DETERMINANTS OF PLACE OF DELIVERY AMONG MOTHERS IN KIGUNGU, ENTEBBE HEALTH SUB DISTRICT WAKISO DISTRICT.

A POST GRADUATE RESEARCH DISSERTATION PRESENTED TO THE INSTITUTE OF HEALTH POLICY AND MANAGEMENT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTERS DEGREE IN PUBLIC HEALTH OF INTERNATIONAL HEALTH SCIENCE UNIVERSITY.

BY

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DECLARATION

I, WAVAMUNNO PRISCILLA do here by declare that to the best of my knowledge, this is truly my original research work and has never been submitted to any University or Institution for the Award of a Masters Degree or any other academic qualification.

Signed.....

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Date.....

APPROVAL

This is to certify that the dissertation of Priscilla Wavamunno on *"Determinants of place of delivery among mothers in Kigungu Entebbe health sub district Wakiso District" was* done under my supervision and was presented in partial fulfillment for the award of the Degree of Masters in Public Health of International Health Science University with my approval.

Signed: .....

DR. NABANKEMA EVELYN.

(**SUPERVISOR**)

Date.....

DEDICATION

I dedicate this book to my parents Mr. and Mrs. Pidson Wavamunno for having brought me into this world and educated me.

Also a special dedication to my husband Dr Charles Kasozi for his love, support, patience and encouragement.

Lastly my dear beloved children Christian Eugene and Charlene Sasha who bring a smile in my life.

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I wish to extend my sincere appreciation and thanks to all those persons who assisted me in one way or another for successful completion of this book.

I thank the Almighty God who has kept me alive and given me so many blessings that I am always thankful for them.

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My dearest husband Charles and children Christian and Charlene, may God bless you.

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OPERATIONAL DEFINITION OF TERMS

1. **Ante- natal care**: This is care given to a pregnant woman and her fetus that constitutes screening for health and socioeconomic conditions likely to increase the likelihood of specific adverse pregnancy outcomes, providing therapeutic interventions known to be effective and educating pregnant women about planning for safe birth, emergencies and how to deal with them.

2. **Emergency Obstetric Care**: Refers to lifesaving services for maternal complication being provided by a health facility or professional which must include the following six signal functions: administration of parenteral antibiotics; administration of parenteral oxytocic drugs; administration of parenteral anticonvulsants for pre-eclampsia and eclampsia; manual removal of placenta; and assisted vaginal delivery. It also includes performance caesarean sections and blood transfusion (WHO report 2010).

3. **Family Planning**: Refers to a program which enables couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information and means to carry out their decisions, and to have informed choice and access to a full range of safe, legal and effective family planning methods, techniques and devices (WHO report 2010).

4. **Grand multi- Gravid:** Refers to a woman who has had six or more previous pregnancies.
5. **Health unit**. Is a place whether skilled professional health care can be obtained. They are either government or private facilities.
6. **Home Delivery:** This is delivery of a child at home unattended or attended to by relatives, family or the TBA.
7. **Maternal Mortality Ratio:** Number of pregnancy related deaths per 100,000 live births. It represents the risks associated with each pregnancy and is also an MDG indicator (WHO 2010).

8. **Maternal mortality**: Death of a woman during pregnancy or childbirth or within 42 days after termination of pregnancy regardless of the site or duration of pregnancy.

9. **Millennium Development Goals**: These are 8 international development goals set by United Nations member states and 23 international organizations that were agreed to achieve them by 2015.They include major new commitments for women's and children's health and other initiatives against poverty, hunger, epidemic diseases and developing a global partnership for development.

10. **Parity:** The number of times a woman has given birth to a fetus with a gestational age of 24 weeks or more regardless of whether the child was born alive or was a stillbirth.

11. **Placenta:** The placenta is an organ that connects the developing fetus to the uterine wall to allow nutrient uptake, waste elimination, and gas exchange via the mother's blood supply. After delivery of the baby, it has to be expelled as well from the maternal body. It is also known as after birth.

12. **Prime gravid:** Refers to a woman who is pregnant for the first time.

13. **Puerperium:** The period of about six weeks after childbirth during which the mother's reproductive organs return to their original non-pregnant condition. It is a time when some mothers die as a result of infection and excessive bleeding.

