

**Factors affecting utilisation of delivery services in the health units of Uganda:
a case study of central region**

BY

**Milly Tiwangye
B.A (SS) (MUK)**

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Declaration

I, Milly Tiwangye, declare that this dissertation was designed, done and presented by me.

This work has never been presented in any institution for any academic award.

Signed Date

Supervisors:

1. Date

Dr. Gideon Rutaremwa,
Institute of Statistics and Applied Economics,
Department of Population Studies,
Makerere University, Kampala

2. Date

Dr. Emmanuel Sekatawa,
Institute of Statistics and Applied Economics,
Department of Population Studies,
Makerere University, Kampala

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Dedication

This dissertation is dedicated to my husband Frank and my daughter Carissa.

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List of Acronyms

| | |
|-------|--------------------------------------|
| EmOC | Emergency Obstetric Care |
| HC | Health Centre |
| HCU | Health Care Unit |
| MoH | Ministry of Health |
| NGO | Non-Government Organisations |
| PHC | Public Health Care |
| TBA | Traditional Birth Attendant |
| TFR | Total Fertility Rate |
| UBOS | Uganda Bureau of Statistics |
| UDHS | Uganda Demographic Health Survey |
| UNDP | United Nations Development Programme |
| UNFPA | United Nations Population Fund |
| WHO | World Health Organisation |

Abstract

The general objective of the study was to find out the factors that affect the utilisation of delivery services at the health units in Uganda. Specifically, the study aimed at assessing the differences in the utilisation of delivery services at the health units as well the effect of distance on the utilisation of delivery services at the health units. The study also aimed at assessing the impact of marital status on the utilisation of the delivery services at the health units and to identify the effect of education on the utilisation of delivery services in the health units. The study used raw data of the End Evaluation and the Baseline Study Survey for the Fifth and Sixth Country Program collected by UNFPA in all regions of Uganda which were: Eastern, Western, Northern and Central.

Binary logistic regression model was used to establish the factors affecting the utilisation of delivery services at health units. These included age, education and distance to the health unit. Occupation and income of respondents, however, were not significantly related to the utilisation of delivery services. The use of traditional birth attendants reflect a likelihood of occurrence of maternal complications that may lead to death. Self supervision unless addressed has far reaching consequences as women risk their life by increasing the likelihood of maternal complications that may lead to maternal death. It was recommended that more sensitisation programmes are needed to awaken mothers about the dangers associated with traditional methods of birth which may increase in case of maternal complications due to lack of Emergency Obstetric Care (EmOC) services. Programme targeting young mothers should be encouraged while strengthening existing ones. Programmes aimed at delaying early sexual debut should be availed to avert risks of early pregnancy as well as bringing services near to the people especially the poor rural communities.

CHAPTER ONE

BACKGROUND AND INTRODUCTION TO THE STUDY

1.1. Background

There is an extremely wide range of factors that influence whether or not a woman seeks and obtains quality care from modern health-care facilities. According to Timyan 1993), the obstacles that women face are much more than a problem of distance and lack of financial resources to cover the cost of care and transportation. Therefore, barriers that influence whether or not a woman is able to gain access to services will be addressed, as factors that influence the quality of care provided to women at the point of service delivery. In Uganda as is the case in most developing countries, utilization of delivery services in the health units is mainly influenced by the socio-economic, cultural and demographic factors (Population Secretariat, 2005).

1.2. Introduction

According to UNFPA (2005), approximately 600,000 women died each year from the complications of pregnancy and childbirth worldwide. It is further estimated that one woman dies every minute from pregnancy related causes worldwide (UNFPA 2005). More than 90% of these deaths occur in Sub-Saharan Africa and Asia and yet the African region constitutes only 12% of the world population and only 17% of the births (UNFPA 2005). In addition, an estimated 40% of pregnant women (50 million per year) experience pregnancy related health problems during or after pregnancy and childbirth, with 15% of these women suffering serious or long-term complications. As a result of this, 300 million women suffer from pregnancy- related health problems and disabilities, including anaemia, uterine prolapse, fistulae, pelvic inflammatory disease and infertility (UNFPA, 2003).

In many developing countries, the majority of the births occur without the help of skilled

personnel such as a mid wife, nurse trained as midwife or a doctor. Only 20% of births are delivered in health facilities and 36% of the deliveries occur under the supervision of trained health workers (MoH 2005). Delivery takes place in the homes or in other non hospital settings. Home deliveries in absence of skilled professional attendants have been associated with adverse infant and maternal mortality. Home deliveries in absence of a skilled attendant occur due to long distances or difficult access to a birth facility. This is accelerated by the high cost of services and perceived lack of quality of care in a health facility (Anna Van Eijk 2006). Home deliveries greatly contribute to high maternal and infant mortality.

According to UBOS and Macro (2006), there were about 5.8 million women of reproductive age (15-49years) and the median age at the first marriage is 17.6 years while the median age for having the first child is a year later, at 18.6 years. An important reproductive health indicator is the availability to family planning. There are 24% of the married women in Uganda using some method of family planning with 18% of women using modern methods alone. UBOS and Macro (2002) revealed a big unmet need for family planning in the country with 41% of the women who need family planning being unable to access it for either spacing births or limiting births. As result, the Total Fertility Rate (TFR) has remained persistently high at 6.7 over the past years. The average age at first sexual intercourse was 16. Only some 38% of births were attended by trained attendants. More than a quarter of Ugandan women start giving birth too early in life (18.6 years) and about a fifth continue to give birth too late (over 40 years). In addition, more than a quarter have the children less than two years apart and the vast majority have more than four children. Compared to other African countries, Uganda's TFR is one of the highest, more than twice that of South Africa. (Wassberg 2004,

Bantebya 2003). Maternal Mortality rate is 506 deaths per every 100,000 pregnant women and mainly occurs among women having their first birth or among teenage mothers. According to Population Secretariat (2005), pregnancy and childbirth claim the lives of over 6,000 women and approximately 120,000 newborns in Uganda. The highest burden of this tragedy is among the rural communities who have long distances to cover from their households to the referral hospitals when they develop life threatening pregnancy related complications. A variety of factors have been identified as the leading causes of poor utilization of primary health care services such as delivering from the health centers, including poor socio-economic status, lack of physical accessibility, cultural beliefs and perceptions, low literacy level of the mothers and large family size (UBOS and Macro 2006).

Availability of transport, physical distance of the facility and time taken to reach the facility influence the health seeking behavior and health services utilization. The distance separating patients and clients from the nearest health facility has been remarked as an important barrier to use, particularly in rural areas. The long distance has been a disincentive to seek health care (Sewanyana et al 2004). An important barrier to health care utilization relates to the conflict between biomedical and traditional explanations for health phenomenon. This includes notions of disease causation, grouping of symptoms into syndromes or disease and perceptions of appropriate treatments and medications and appropriateness of care. Cultural beliefs and preferences surrounding child birth are particularly strong and resistant to change. Cultural beliefs and practices often lead to self care and home remedies. Poverty not only excludes people from the benefits of health care system but also restricts them from participating in decisions that affects their health. It is therefore necessary to critically explore

all the factors that affect the utilization of service delivery in the health units (Sewanyana et al 2004).

