect to place of delivery in the bivariate analysis at 95 percent level of significance i.e. 0.05 degrees of freedom were fitted. These variables include; age at first pregnancy, residence, educational level, occupation, length of labour, ANC attendance, parity, payment of fees and distance.

Attendance of ANC had influence on place on delivery. Women who attended ANC more than 4 times were more likely to deliver at the health unit than their counterparts who did not attend ANC at all. The study supports earlier findings that attendance of ANC was a significant factor in influencing place of delivery (UBOS 2002).

The longer the labour, the more likely was it for the mother to deliver at a health unit. Mothers whose labour lasted for more than 8 hours were more likely to deliver at the health unit. These women had ample time to move to the health unit for delivery as compared to their counter parts whose labour lasted for less than four hours. Also longer labour causes one to worry and seek medical care. However, mothers in the focus group discussion mentioned that, while labour may last for less or more than four hours, majority of mothers experienced pain in the night when it was difficult to access the health units due to lack of transport and insecurity.

“Usually onset of labor was sudden. For me it took about one to two hours without much pain ending with a delivery.” (Home Deliveries)

In addition, payment of fees at the delivery site was also found to influence choice of place of delivery. Here a minimum amount of money was required during delivery and also for purchase of basic requirements such as gloves, cotton wool, polythene bags, panties and food. Some of these women did not have any or enough money at the time of labour so they opted to deliver out of the health units where other forms of payments were made.

“When one has no money to pay for the services, you will cry until God helps her. Most women are taken to theatre when the situation has worsened and yet they could

have had normal delivery if they were attended to on time.” (Women who delivered at home).

Furthermore, mothers who were distant from the health centers were least likely to deliver at health unit. It was important to note that distance per say would not be a problem if the transport system in the area were developed. The main mode of transport to the health unit by the majority of the women was on foot, which made it quite difficult for a laboring mother to easily reach a health unit in time for delivery. Women from rural areas were more likely to deliver from home and urban women from health units.

Educational level in this model (Table 5.3) was seen to influence place of delivery. Mothers with primary education with parameter estimate of ($\beta = 0.110$), were least likely to deliver at the health unit. Their counterparts who had a post secondary level of education with parameter estimate of ($\beta = 0.213$), had higher odds of seeking health unit delivery care. This findings support studies that argue that education is a significant factor for better health care delivery (Caldwell et al 1983).

The study further revealed that mothers who were unemployed were less likely to deliver in health unit. However, the businesswomen and employed mothers had relatively higher odds of delivering in health unit. These women were exposed to information about seeking medical care, most of them were urban residents and they could afford the requirements needed during delivery.

However, age of a mother at first pregnancy, parity did not have any significant effect on place of delivery in this model.

The hypothesis that was earlier stated that, women who attend antenatal care at least 4 times are more likely to deliver at a health facility, should be accepted ($p = 0.040$).

The second hypothesis that stated that health unit charges does not influence on place of delivery should be rejected. Health unit charges do influence on place of delivery ($p =$

0.000). Mothers were discouraged from using health unit because of the fees required after delivery.

Also the hypothesis that stated that distance to a health unit influences on health unit delivery should be accepted. The farther the distance to health unit, the less likely was for a women to deliver at a health unit ($p = 0.077$). Transport was a big problem in this part of the country. The main mode of transport to the health unit was by foot.

The fourth hypothesis which stated that, length of labour does not influence on place of delivery, should be rejected. From the above findings, length of labour greatly influenced the place of delivery. Mothers who had labour lasting for more than 8 hours were more likely to deliver at the health unit ($p = 0.001$).

CHAPTER SIX

Summary of findings, conclusions and recommendations

6.1 Summary of findings

The study found that three in ten of the respondents were aged 25-29 years and 11.9% were between 15-19 years. Majority of the women were married. About seven in ten of the women were unemployed. Ten percent had had their first pregnancy at the age of 12 to 14 years.

Educational attainment of these women was low. Four in ten women had primary education as their highest level of education. Education was found to have a significant influence on place of delivery at bivariate level of analysis. However, in multivariate analysis, education did have much significant effect on place of delivery.