14. **Religious Institutions.** A religious institution is an institution that is established for not-for-profit and is for religious purposes only. Basically it is an establishment, organization or association instituted to advance or promote religious purposes or beliefs. Places of worship such as churches, mosques, temples and synagogues, charities supported by religious organizations and religious societies founded by members of a faith all come under the umbrella of religious institutions.

15. **Safe motherhood**: These are measures that encompass a series of initiatives, practices, protocols and service delivery guidelines designed to ensure that women receive high quality gynecological, family planning, prenatal, delivery and post partum care in order to achieve optimal health for the mother, fetus, and infant during pregnancy, childbirth and postpartum.

16. **Skilled Health worker**: According to WHO, it includes a skilled birth attendant who is an accredited health professional—such as a midwife, doctor or nurse—who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns. Traditional birth attendants trained or not, are excluded from the category of skilled attendant at delivery.

17. **Traditional Birth Attendant:** Also known as a traditional midwife, community midwife or lay midwife is a pregnancy or child birth care provider. Traditional midwives provide basic health care, support and advice during and after pregnancy and childbirth, based primarily on experience and knowledge acquired informally through the traditions and practices of the communities where they originated.

18. **Perceived quality of health care:** This refers to the services offered in health units as perceived by the mothers. It is an assessment of whether the mothers thought the services were adequate or inadequate. It ranges from availability of drugs and equipment, attitude and competence of health workers to affordability of services.

The above definitions were obtained from UDHS 2006, WHO report 2010 and online www. DictionaryBoss.com.

LIST OF ABBREVIATIONS

ANC	Ante natal care
DHO	District Health Officer
EmOc	Emergency Obstetric Care
>	Greater than
HC	Health center
HMIS	Health Management Information System
HSSP	Health Sector Strategic Plan
ICTs	Information& Communication Technology
IPTp	Intermittent Preventive Therapy in Pregnancy
<	Less than
M.O.H	Ministry Of Health
MDG	Millennium Development Goal
MGD	Millennium Developmental Goals
MMR	Maternal mortality Ratio
NGO	Non-Governmental Organization
TBA	Traditional birth attendant
UDHS	Uganda Demographic Health Survey
UNICEF	United Nations International Children's Education Fund
WHO	World Health Organization

ABSTRACT

The study was carried out in order to identify determinants of place of delivery among mothers in Kigungub Entebbe health sub district in Wakiso district.

The general objective of the study was the place of delivery of rural mothers. The specific objectives were to determine social demographic factors, maternal factors, cultural factors and health related factors that influence place of delivery among rural mothers in Wakiso district.

The study was carried out in Kigungu community, Entebbe health sub district Wakiso district. This is mainly a rural area and it was assumed that mothers here do not deliver in health units for unknown reasons. The district has 7 health sub districts of which only one health sub district was chosen using the simple random method (fish bowl method) as the study area.

It was a cross sectional study involving 374 mothers who had delivered a baby in the last 2 years preceding the study and were found living in Kigungu regardless of their duration of stay in the area. The mothers were identified using the snowball method of sampling.

Data was collected using an interviewer administered questionnaire to the mothers by the researcher together with the help of research assistants. Data was then coded, cleaned and entered into the computer using EPI-DATA version 3.1 and analysis done using EXCEL 2003/7 and SPSS version 18. Data was presented using frequency distribution, and cross tabulations and statistical tests such as chi square run.

The study revealed that the mothers in Wakiso district, the majority of them were 30 years and below (75.4%), married 69.3%, Catholics 35.3%, 42.8% had primary as their highest level of education and 46.8% had either 1 or 2 children. Eighty nine percent of the mothers reported to have delivered in health units while 84% of them went for ante natal care services.

Among the determinants of place of delivery in Kigungu village were social demographic factors like parity and religion with p value of 0.001 < the level of sighficance 0.05. Mother's culture and health workers' competence were signficant in determing place of delivery with p value of 0.001 < the level of signficance 0.05. Age did not have any significant influence on the place of delivery.

Some of health facility related factors that influenced health unit delivery included availability of drugs and equipment (83%), good health workers' attitude (82%) and competence (78.6%) as perceived by the mothers. Others factors were maternal knowledge about available health care services. The factor that seems to hinder mothers in Kigungu from seeking skilled health care was high costs of services making it unaffordable to the majority of them who are unemployed. The study revealed that most mothers who got complications during delivery were in health units (27.3%) as compared to 3.2% who delivered at home. Similarly more mothers reported to have heard a woman dying during delivery (74.1%) and the place of death was identified as health unit.