1.3 Problem Statement

In Uganda, the good health policies and concerted efforts have not yet yielded an increase in utilization of maternal health services by women or a reduction in the ratio of maternal deaths. Many women still deliver outside health units without being attended to by skilled health personnel and this accounts for the high maternal mortality rate in Uganda. A report by Population Secretariat (2006) indicates that maternal mortality is still as high as 505/100,000 live births. One of the factors accounting for the high maternal mortality according to UBOS (2006), in their study, the Uganda Demographic and Health Survey (UDHS) 2006 was that pregnant women do not fully utilize health services. Many births take place outside health units where there are no emergency obstetric care services or skilled personnel. In many rural parts of the country, a few women receive antenatal care during the first trimester of pregnancy.

In Uganda only four in ten births in Uganda are assisted by a trained health worker. Most births take place at home (63%) and this has resulted into most women losing their lives due to lack of Emergency Obstetric Care. Despite government intervention to promote essential ante-natal and obstetric care, improve management of complications of pregnancy and childbirth including spontaneous or induced abortion, and reduce the unacceptably high rates of maternal and peri-natal deaths through timely and effective Emergency Obstetric Care provided at strategic and accessible locations (MoH, 2005), delivery in the health units has not yet been fully utilized. Little has been done to address this adverse problem that the

women of Uganda are facing given a number of socio-economic and demographic factors impacting on women. The study therefore, investigated on the factors currently affecting the utilization of delivery services in the health units in Uganda. This was done through a study that investigated the use of delivery services in using a data for the end evaluation and the baseline line survey for the fifth and sixth country programme collected by UNFPA for central region by specifically analyzing factors related to utilization of delivery services so as to inform policy makers.

1.4 Objectives of the Study

The general objective of this study was to find out the factors that affect the use of delivery services in the health units in Uganda.

The specific objectives of the study are the following;

1. To assess the differences in the utilization of delivery services between rural and urban areas
2. To assess the effect of distance on the utilization of delivery services at the health units.
3. Identify the effect of education on the utilization of delivery services in the health units.

1.5. Hypotheses

In order to address the stated study objectives, the following hypotheses were tested;

- The higher the level of income, the higher the utilization of delivery services
- The age of a mother determines whether or not to attend the antenatal services in health facilities.
- Mothers residing near health facilities seek antenatal care as compared to those

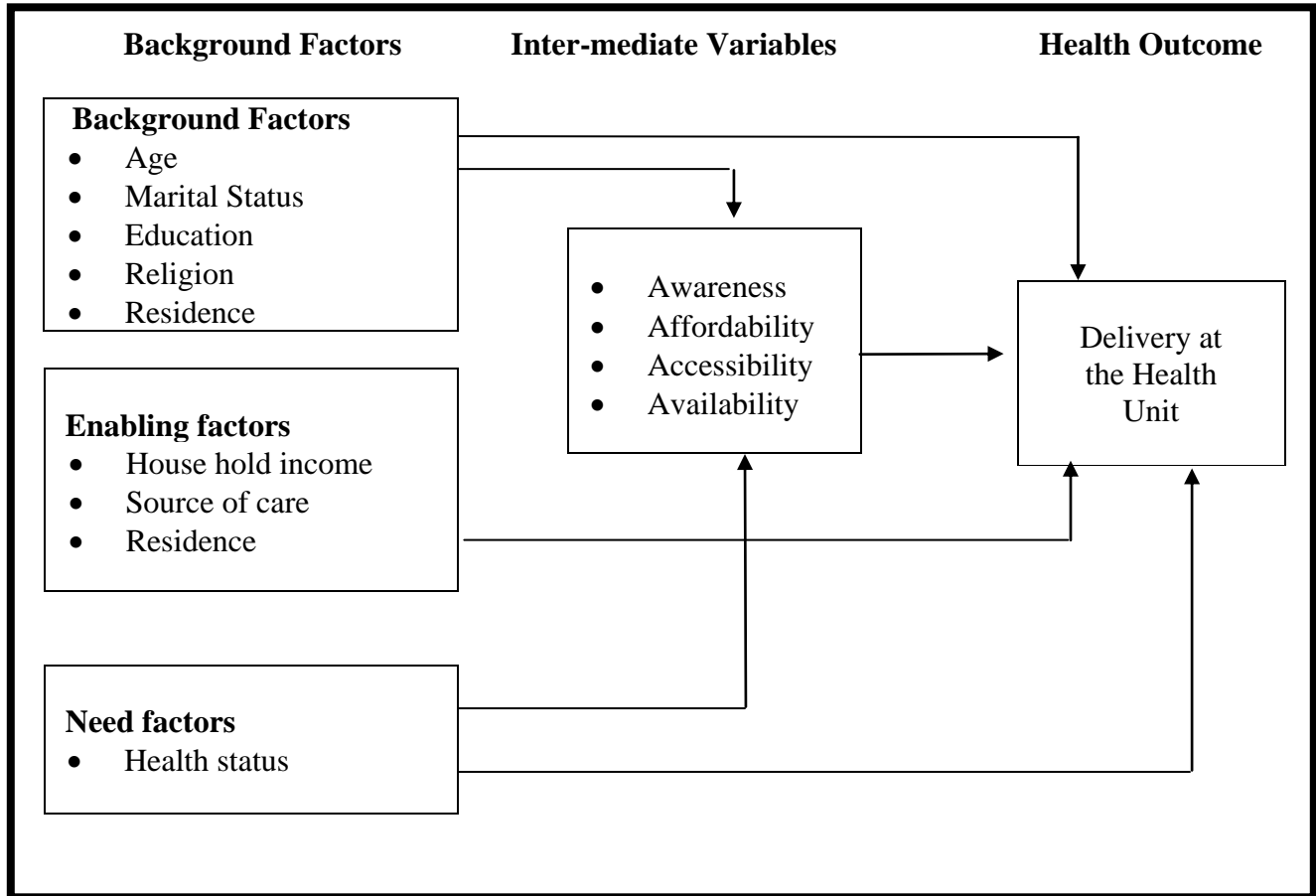
residing far away from health facilities

- More educated mothers are more likely to go for antenatal services than uneducated mothers

1.6 Conceptual Framework

The conceptual framework is in three dimensions. It illustrates the background characteristics which include age, marital status, education, religion and residence. It contains the intermediate factors such as the level of awareness, accessibility and quality of health services. In the conceptual framework, the outcome variable is delivery at the health unit. The predisposing factors such as age, education, marital status and religion, are the background characteristics. They influence awareness, affordability, accessibility and availability of the services which influence the utilization of delivery services at health units. The enabling factors include, household income, source of care, and residence while the need factors include the health status.

Figure 1. Factors affecting utilisation of Delivery Services in the Health Units



In Figure 1, it is assumed that the background characteristics of respondents such as age, marital status, education, religion and residence affect the utilization of health services in the health facilities. It is assumed most of the older women will utilize health services more than the young ones because they know the dangers of not seeking medical advice during pregnancy. On the other hand married people are assumed to utilize health services more than any other categories such as those who have separated with their spouses or divorced. Respondents residing far from the health facilities and those with less education are assumed to be under utilizing health services. It is also conceptualized that utilization of health services increases with awareness of the existing health services. Knowledge of existing health

facilities is assumed to determine whether or not one will utilize the services of a given health facility. In the same way, use of delivery facilities will depend on the affordability, accessibility and availability of health services. The level of household income is assumed to directly affect the use or non use of health services in the health facilities in Uganda. The status of health facilities is assumed to be directly related with the quality of services offered and therefore likely to determine whether or not to seek health care delivery services.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This chapter presents information obtained from various literature relating to utilisation of delivery services in the health units. Studies have been done on various factors that affect the utilization of health services; in this case little emphasis has been put on the issues to do with delivery services in particular. Literature in this area tends to distinguish between "access to care" and "quality of care." Quality-of-care research usually concentrate on the experiences of those who have managed to gain access to modern health services, but the individuals who choose not to use services, or who are unable to do so, are not addressed.