It was further established that the majority of the women attended ANC. But attendance mainly started in the second trimester. Knowledge of danger signs of pregnancy was quite low. Only 4% knew about difficult/prolonged labor, 10.3% of high fever, 20% swelling of feet and hands, 28% vaginal bleeding and 36% severe abdominal pains. Only four in ten had reported being told about the danger signs of pregnancy during antenatal visits. The bivariate analysis indicated that the number of antenatal care visits influenced place of delivery. About nine in ten of the women who did not attend antenatal care, delivered at home.

The research further indicates that whereas 87.5% of the expectant mothers had planned to deliver in health unit, only 42.5% had health unit delivery. While initially only 12.5% had planned to be delivered at home or by TBA, this figure grew to 57.5% during actual birth time.

The main attendants during delivery were health workers, TBA and relatives. Only three in ten of the births delivered at home were attended to by health workers. The rest of the births were attended to by TBA and relatives.

Furthermore, four in ten of the respondents reported that the reason for delivering at home was because labor onset was sudden and quick. From the focus group discussion responses, labor was said to be quick and in most times it starts at night when it was difficult to get to a health unit.

The above coupled with lack of money was another factor that strongly influenced on place of delivery at bivariate and multivariate level. These women did not have income generating activity and their main occupation was farming which was subsistence in nature. In addition, residence had a strong influence on place of delivery at a bivariate and multivariate levels. Comparison of rural and urban residents showed that 91.3% of rural delivered at home while 76.2% of urban delivered at health units.

Transport was found to be a big challenge to most of the mothers during time of delivery. Five in ten of the mothers walked to health units and about four in ten used bicycles. This mode of transport accounted for 95.6% of the means by which mothers reach health units. Unfortunately this means of transport does not favor laboring mothers. It was uncomfortable and very slow.

6.2 Conclusions

This study investigated factors that influence mother's choice of place of delivery in Soroti district. The factors that showed a very strong influence on choice of place of delivery were residence, attendance of ANC, length of labour, distance and payment at the health unit.

Attendance of ANC had influence on place on delivery. Women who attended ANC more than 3 times were more likely to deliver at the health unit. Length of labour was also a determinant factor in influencing choice of place of delivery. Mothers who had labored for more than 8 hours were more likely to deliver at the health unit. These women had ample time to move to the health unit for delivery as compared to their counter parts whose labour lasted for less than four hours and in many instances it occurs at night.

In addition, distance, residence and payment of fees were also found to influence choice of place of delivery. Women from rural areas were likely to deliver from home. Distant

health units coupled with the poor transport were the major problems during delivery time. Also the need to have money for health unit payments and purchase of basic requirements such as gloves, cotton wool, polythene bags, panties and food was a major hindrance.

There were other factors that showed some influence on choice of place of delivery and these were education, occupation and marital status. Mothers who had no education were least likely to deliver at the health unit as compared to their counterparts. The study further revealed that the employed and businesswomen had relatively higher odds of delivering in health unit. These women were exposed to information about maternal care and could afford the services and requirements needed. However, age of a mother at first pregnancy and religion were found not to have any significant effect on place of delivery.

6.3 Recommendations

Girls should be encouraged to finish their education so as to delay the age of conceiving and marriage. Parents, schools, local authorities need to enforce age at marriage and girl child should be kept in school. Early exposure to sex exposes girls to pregnancy, disease risk and complications.

Pregnant women need to be encouraged and sensitized about the importance of seeking antenatal care and health unit delivery. During antenatal visits mother should be educated about the danger signs of pregnancy and risk of delivering at home. Also health workers need to encourage mothers to have health unit deliveries. As soon as labour starts, mother should begin moving to the health unit.

Spouses need to increase on their support during pregnancy and delivery. During antenatal care, health workers should encourage husbands to attend these visits with their wives so that they appreciate the need to fully support their wives financially and moral throughout pregnancy and after delivery.

Since transport was found to be the biggest challenge to most of the mothers during time of delivery, ambulances provided in Health Center III should always be on stand by with

enough fuel for emergency cases. Also there is need to improve on the communication channels at the health centers by the government for easy flow of information to and from the rural areas.