2.2. Maternal Health Care in Uganda

The health care facilities in Uganda include hospitals and may be privately owned or government hospitals. There are also smaller health care units graded as HC II, HC III and HC IV. The grading depends on the administrative zone served by the facility; parish, sub-county and health sub-district. They provide different types of services; however, a unit can work as HC II and III or IV. If a facility has more than one grade, the highest is considered. Geographical access of the population (this is the population living within 5 km distance to a health care unit) to health care has increased from 49% in 1995 to 69% in 2003. According to the Ministry of Health, some 92% of pregnant women attend antenatal clinics at least once. Unfortunately, only 36% deliver in any health care unit. The current GNP per capita is estimated to \$ 330 and the most recent National Household survey found that almost 40% of

the population is living below the poverty line, which is defined as living on one US-dollar or less per day. Currently, the United Nations Development Index ranks Uganda 147th out of 175 countries. This implies that a large number of people have limited access to health care.

2.3. Direct and Indirect Causes of Maternal Deaths

Maternal mortality in sub-Saharan Africa remains a burden to reckon with, and Uganda has one of the highest maternal mortality ratios in the world. World Health Organization revised estimates of 1990 figures for Uganda were as high as 1,200 maternal deaths per 100,000 live births. More recent estimates of 500-600 per 100,000 in 2000 and 2001 are mostly based on small-scale, hospital-based studies. Given that the vast majority of Ugandan women live in rural areas and do not deliver in a health facility, the figures are likely to be much higher, with marked variation between districts. By 2006, Uganda had a total fertility rate of 6.7 and a contraceptive prevalence rate of only 24%. The average age at first sexual intercourse was 16 years; the adolescent pregnancy rate was high at 43% and the average age at first birth 18.7. Only some 42% of births were attended by trained attendants (UBOS and Macro 2006).

In the past, maternal mortality and morbidity in Uganda were largely and justifiably blamed on the country's socio-economic and political instability, characterized by the destruction of the health infrastructure, chronic shortages of staff and material supplies, poor remuneration of health workers, low accessibility to health services and erosion of medical ethics. In 2003, there was a favorable and enabling policy environment, including good policies on gender equity, universal primary education, reproductive health and decentralization of health services. These contain measures to be taken by both government and NGOs to increase

health facilities, improve quality of services and care, and increase the numbers of professional health workers, equipment and supplies. Yet there has not been an increase in utilization by women of emergency obstetric services at health facilities nor a corresponding significant reduction in maternal deaths. This is due in large part to the fact that only minimal implementation of these new policies and interventions has been possible because of an endemic lack of resources at all levels, that is, a continuing lack of skilled attendants, emergency obstetric drugs and supplies, blood, anesthesia or facilities able to offer emergency obstetric care. All these resources are in great shortage with constant stock-outs (Musinguzi 2003).

The 2006 Uganda Demographic Health Survey showed that a majority of the women were delivered by non-skilled attendants, that is traditional birth attendants (TBA's), relatives, friends or even completely unattended. These women and their infants deliver completely without appropriate midwifery care, including basic care of the newborn, or access to any form of Emergency Obstetric Care (EmOC) should the need arise. Unsurprisingly, there is a strong correlation between socio-economic background and who is attending the delivery, which proves that the inequity within access to reproductive health services is alarming. The maternal health audit reports of 2002-2003 indicated that the majority of mother's deaths were from hemorrhage, followed by sepsis, obstructed labor, abortion and eclampsia. Dominating indirect causes of maternal deaths include adolescent pregnancy, malaria, sickle cell-anemia, HIV/AIDS, malnutrition and harmful traditional practices. Malaria in pregnancy is known to increase the risk of anemia in women as well as low birth weight in newborns. In Uganda, malnutrition contributes immensely to anemia. Overall, about 30% of women in reproductive

age have some degree of anemia, ranging from mild to severe. Anemia per se has serious implications on maternal and neonatal health and together with malaria, the consequences can be devastating. In Uganda, some communities still practice traditional medicine that can be harmful to women during pregnancy, delivery and the immediate puerperium. For example, ingestion of natural oxytocic drugs during labor, refusing caesarean section because women are supposed to deliver vaginally in order to prove their womanhood and the culture of not allowing expressions of pain during labor (Byamugisha et al 2004).

2.4. The Delays in Seeking and Getting Professional Health Care

In Uganda, the most high-risk period for women to die is during pregnancy, childbirth or within the six weeks period after delivery. This is largely due to three major delays in the process of seeking and getting professional medical care. The first delay usually occurs on the household/family level. It is usually due to inadequate knowledge, which results in inability to appreciate danger signs of pregnancy and delivery and thus, make the decision to seek care in the right time. In addition, poverty at the household level also limits decision making to seek health care.

Even cultural and traditional practices can restrict women from seeking proper health care. The second delay is related to inability of pregnant women and those with complications of labor get to the available health care unit (HCU) when the need arises. This is due to inappropriate location of health facilities, poor roads and communications, long distances, lack of suitable vehicles for transportation and inadequate community support. Another great problem is that, even where health facilities are accessible, the woman or family may not be able to afford seeking appropriate health care as more than 38% of the population live below

the absolute poverty line (Erickson 2004).

The third major delay refers to the time between the woman's arrival at the Health Centre and the time she receives adequate treatment. This is often the most critical delay for the survival of the pregnant woman and infant. In the Health center, the routines for management of obstetrical emergencies are the key to the survival of the women. In 2004, many health centers lacked skilled birth attendants, equipment, drugs and other necessary supplies, and therefore it was often not possible to give the appropriate care. For instance, supplies of blood are by far inadequate in many facilities. Hence, hemorrhage accounts for 26% of all causes of maternal deaths. Audit results of maternal deaths in hospitals have shown that most maternal deaths occur due to lack of blood and IV fluids, ergometrine, antibiotics, magnesium sulphate and inadequate staffing.

An assessment of the Emergency Obstetric Care (EmOC) in Uganda, conducted in 2003, showed that basic EmOC was available in only 4% of HC III's and comprehensive Emergency Obstetric Care was available in only 6% of HC IV's and 65% of the hospitals. Keeping in mind that only 39% of the women in labor are being attended by qualified staff, it is obvious that this does not, by far, cover the needs in order to reduce maternal mortality to an acceptable level. The weak referral system between HCU's is another important factor. The lack of ambulances and hospital transportation facilities is alarming. Currently patients move to health facilities of their choice regardless of the level of health care that is required, based on their impression of the operational status of the HCU and what form of transportation is available (Wallinder 2004).

2.5. Factors affecting health seeking behavior

In many developing countries, the majority of births occur without the help of a skilled assistant (defined as a midwife, nurse trained as midwife, or a doctor) at home or in other non-hospital settings. Home deliveries in the absence of skilled professional attendants have been associated with adverse infant and maternal outcome. However, home deliveries without a skilled attendant are chosen or occur for a variety of reasons, including long distances or difficult access to a birth facility, costs of services and perceived lack of quality of care in a health facility. (Anna Eijk et al, 2006).