Government should improve on the facilities in the health units in the rural areas. For the maternal unit, the government should provide free medical treatment as a campaign to encourage more mothers for health unit delivery. As part of the remedy to poor perception of conduct of health care providers, health workers need to improve on their conduct towards labouring mothers. They should be treated with kindness and love just as TBAs do.

References

Becker, S. Roland, H.P. Connie, H.G. and Robert, E.B. “The Determinants of use of maternal and child health services in Metro Cebu, the Philippines” In Health Transition Review Vol.3 No 1; 1993.

Biego, G. Survey on Adult and Childhood Mortality in Tanzania, Macro International, Calverton, MD; 1995.

Caldwell, J, Reddy, P. and Caldwell, P. “The Social Component of mortality decline: an investigation in southern India employing alternative methodologies” In Population Studies Vol. 37 No.2; 1983.

Campbell R, MacFarlane A. *Where to be born? The debate and evidence*. 2nd edition. Oxford: National Perinatal Epidemiology Unit; 1994.

Carla, A. and Erica, R. Maternal Mortality, A global Fact Book WHO, Geneva 1991.

Cleland, J. “Maternal Education and Child Survival: further evidence and Explanations”. In Health Transition: The cultural Social and Behavioral Determinants of Health. Vol.1 No 1; 1990.

De Almeida M.F. “Neonatal mortality by place of delivery in Sao Paulo”, Brazil; 2000.

Department of Health. *Report to the Department of Health Children’s Taskforce from the Maternity and Neonatal Working Group*. London: Department of Health, 2003.

Elo, I.T). “Utilization of maternal health care services Peru: The role of women’s Education”. In Health Transition Review Vol. 1 No. 2; 1992.

Hecht, J. A Setting of birth and attendant at birth in the state of Hawaii, Hawaii; 1985.

Hitimana, L. “*Acceptability of immunization in a rural community of Kabaale District, Uganda*”. A dissertation submitted for a Diploma in Public Health, Makerere University; 1988.

Hyattsville, M.D, Vital and Health Statistics. National Center for Health Statistics Vol. 21 No. 43, 1984.

Kornelsen J, Gryzbowski S. The reality of resistance: the experiences of rural parturient women. *J Midwif Wom Health* 2006; 51:260–5.

Linkage. FAQ sheet: Frequently Asked Question on: Breastfeeding and HIV/AIDS. Washington DC; 1998.

Lule, G. S. and Sembataya, M. Intention to deliver and pregnancy outcomes. International Development Resource Center; 1996.

Macintyre, K. and Hotchkiss, D.R. “Referral Revisited: Community Financing Schemes and emergency Transport in Rural Africa”. Social Science and Medicine. Vol. 49 No. 11. 1999.

Moore, M. “Safe Motherhood, Safe Womanhood: Rethinking Reproductive Health Communication Strategies for the Next Decade”. RHT Occasional Paper; 1998.

Muigana, M. “Kenya: The tragedy of motherhood. In: Conveying concerns: women write on reproductive health”, [compiled by] Population Reference Bureau, Washington, D.C; 1994.

Obermeyer, M. Culture, maternal health care, and women's status: a comparison of Morocco and Tunisia: Tunisia; (1993).

Otim, S. “Knowledge, Attitudes and Practices of mothers in Lira District towards institutional delivery”. A dissertation submitted for a Diploma in Public Health, Makerere University; 1981.

Ransom, E. I and Yinger, N.V. “Making Motherhood Safer, Over coming the

obstacles on the pathway to care”. Population Reference Bureau, Washington, D.C; 2002.

Ross, S. R. Promoting Quality Maternal and Newborn Care. A Preference Manual for Program Managers. UK; 1998.

Safe Motherhood. News Letter of Worldwide Activity. Wasseue12, July – October 1993.

Taffel, S. Midwife and out-of-hospital deliveries. United States; 1984.

Teijlingen van E, Pitchforth, E. Focus group research in family planning and reproductive health care. *J Family Planning Reproductive Health Care*; 2006; 32:30–32.

The White Ribbon Alliance for Safe Motherhood. Awareness, Mobilization, and Action for Safe Motherhood, Washington, DC; 2000.