A variety of factors have been identified as the leading causes of poor utilization of primary health care services such as delivering from the health centers: including poor socio-economic status, lack of physical accessibility, cultural beliefs and perceptions, low literacy level of the mothers and large family size. Review of the global literature suggests that these factors can be classified as cultural beliefs, socio-demographic status, women's autonomy, economic conditions, physical and financial accessibility, and disease pattern and health service issues (MoH 2004).

2.5.1 Cultural and socio-demographic factors

A study by Wassberg (2004) established that geographical access of population to health care in Uganda had increased from 49% in 1995 to 69% in 2003 and 92% of pregnant women were attending antenatal clinics at least once but unfortunately, only 36% deliver in any health care. This inadvertently exposes mothers and their infants to the risk of dying. Bantebya (2003)

hold that to a large extent the clinical causes of maternal deaths, the characteristics of women who die and the causes inherent to the health care system are well known in Uganda and elsewhere but contributory socio-cultural factors have been less explored. They contend that maternal mortality in Africa has been to an extent influenced by socio-cultural beliefs, including gender and power relations, and differences in roles and status between the sexes. These factors influence the health-seeking behavior during pregnancy and delivery. Among the Bariba of Benin for example women take pride in giving birth unassisted and are in turn "silently admired". Birth represents a rare opportunity for a woman to demonstrate the proverbial virtue of courage and bring honor to her and her husband's families by her stoic demeanor. The woman who manages to deliver without indication that she is in labour and without calling for assistance until the child is born is especially esteemed.

An important barrier to healthcare utilization relates to the conflict between biomedical and traditional explanations for health phenomena. This includes notions of disease causation, grouping of symptoms into syndromes or diseases, and perceptions of appropriate treatments and medications and appropriateness of care. Cultural beliefs and preferences surrounding childbirth are particularly strong and resistant to change. The results of a study on Factors Influencing Utilization of Postnatal Services in Mulago and Mengo Hospitals in Kampala-Uganda showed a statistical relationship between culture and utilization of postnatal services (Nankwanga, 2004).

Cultural beliefs and practices often lead to self-care, home remedies and consultation with traditional healers in rural communities. Advice of the elder women in the house is also very

instrumental and cannot be ignored. These factors result in delay in treatment seeking and are more common amongst women, not only for their own health but especially for children's illnesses. Family size and parity, educational status and occupation of the head of the family are also associated with health seeking behavior besides age, gender and marital status.

Socio-cultural values are critical in effectiveness and acceptability of skilled attendants. According to Lalonde (2003) and Ndyomugenyi (1998), inappropriate birthing positions such as delivery in dorsal position might turn off many women from delivering in health facilities, given their preference for other positions such as squatting. Although birthing while squatting is feasible, the training of midwives and doctors has not yet adjusted to produce versatile skilled attendants. Domiciliary midwifery is part of training of midwives in Uganda but there has been very limited effort to implement it in the public sector hence limited experience among most Uganda private midwives.

However, cultural practices and beliefs have been prevalent regardless of age, socio-economic status of the family and level of education. They also affect awareness and recognition of severity of illness, gender, availability of service and acceptability of service. Gender disparity has affected the health of the women in Pakistan too by putting an un-rewarded reproductive burden on them, resulting in early and excessive child-bearing. This has led to 'a normal maternity' being lumped with diseases and health problems. Throughout the life cycle, gender discrimination in child rearing, nutrition, health care seeking, education and general care make a woman highly vulnerable and disadvantaged. At times, religious misinterpretations have endorsed her inferior status. For her, limited access to the outer world

has been culturally entrenched in the society, and for the unmarried, the situation has been even worse, even if it is a matter of consulting a physician in emergency.

2.5.2. Economic factors

The economic polarization within the society and lack of social security system make the poor more vulnerable in terms of affordability and choice of health provider. Sewanyana et al (2004), argue that the cost of care is regressive and substantially reduces the health care utilization by poorer individuals. There is also evidence showing that poor people utilize health facilities less, and their utilization patterns indicate a preference for more private health facilities which unfortunately are expensive.

In Uganda today, there is a favorable and enabling policy environment, including good policies on gender equity, universal primary education, reproductive health and decentralization of health services. These contain measures to be taken by both government and NGOs to increase health facilities, improve quality of services and care, and increase the numbers of professional health workers, equipment and supplies. This, however, has not been accompanied by a corresponding increase in utilization by women of emergency obstetric services at health facilities nor a corresponding significant reduction in maternal deaths. This is due in large part to the fact that only minimal implementation of these new policies and interventions has been possible because of an endemic lack of resources at all levels. There is continuing lack of skilled attendants, emergency obstetric drugs and supplies, blood, anesthesia or facilities able to offer emergency obstetric care. All these resources are in great shortage with constant stock-outs (Lalonde 2003)

While provision of affordable high-quality technical services by government or private sector providers is an essential objective for the health care system, this is still not enough to guarantee that people will use them, nor that they will effectively reach marginalized groups. People who do not perceive themselves as being at risk and those who do not perceive any clear benefit or advantage will not see the need to use services no matter how accessible they are. And those who do feel at risk or see some benefit in using services need to weigh these risks and benefits against the indirect costs of accessing those services: the time away from productive activities, the actual cost of travel, the disruption to childcare and domestic responsibilities, as well as the possibility of incurring unexpected costs for “unofficial fees” or purchase of drugs. The poorest and most marginalized groups – those who are most at risk of poor health - will find these indirect costs most unaffordable.

Poverty not only excludes people from the benefits of health care system but also restricts them from participating in decisions that affect their health, resulting in greater health inequalities. Possession of household items, cattle, agricultural land and type of residence signify not only the socio-economic status but also give a picture of livelihood of a family. In most of the developing countries of south Asia region, it has been observed that magnitude of household out of pocket expenditure on health is at times as high as 80% of the total amount spent on health care per annum.

2.5.3. Physical accessibility

Access to a primary health care facility is projected as a basic social right. Dissatisfaction with primary care services in either sector leads many people to health care shop or move to

higher level hospitals for primary care, leading to considerable inefficiency and loss of control over efficacy and quality of services. In developing countries the effect of distance on service use becomes stronger when combined with the dearth of transportation and with poor roads, which contributes towards increase costs of visits.

Availability of the transport, physical distance of the facility and time taken to reach the facility undoubtedly influence the health seeking behavior and health services utilization. The distance separating patients and clients from the nearest health facility has been remarked as an important barrier to use, particularly in rural areas. The long distance has even been a disincentive to seek care especially in case of women who would need somebody to accompany. As a result, the factor of distance gets strongly adhered to other factors such as availability of transport, total cost of one round trip and women's restricted mobility. Sewanyana et al (2004) argue that the probability of seeking care from any formal provider decreases with the increase in distance to that provider – this is because distance is highly related to travel costs.

According to Buor (2004), distance shows a strong inverse relationship with the utilization of health services in the metropolis. Travel time and transport cost are related to distance, exhibit a weak negative and positive associations respectively with the use of health services. He however argued that vulnerable groups of women, the aged, the sickly, the illiterate and the poor are not affected by distance decay in the utilization of health services. This is probably because they do not have option hence, they have to move the longer distances.

2.6. Individual Characteristics

Another study from the Medical Foundation 2004, analyzed the factors affecting utilization of delivery services as falling into three broad categories: predisposing, enabling and need factors. Predisposing factors include demographic and social variables and the beliefs of individuals. Enabling factors are those factors that “facilitate or impede use of services” (Davidson, et al 2004). Need factors include: perceived need (i.e. perception of need on the part of the individual) and evaluated need (i.e. the degree to which an individual’s specific health condition would be recognized as a condition in need of medical care). These individual level factors have been extensively studied over many years and have been shown to account for approximately a quarter of the variance in utilization (Davidson, et al 2004).

2.7 Internationally Identified Common Barriers

A study conducted by the Health Systems Development Programme (2005), shows that a good deal of literature, both in Bangladesh and internationally identified a number of barriers faced by women in seeking professional health care, particularly for maternal services such as childbirth. The internationally common barriers include distance, in particular for rural areas with poor road access to hospitals, cost, including formal and informal cost of services, opportunity costs of attending distant services and costs of transportation, perceived quality, where users do not have faith in professional services, socio-cultural which include a number of potential barriers such as norms for women to deliver in the home, or traditional taboos opposing biomedical (Kutzin 1993; Thaddeus and Maine 1994; WHO 1998; Ensor and Cooper 2004).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This Chapter contains the data source, sample size and scientific methods used in the execution of the study. The study made use of a range of methods that were used in the extraction and analysis of data. The research employed quantitative method of data extraction.

3.2. Data Source

The study used raw data of the End Evaluation and the Baseline Study Survey for the Fifth and Sixth Country Program collected by UNFPA in all regions of Uganda which were:- Eastern, Western, Northern and Central. The districts included: Kanungu, Kiboga, Masindi, Mukono, Mubende, Ntugamo, Bushenyi, Nebbi, Iganga, Bugiri, Arua, Moyo, Adjumani, Lira, Katakwi and Busia. Central region comprised of 496 respondents which represented 23.6 percentage of the total number of districts studied. The central districts included, Kiboga, Mukono and Mubende.

3.3. Sample size

A total of 496 respondents were interviewed from central region. All these respondents were used to study the factors affecting the utilization of delivery services in the health facilities. The sample was sizeable enough to enable multivariate analysis.

3.4. Scope of the study

The study used central region which was purposively chosen because of a concentration of major health centers and better delivery services. This helped in establishing the factors

affecting the utilization of delivery services even where health facilities exist. The effect of education, distance and cost on the utilization of delivery services in the health units was established using central region.

3.5. Data Analysis

Univariate, bivariate and multivariate analyses were done to obtain statistical measures. The univariate level of analysis involved running frequencies on the study variables to obtain the percentage distribution of respondents. In order to establish associations between the independent and dependent variables, a bivariate analysis was conducted and the associations tested using the chi-square test.

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

Where:

O_{ij} is the observed frequency

E_{ij} is the expected frequency of the independent variables.

r is the number of categories of the dependent variable.

C is the number of categories of the independent variables

$i = 1, 2, 3 \dots c$

$j = 1, 2, 3 \dots r$

In the analysis p-values less or equal to 0.05 implied that factors under consideration are significantly related. It was defined as the probability of rejecting the null hypothesis when in

actual fact it is true.

3.6. Multivariate analysis

At multivariate analysis level, the relationship between dependent variable and several independent variables was explored to determine the net effects of several variables. The logistic model was fitted to examine the relationship between socio-economic and demographic factors and intermediate factors of pregnant women's utilisation of health services. The model was selected because of the dichotomous nature of the dependent variable, which takes a binary form. The probability of intermediate factors contributing to risk factors ranged from zero to one. The binary logistic model is of the form:

$$l_i = \ln \left(\frac{p_i}{1 - p_i} \right) = z_i = \alpha + \beta_2 x_2 + \beta_3 x_3 + \dots + \beta_n x_n$$

$\left(\frac{p_i}{1 - p_i} \right)$ is the odds ratio

l_i is the log of the odds ratio called the logit

x_i is the i^{th} independent variable

α is the model constant term

β_i is the log of the odds ratio

For each of the independent variable, one category was assigned the value of 0 and taken as the reference category in the analysis and was assumed to have a minimal likelihood on the dependent variable.

3.7. Limitations

The study used raw data of the End Evaluation and Baseline Survey for the fifth and sixth country program collected by UNFPA. Therefore any errors in the data could directly impact on the study. The study did not cover the entire regions of the study. Only central region was used. This means that the over all findings do not depict the country's situation of the factors affecting the utilization of delivery services in the health units.

CHAPTER FOUR

BACKGROUND CHARACTERISTICS OF RESPONDENTS

4.1. Introduction

This chapter presents details of respondents in percentages according to their demographic and socio-economic characteristics. Respondents are further classified according to knowledge and accessibility of delivery services. These variables were selected for analysis on the assumption that they impact on the decision to deliver from a health facility. The results are presented in Table 4.1, 4.2, 4.3 and 4.4.

4.2. Demographic Factors

Age was one of the demographic factors considered for analysis. This was because age affects one's economic status, exposure, and also risks of childbirth differ according to age. The assumption, therefore, was that delivery at health units in Uganda is dependant on a mother's age.

Table 4.1. Distribution of respondents by demographic factors

| Variable | Frequency | Percentage |
|-----------------------|-----------|------------|
| Age | | |
| 15-19 | 8 | 1.6 |
| 20-24 | 59 | 11.9 |
| 25-29 | 163 | 31.8 |
| 30-34 | 123 | 24.2 |
| 35-39 | 77 | 15.2 |
| 40-50+ | 66 | 14.8 |
| Marital Status | | |
| Married | 429 | 86.5 |
| Single | 16 | 3.2 |
| Separated | 18 | 3.6 |
| Widow/Widower | 33 | 6.6 |

The results in Table 4.1 indicate most respondents (31.8%) were aged between 25-29 years, 24.2% were in the age group 30-34, 15.2% reported their age in the category 35-39 while the least respondents were aged 15-19 years.

Marital status was included in this study because it affects health seeking behavior especially attending antenatal clinics and consequently delivering from a health unit. The guiding assumption here was that those who are married in most cases are not stigmatized about their pregnancies and are therefore most likely to deliver from hospitals than their unmarried counterparts. Results in Table 4.1 above shows that a big percentage of the respondents (86.5%) were married, 6.6% were widowed, 3.6% were separated while 3.2% were single.

4.3. Socio-economic Factors

Socio – economic factors were analyzed in this study to establish their effect on utilization of delivery services in health units. They included: residence, education, occupation, income and religion. Residence was considered for the study because it influences health seeking behaviors and also impacts on income levels and knowledge of existing services all of which have a bearing as to whether one chooses to deliver from a health facility or not. The results in Table 4.2 indicate that most respondents (73.4%) were from rural areas compared to those who resided in urban areas (26.6 %). Education has an effect on a mother's knowledge and willingness to seek antenatal care services. It also influences one's income level and in most cases place of residence. It was therefore the assumption of this study that the higher the level of education, the more the likelihood of women to deliver from a health facility. According to the findings in Table 4.2, a big percentage (41%) had attended upper primary while 22% had secondary education. Regarding post secondary education, only 6.3% had attained post secondary education and 2% had vocational training.