UNICEF. A report on the Safe Motherhood Tehnical Consultation 18-23 Oct 1997 Colombo, Sri Lanka; 1994.

Uganda Bureau of Statistics. Uganda Demographic and Health Survey. Entebbe, Uganda and Calverton, Maryland USA; 2002.

Wolff Brent. “Maternal Education and Community Context in Maternal and Child Health Behavior in Nigeria” PhD Dissertation – University of Michigan USA; 1993.

World Health Organization. Safe Motherhood. A Newsletter of World wide activity; 1995.

Walsh D, Downe S. Outcomes of freestanding, midwife-led birth centers: a structured review. *Birth*; 2004; 31:222–9.

World Health Organization. Coverage of Maternal Care: A Listing of Available Information, 4th Edition. WHO, Geneva; 1997.

World Health Organization. Safe Motherhood. Maternal and Newborn, Division of Reproduction Health, (WHO/RHT/97.34.), Geneva 1997.

World Health Organization. Maternal and New Born Health Safe Motherhood coverage of maternity care; Family and Reproductive health, Geneva; 1997.

APPENDICES

Appendix 1 Individual Questionnaire

This study was determines factors that influence choice of place of birth among mothers. It was to be completed by mothers with children of three years and below. You have been selected to participate in the study, are you willing to provide us with information about places of delivery.

Household number..... Name of head of household.....
Name of LC 1..... Parish
Sub-county..... County.....
Place of residence 1 Urban 2 Rural
Date of interview.....
Name of interview..... Name of data entry clerk.....
Results of interview 1. Complete 2. Refused 3. Eligible person away 4. Not at home 5. Postponed 6. Dwelling not found 7. Incomplete interview

Section 100: Individual Information

This section was about individual's demographic and basic social data.

101. How old were you at your last birthday? (Age in complete years _____)

102. In what month and year were you born? _____

103. What was your marital status?

1. Single

2. Married

3. Divorced/Separated

4. Widowed

104. What was your religion?

1. Catholic

2. Anglican

3. Muslim

105. Have you ever attended school?

1. Yes

2. No (Go to Question 107)

106. What was the highest level of school you attended?

1. Primary

2. Secondary

3. Post Secondary

107. What was your place of residence?

1. Urban

2. Rural

108. What was your main occupation?

1. Unemployed

2. Business Woman

3. Employed

109. Does your household have a radio?

1. Yes
2. No (Go to Question 111)

110. How often do you listen to a radio?

1. Daily
2. At least once a week
3. At least once a month
4. Never

111. What programs do you normally listen to on radio?

- A. News
- B. Plays/Drama
- C. Music
- D. Educational programs
- E. Health programs
- F. Sports and games
- G. Announcements

112. Do you read newspapers/magazines?

1. Yes
2. No

113. How often do you read newspaper/magazines?

1. Regularly
2. Occasionally
3. Never

114. Does your household have a bicycle?

1. Yes
2. No

Section 200: Pregnancy

I would like to ask you about pregnancy and childbirth.

201. How old were you at your first pregnancy (Age in complete years) _____

202. How many times have you been pregnant? _____

203. How many live births have you had in your life? _____

204. Have you ever had any other pregnancies, which did not result in a live birth?

1. Yes

2. No

205. Are you pregnant now?

1. Yes

2. No (Go to Question 207)

206. If yes, are you receiving antenatal care?

1. Yes (Go to Question 208)

2. No

207. The last time you were pregnant, did you receive antenatal care?

1. Yes

2. No (Go to Question 216)

208. Where do you go for antenatal care?

1. Govt. Health Facility

2. Private/NGO health facility

3. Private clinic

4. TBA

5. Outreach center

6. Others (specify) _____

209. How old was the pregnancy when you received antenatal care for the first time?

Age in months _____

210. How many times did you attend antenatal care? _____

211. Who choose the site to go for antenatal?

1. Self
2. Husband
3. Relative
4. Friend
5. Others (specify) _____

212. Where you told about the danger signs of pregnancy during ANC?

1. Yes
2. No

213. What danger signs do you know?

- A. Vaginal bleeding
- B. High fever
- C. Abdominal pain
- D. Swelling of hand and feet
- E. Difficult labour for more than 12 hours
- F. Convulsions