Table 4.2 Percentage distribution of respondents by socio-economic factors

| Variable | Frequency | Percentage |
|-------------------------|------------------|-------------------|
| Residence | | |
| Urban | 132 | 26.6 |
| Rural | 364 | 73.4 |
| Education | | |
| No education | 41 | 8.3 |
| Lower Primary | 95 | 19.2 |
| Upper Primary | 206 | 41.5 |
| Secondary | 113 | 22.8 |
| Post Secondary | 31 | 6.3 |
| Vocational | 10 | 2.0 |
| Occupation | | |
| Agriculture | 291 | 58.7 |
| Business / Shop-keeping | 140 | 28.2 |
| Civil Service | 47 | 9.5 |
| Technical | 18 | 3.6 |
| Income/monthly | | |
| Less than 10,000 | 125 | 25.2 |
| 10,000 to 20,000 | 94 | 19.0 |
| 21,000 to 30,000 | 54 | 10.9 |
| 31,000 to 50,000 | 45 | 9.0 |
| Above 50,000 | 178 | 35.9 |
| Religion | | |
| Protestant | 237 | 47.8 |
| Catholic | 150 | 30.2 |
| Muslim | 72 | 4.5 |
| Pentecost | 34 | 6.9 |
| Other | 3 | 0.6 |

The type of occupation a mother engages in has an impact on knowledge and income levels. It was assumed that those in highly remunerable occupations are more knowledgeable about health services than their counterparts in less paying jobs. The results show that a significant percentage (58.7%) was employed in agriculture. Only 9.5% were in civil service and 28.2% were business women.

It was important to consider income among the study variables because, child bearing as is the case with most health issues involves some paying. It is, therefore, highly probable that utilization of health facilities during child delivery is dependant on a mother's level of income. The results show that most respondents (39.9%) were earning above Uganda shillings 50,000 and a significant number 25.2% were earning less than 10,000 a month. Religion was presumed to influence willingness to use delivery services as they are loosely associated with birth control which some religious practices are against. In this study 47.8% of the respondents were Protestants, 30.2% were Catholics, 4.5% subscribed to the Muslim faith and only 0.6% believed in other religions.

4.4. Knowledge of and Use of Delivery Services

The study also examined respondent's knowledge of antenatal services. Having knowledge of availability, source and provider was presumed to increase willingness of the mother to use delivery services in established health facilities. The study sought to establish the utilization of delivery services in health units within Uganda. Respondents were asked if they have ever heard of antenatal services. It was established that 83% had ever had about antenatal care while 16.9% had never had about such services. This reveals that although the majority of the respondents had ever had of antennal services, a sizable number of respondents need to learn about antenatal services.

4.4.1. Source of Knowledge of Antenatal Services

The possible sources considered from which one was expected to have got knowledge of antenatal care included; school teachers, parents, church/mosque, health centre, siblings, posters, peer mobilizers or radio. It was established that the majority (47.6%) had learnt about the services from health units and none of the respondents had learnt about the services from a school teacher. Respondents were asked if they had ever gone for antenatal services and as indicated by the results in Table 4.3, most respondents (75%) had ever gone for antenatal services compared to only 25% who said they had never gone for antenatal services.

4.4.2. Currently using antenatal services

Respondents were asked if at the time of the study they were using antenatal services. It was found out that 69.8% were not using the services compared to 30.2% who reported using the services.

4.5. Who makes decision for one to seek antenatal care services

Making a decision to use antenatal services often largely rests with pregnant women themselves. Whoever the decision maker is has effect on the use of antenatal services. Decision makers investigated by the study included; the respondent, the partner, partners, relative(s) and friend. Results indicated that respondents were the main decision makers although their partners too had a lot of influence. Friends had the least influence on decision making pertaining whether or not to have antenatal care.

Table 4.3. Percentage distribution of respondents according to knowledge and use of delivery services

| Variable | Frequency | Percentage |
|---|------------------|-------------------|
| Ever heard of antenatal service | | |
| Yes | 412 | 83.1 |
| No | 84 | 16.9 |
| Source of knowledge about antenatal Services | | |
| Friends | 35 | 7.1 |
| Parents and religious leaders | 5 | 16.0 |
| Health centre | 236 | 47.6 |
| Siblings | 58 | 11.7 |
| Posters | 2 | 3.0 |
| Peer mobilizers | 15 | 2.62 |
| Radio | 144 | 26.8 |
| Ever gone for antenatal services | | |
| Yes | 372 | 75.0 |
| No | 124 | 25.0 |
| Currently using antenatal services | | |
| Yes | 50 | 30.2 |
| No | 346 | 69.8 |
| Who makes decision for one to seek antenatal care services | | |
| Myself | 175 | 35.3 |
| My Partner | 152 | 30.6 |
| Both Partners | 140 | 28.2 |
| Relative and friends | 9 | 1.8 |

4.6. Access to Delivery Services

Where maternity health services are readily available and accessible, expecting mothers are more likely to use them. To establish access to these services, the study examined their availability, distance from the nearest health center and type health facility. Results are presented in Table 4.4

4.7. Availability of antenatal services

As regards the availability of antenatal services, 76.6% of the respondents revealed that services were available while 23.4% said that services were not available. This shows that more people had access to the services.

4.8. Distance to the health centre

Most of the respondents (54.4%) were living within a distance of less than 1 km from a health center providing delivery services. Only 3.2% lived in a distanced of more than 5 kilometers. Since most respondents were in a distance of less than one kilometer, a distance they could walk in their first two trimesters, it is generally held that delivery services were available.

Table 4.4. Percentage distribution of respondents by accessibility of delivery services

| Variable | Frequency | Percentages |
|---|------------------|--------------------|
| Availability of antenatal services | | |
| Yes | 380 | 76.6 |
| No | 116 | 23.4 |
| Distance to the health centre | | |
| Less than 1 km | 270 | 54.4 |
| 1-2 km | 142 | 28.6 |
| 3-5 km | 68 | 13.7 |
| More than 5 km | 16 | 3.2 |
| Place of delivery | | |
| Gov't health facility | 239 | 48.2 |
| NGO health facility | 243 | 49.0 |
| Traditional provider | 12 | 2.6 |
| Friends / Relatives | 1 | 0.2 |

4.9. Place of delivery

The study established that 49% of respondents had attended a government facility which was closely followed by NGO health facility with 48.2% while only 0.2% had gone to friends/ Relatives.

4.9.1. Summary of the findings

The background characteristics of the respondents show that many of them were aged between 25 and 39 years and many of them were married and residing in rural areas. A bigger percentage (64.3%) had attended upper primary and secondary level education. They were mainly engaged in agriculture and business/ shop-keeping and were earning an income above

Shs 50,000 a month. Many of the respondents (47.8%) were of the Protestant faith.

The findings further reveal that many respondents (83.1%) had ever heard of antenatal services at the Health centres but only 75% of these had ever gone for these services, with only 69.8% using these services.

CHAPTER FIVE

FACTORS DETERMINING UTILIZATION OF DELIVERY SERVICES IN HEALTH UNITS

5.1. Introduction

Various factors were studied in relation to the utilization of delivery services in Uganda. Age and marital status comprised of the demographic factors and varied significantly with the utilization of delivery services. The effect of education and distance to the health facility were also studied and were found to vary significantly with the utilization of delivery services in the health facilities.

5.2. Utilization of delivery services in the health units by demographic factors

Age and marital status of respondent were not significantly related with the utilization of delivery services in the health units. From the findings in Table 5.1, there was no significant relationship between marital status and use of delivery services despite the fact that married women were more likely to use delivery services (83.9%) than those who had divorced/separated and those who were single. Single respondents reported more use of delivery services perhaps because of lack of care or are not sexually active. There was high use of delivery services among respondents aged 15-19. This reduced as one peaked the age of reproduction (45-49). It is suggested that young women 15-19 are having their first pregnancy and more likely to use these services. On the contrary, women in the late ages of reproduction have experience in reproduction and are likely to monitor their health without assistance from medical personnel.

Table 5.1. Utilization of delivery services by demographic factors

| Variable | Yes | No | P value |
|-----------------------|------------|-----------|----------------|
| Marital status | | | |
| Married | 85.0 | 15.0 | 0.187 |
| Single | 0 | 100 | |
| Separated/Widowed | 0 | 100 | |
| Age group | | | |
| 15-19 | 100.0 | .0 | 0.075 |
| 20-24 | 83.3 | 16.7 | |
| 25-29 | 88.0 | 12.0 | |
| 30-34 | 92.3 | 7.7 | |
| 35-39 | 100 | .0 | |
| 40-44 | 100 | .0 | |
| 45-49 | 33.3 | 66.7 | |

5.3. Socio-economic factors and utilization of delivery services in the health units

Education influenced the utilization of delivery services according to Table 5.2. Respondents with upper primary and secondary reported use of delivery services more than those with no education or with post secondary and vocational education. Distance was found to influence the use of delivery services in health units. The smaller the distance from home to the health unit, the greater the utilization of delivery services. In Table 5.2 slightly more (66.7%) of respondents living in less than 1-2 km to the health unit reported use of delivery services as compared to only 3.7% living 3 or more km to the health unit. This may also be supported by other factors such as education which increase awareness of the need for health service utilization.

Table 5.2. Utilization of delivery services by social factors

| Variable | Yes | No | P value |
|-------------------------------|------------|-----------|----------------|
| Education | | | |
| No education | 9.1 | 7.1 | 0.057 |
| Lower primary | 21.8 | 50.0 | |
| Upper primary | 40.1 | 21.4 | |
| Secondary | 23.0 | 7.1 | |
| Post secondary and Vocational | 6.0 | 14.4 | |
| Distance | | | |
| Less than 1 km | 25.9 | 74.1 | 0.051 |
| 1-2 km | 66.7 | 33.3 | |
| 3 km and more | 3.7 | 92.3 | |
| Source of knowledge | | | |
| Friends | 33.3 | 66.7 | 0.067 |
| School teachers | 100 | 0 | |
| Parents | 100 | 0 | |
| Health center | 60.9 | 39.1 | |
| Radio | 57.1 | 42.9 | |
| Others | 25.0 | 75.0 | |

Knowledge about antenatal care services were mostly obtained from school teachers, parents and health centers. Others included parents, posters siblings and peer mobilizers. The findings therefore suggest a significant relationship between education, distance and source of knowledge about antenatal services and the utilization of delivery services in the health units.

5.4. Utilization of health units by education and distance

Respondents identified the health units they utilize for delivery services. They included public health unit, private health unit, traditional birth attendant and self supervised. The choice of a health unit for delivery services varied significantly with education. Public and private health units are mostly utilized by women with upper primary and secondary education. Traditional birth attendants are mostly utilized by respondents with no education (31.3%) or with lower primary education (25%). Most of the respondents who deliver without assistance are those with no education (37%) or with primary education.

Table 5.3. Utilization of health units by education

| Variable | Public Health Unit | Private Health Unit | Traditional Birth Attendant | Self supervised | P- value |
|------------------|---------------------------|----------------------------|------------------------------------|------------------------|-----------------|
| Education | | | | | |
| No education | 7.4 | 5.0 | 31.3 | 37.0 | 0.002 |
| Lower primary | 20.9 | 17.5 | 25.0 | 22.1 | |
| Upper primary | 44.3 | 37.5 | 37.5 | 25.0 | |
| Secondary | 22.6 | 35.0 | 4.3 | 12.9 | |
| Post secondary | 4.8 | 5.0 | 2.0 | 3.0 | |

5.5. Decision for one to seek health care services by type of health unit

Decision for one to seek health care services was studied with the type of health unit to establish whether there was an association between them. Women who make their own decision to utilize delivery services are more likely to utilize traditional birth attendants for delivery services. However public and private health units were mostly used by respondents who make collective decision as to where they can seek health care services ($p = 0.056$). Most

of the respondents currently using antenatal services obtained it from public and private health units. Others were obtaining delivery services from traditional birth attendants (40%).

Table 5.4. Decision for one to seek health care services by type of health unit

| Variable | Public Health Unit | Private Health Unit | Traditional Birth Attendant | Self supervised | P |
|--|---------------------------|----------------------------|------------------------------------|------------------------|----------|
| Who makes decision for one to seek health care services | | | | | |
| Respondent | 28.6 | 25.6 | 53.3 | 38.3 | 0.056 |
| Partner | 40.3 | 46.2 | 20.0 | 34.0 | |
| Both partners and Other relatives | 31.1 | 28.2 | 26.7 | 223.8 | |
| | | | | | |
| Currently using service | | | | | |
| Yes | 82.5 | 75.0 | 40.0 | 50.0 | 0.017 |
| No | 17.5 | 25.0 | 60.0 | 50.0 | |

5.6. Summary

Utilization of antenatal services was highest among married women mostly aged 25-34. Utilization of antenatal services increased with increasing education. Proximity to the health unit influenced utilization of delivery services. Public and private health units were mostly used by respondents who make collective decision as to where they can seek health care services.

CHAPTER SIX

UTILISATION OF SERVICE DELIVERY

6.1. Introduction

In Chapter six further analysis is done to find out the more contributing factor to the study. A Logistic regression model was therefore fitted to establish this.

6.2. Logistic regression model

In chapter six, a binary logistic regression model was fitted to establish the factors affecting the utilization of delivery services in health units. In the analysis education and distance to the health units affected utilization of delivery services. Significant variation between demographic variables of age and marital status and utilization of delivery services were also observed. The results confirm the findings earlier obtained in chapter four. Age, marital status, education and distance to the health units influenced the utilization of delivery services at the health units. Level of income and occupation also varied significantly with the utilization of delivery services according to Tables 6.3 and 6.4.

6.2.1. Utilization of delivery services by demographic factors

Women in marriage were more likely to utilize delivery services more than any other category. In Table 6.1, they are 8 times more likely to utilize delivery services than those who were single. Like in the previous chapter, women aged 25-39 were more likely to use delivery services at the health units. In Table 6.1, they were two times more likely to utilize these services more than any other age groups perhaps because they represent the peak ages of reproduction. Utilization of delivery services declined with increasing age according to the

findings in Table 6.1. These are ages when women are nearing their menopause.