214. Where you told were to go if you had any of these signs?

1. Yes
2. No

215. Which place?

1. Health Center
2. TBA'S
3. Others (specify)

216. Where did you deliver your last baby?

1. Health facility
2. Home

217. How long did labour take before you deliver?

1. 1 – 4 hours
2. 5 – 8 hours
3. 9 – 12 hours
4. 13+

218. Why did you not deliver in a health facility?

- A. Health facility far
- B. Onset of delivery was sudden and quick
- C. No transport
- D. No money
- E. Did not want
- F. Relative did not want
- G. Others (specify)

219. Where did you plan to deliver? _____

1. Health unit
2. Home

220. Who made the choice of the place of birth?

1. Self
2. Husband
3. Relative
4. Friend
5. Others (specify) _____

221. Who attended to you during this delivery?

1. Trained health worker
2. Trained TBA
3. Untrained TBA
4. Relative
4. Self
5. Others (specify)

222. What was the out come of the pregnancy?
1. Live
 2. Still
223. Did you pay any fee at delivery site?
1. Yes
 2. No (Go to Question 225)
224. How much was it? Ug shs. _____
225. How far was the nearest health unit? (Km _____)
226. How long does it take to reach this unit? (Hours _____)
227. What means of transport do you use to get to a health unit?
- A. Foot
 - B. Bicycle
 - C. Motorcycle
 - D. Car
 - E. Ambulance
 - F. Others (specify)
228. What birth position do you prefer?
1. Lying on your back
 2. Squatting
 3. Kneeling
 4. Half sitting
 5. Others
229. Do you feel comfortable to deliver in health units?
1. Yes
 2. No
230. Whom would you prefer to deliver you?
1. Medical attendant
 2. Traditional attendant

231. How do medical attendants treat women during delivery?
1. Friendly
 2. Rude
232. How Traditional attendants treat women during delivery?
1. Friendly
 2. Rude
233. How do attendants at home treat women during delivery?
1. Friendly
 2. Rude
234. In what way would you want the placenta disposed of?
1. As done in the health unit
 2. Given to mother for burial
 3. No preference
 4. Others (Specify)
235. What was your main source of knowledge/information about safe motherhood?
- A. Radio
 - B. Community Health Worker
 - C. TBA
 - D. Friends
 - E. Partner
 - F. Parents
 - G. School
 - H. Newspapers/Magazines
 - I. Others (specify)
236. Where would you advice women to deliver from? _____
1. Health Units
 2. Clinics
 3. TBA
 4. Home
 5. Traditional healers
 6. Others (Specify)_____

237. What could be done to encourage expectant mothers to utilize health units during delivery? _____

238. Do you get support from your spouse during delivery time?

1. Yes

2. No

239. What type of support do you get?

A. Money

B. Transport

C. Company to delivery site

D. Items needed during delivery and baby items

E. Others (specify)

Appendix 2 The Focus Group Discussion Guide

Group: *Women with babies who are less than two years old.*

Moderator: *Introduce yourself and the objectives of the study*

Moderator: *Stress confidentiality of the information that will be obtained and seek their cooperation in this exercise.*

- 1.1 Which are the common delivery sites for expectant mothers? [Probe: for sites of delivery]
- 1.2 Who assist you during delivery? [Probe for persons giving assistance]
- 1.3 What are the factors that influence them to deliver in those various sites; at home/ TBAs, health facility/clinic? [Probe: social influence, self-efficacy, onset of labour and delivery, access to maternal services]
- 1.4 Who influences on choice of delivery site? [Relative, spouse, self]
- 1.5 Does antenatal care attendance influence the place of delivery? [Probe: for those who attend ANC]
- 1.6 What are your attitudes about delivering at health facility, TBA'S and at home? Are you satisfied with the services offered at those places?
- 1.7 How do you obtain information about safe motherhood issues? Are these sources of information adequate? How can safe motherhood information dissemination be improved among women?
- 1.8 What do you think can be done by government and development partners at all levels to improve on delivery sites in order to reduce on maternal mortality? [look at improvements at health facilities, TBA'S, homes]