Table 6.1 Utilization of delivery services by demographic factors

| Variables | B | S.E | Sig | Exp (B) |
|-----------------------|----------|------------|------------|----------------|
| Marital status | | | | |
| Married | 2.159 | .740 | 0.004 | 8.667 |
| Single | 0.000 | - | - | 1.000 |
| Separated | 0.000 | 1.069 | 1.000 | 1.000 |
| Widowed | -5.945 | 99.631 | 0.952 | 0.003 |
| Age group | | | | |
| 15-19 | 0.000 | - | - | 1.000 |
| 20-24 | -6.638 | 37.671 | 0.860 | 0.001 |
| 25-29 | -6.638 | 14.128 | 0.838 | 0.001 |
| 30-34 | -.058 | 1.094 | 0.958 | 0.944 |
| 35-39 | -.835 | 1.078 | 0.039 | 2.302 |
| 40-44 | .737 | 1.098 | 0.002 | 2.089 |
| 45-49 | .167 | 1.274 | 0.896 | 1.182 |

6.2.2. Utilization of delivery services by education and religion

The effect of education and religion on the utilization of delivery services was established. Education influences knowledge and utilization of delivery services. The study was based on the presumption that those more educated women were more likely to utilize delivery services than uneducated women.

Table 6.2. Utilization of delivery services by education and religion

| Variables | B | S.E | Sig | Exp (B) |
|------------------|----------|------------|------------|----------------|
| Education | | | | |
| No education | 0.000 | - | - | 1.000 |
| Lower primary | 1.079 | 1.092 | 0.038 | 2.942 |
| Upper primary | -.378 | 1.172 | 0.747 | 0.685 |
| Secondary | -.923 | 1.431 | 0.519 | 0.397 |
| Post secondary | 1.495 | 1.269 | 0.001 | 4.462 |
| Vocational | -4.835 | 24.693 | 0.845 | 0.008 |
| Religion | | | | |
| Protestant | 0.000 | - | - | 1.000 |
| Catholic | .639 | 0.620 | 0.034 | 2.045 |
| Muslim | .719 | 0.750 | 0.780 | 0.003 |
| Pentecostal | -.5.802 | 20.779 | 0.954 | 0.003 |

Women with post secondary education were 4 times more likely to utilize delivery services at health units. Hence, the hypothesis that educated women are more likely to utilize delivery services than the un educated can be accepted. It was confirmed that utilization of delivery services at health units was lowest among women with no education. On the other hand Catholics and Protestants were more likely to use delivery services than other religious beliefs. Results presented in Table 6.2 indicate that Catholics were 2 times more likely to utilize health units for delivery.

6.3. Accessibility to delivery services

The effect of residence and distance on the utilization of delivery services was established using a logistic regression model. Access to health delivery services was studied using place of residence and distance to a delivery service center. It was assumed that residents in urban

areas had more access to delivery services than their counterparts in rural areas. It was also assumed that women near health units unlike those living far away were more likely to utilize delivery services at health units. Table 6.3 show no significant variation in utilization of delivery services between rural and urban areas.

Table 6.3. Accessibility to delivery services

| Variables | B | S.E | Sig | Exp (B) |
|------------------|----------|------------|------------|----------------|
| Residence | | | | |
| Rural | 0.000 | - | - | 1.000 |
| Urban | -.239 | 0.640 | 0.722 | 0.788 |
| Distance | | | | |
| Less than 1 km | 0.000 | - | - | 1.000 |
| 1-2 km | 1.478 | 0.574 | 0.010 | 4.375 |
| 3-5 km | -.6.555 | 23.964 | 0.784 | 0.001 |
| More than 5 km | -6.555 | 73.461 | 0.929 | 0.001 |

Hence the hypothesis that: women in urban areas are more likely to utilize delivery services more than their rural counterparts can be rejected. Conversely, the utilization of delivery services at health units varied significantly with distance to the health unit and this proves the findings in chapter five. Utilization of delivery services increased with reducing distance to the health unit. The hypothesis that distance to the health center affects the utilization of delivery services can be accepted.

6.4. Utilization of delivery services by economic factors

Occupation and income of respondents was not significantly related with the utilization of delivery services. Some of the respondents were agriculturalists, business persons or civil servants. Others were engaged in technical work.

Table 6.4. Utilization of delivery services by economic factors

| Variables | B | S.E | Sig | Exp (B) |
|-------------------|----------|------------|------------|----------------|
| Occupation | | | | |
| Agriculture | 0.000 | - | - | 1.000 |
| Business | -.546 | 0.689 | 0.429 | 0.580 |
| Civil servant | -.483 | 1.079 | 0.654 | 0.617 |
| Technical work | -.5.251 | 30.218 | 0.862 | 0.005 |
| Income | | | | |
| Less than 10,000 | 0.000 | - | - | 1.000 |
| 10,000 to 20,000 | -.102 | .667 | 0.879 | 0.903 |
| 21,000 to 30,000 | -.381 | .838 | 0.649 | 0.683 |
| 31,000 to 50,000 | -6.564 | 18.833 | 0.727 | 0.001 |
| Above 50,000 | -.944 | 0.832 | 0.256 | 0.389 |

In either situation, there was no association between their occupation and the utilization of delivery services ($p > 0.05$). Similarly, the amount of income earned did not determine the utilization of delivery services.

6.5. Summary

Women aged 25-39 were more likely to use delivery services at the health units. Utilization of delivery services declined with increasing age. Educated women are more likely to utilize delivery services than the uneducated. Utilization of delivery services increased with reducing distance to the health unit. Occupation and income of respondents was not significantly related with the utilization of delivery services.

CHAPTER SEVEN

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

7.1. Introduction

This chapter presents a summary of the findings, conclusions and recommendations. The findings of chapter four, five and six constitute the summary and are linked to the objectives of the study and the hypotheses in chapter one. The conclusion was derived from the entire study. The recommendations were generated from the findings and presented according to the objectives of the study that are contained in chapter one.

7.2. Summary of the findings

Married women mostly aged in the early ages of reproduction utilized antenatal services more than in the late ages of reproduction. For example, women aged 15-24 were more likely to use delivery services at the health units. Therefore, the hypothesis that the age of the mother will determine whether or not to attend for antenatal services in health facilities was accepted. In the same way, education determined greatly whether or not one utilizes antenatal services. The hypothesis that educated mothers are more likely to go for antenatal services than uneducated mothers was accepted.

Public and private health units were mostly used by respondents who make collective decision as to where they can seek health care services. Proximity to the health unit influenced utilization of delivery services. Utilization of delivery services increased with reducing distance to the health unit and thus the hypothesis that mothers residing near health facilities seek antenatal care as compared to those residing far way from health facilities was accepted.

Therefore, the objective to assess the effect of distance on the utilization of delivery services at the health units was met. Occupation and income of respondents, however, were not significantly related to the utilization of delivery services. All these findings helped to answer the different objectives stated in chapter one.

7.3. Conclusions

Utilization of delivery services in health units is still low because a significant number of women do not have access to health units due to long distance, while others have no knowledge about delivery services. The use of traditional birth attendants reflects a likelihood of occurrence of maternal complications that can lead to death. Self supervision unless addressed has far reaching consequences as women risk their life by increasing the likelihood of maternal complications that may lead to maternal deaths.

7.4. Recommendations

Since education is associated with the use of antenatal services, it is important that pregnant women be educated about their health to reduce the likelihood of maternal complications. More sensitization programmes will go a long way in awakening mothers about the dangers associated with traditional methods of birth which may increase incidence of maternal complications due to lack of emergency obstetric care services.

Health services should be brought near to the people especially the poor rural communities. The low income earners fail to access services due to long distances to health services. It is for this reason that many resort to traditional birth attendants as last resort.

Utilization of delivery services was lowest as one advance in age. This presupposes that they have great exposure to health risks. Programmes targeting such mothers should be encouraged while strengthening existing ones. Programmes aimed at delaying early sexual debut should be availed to avert risks of early pregnancy among young people.

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