The recommendations for the study were;

1. The Government should use religious activities when promoting safe motherhood practices. Sentitazation of reproductive health issues including place of delivery campaghns can be initiated in religious institutions.

2. Government should continue to make maternal health care its priority and services should be readily available and affordable to all. It can do this by working in partnership with private health facilities and find a way of subsisdizing maternal health services.

3. More research should be carried out in health units to ascertain causes of maternal complications and death in health units and how they can be avoided. More studies should also look at cultural practices especially herbal medication,its efficacy and effectiveness.

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CHAPTER ONE

INTRODUCTION

1.1. Background to the study

Ministry of Health Annual Report 2010 reports that Uganda was ravaged by war and ethnic cleansing for several decades and this left the country in a state of political and economic instability. As a result of civil unrest this has led to the weakening of health infrastructure and perpetual shortages of medical supplies and trained physicians. Uganda currently has one of the highest maternal mortality rates in the world of 435/100,000 live births according to the World Health Report 2010. A report by East Africa Sub regional support initiative for the advancement of women realized in March 2010 indicates that the poor health outcomes are attributed to a number of factors. These include place of delivery, service delivery challenges, poor infrastructure, policy implementation and resource availability.

Improving maternal health is one of the eight Millennium Development Goals (MDGs) adopted at the 2000 Millennium Summit. A key target is to reduce the maternal mortality ratio (MMR) by three-quarters between 1990 and 2015 (WHO 2010). One of the major contributors to high maternal deaths is the place of delivery. Key factors at the place of delivery that contribute to maternal deaths are availability of medical care including life saving drugs, equipment and presence of skilled health workers (Darshan 2008). The leading causes of maternal deaths are unsafe abortions, excessive bleeding and infections and these conditions can fully be prevented, controlled and treated if delivery takes place in a health unit under supervision of trained health workers backed up with drugs and other equipment.

Over the past century, the place of delivery has evolved from home deliveries to private units in general hospitals or other birth centers such as maternity homes. Delivery in health units in developing countries has greatly reduced maternal and neonatal death rate and this should be considered a primary goal in public health and primary health care programs (Theodore et al 2009).

On the other hand, home delivery or delivery at the TBA is a trend that leads to an increase in maternal deaths as a result of incompetence or lack of resources to handle emergencies. Theodore et al 2009 further notes that in developed countries, delivery in maternity homes or free standing birth centers as an alternative to maternity units in general hospitals is being discouraged. This is because of the complications that can occur to the mother or the baby especially when the delivery is carried out by unskilled attendants. As a result of this, women in developed countries have a 1 in 2400 risk of dying during or shortly after delivery (Owusu 2007). Delivery in a hospital or health unit is safer than home delivery or deliveries done at the TBA's place.

The risk of a woman in a developing country dying from a pregnancy-related cause during her lifetime is about 36 times higher compared to a woman living in a developed country as a result of the place of delivery (Owusu 2007). Poor choice of delivery such as at home or at the TBA's place predisposes her to death. This is because such places usually lack full facilities in the event of complications unanticipated before the onset of labor.

In Uganda only 42% of women deliver in health units under skilled health care. The rest 23% and 25% deliver at the TBA's place or at home with the help of family members

respectively. The remaining 10% deliver with no help at all. It is this large number of women who deliver outside health units that contribute to Uganda's high MMR. This poor choice of delivery means that mothers most likely die in such places and the reasons as to why they choose such areas for delivery are unknown.

For the past 5 years, several organizations, such as UNICEF and USAID, have been working with the Ugandan government to strengthen health care facilities in order to improve delivery in health units by strengthening emergency obstetric care (Emily George 2010). Despite these efforts, there has been only a small reduction in maternal deaths because mothers still avoid health units for delivery in preference to home delivery. When complications such as bleeding, infections arise during home delivery, they are then rushed to health units in a poor health state when it is almost too late to save both or either mother and baby (UDHS 2006).

1.1.1 Uganda National statistics on maternal health.

World Health Organization and the Ministry of Health recommend at least 4 ANC visits during a normal pregnancy. However less than 47% of women attend 4 ANC visits. Over half of them do not attend the recommended number of 4 visits. In addition, 17% make their first visit during the first 3 months. Mean gestational age when women make their first visit is 5.5 months when the opportunity may have passed to diagnose problems early, provide treatment and prevent further complications.

The proportion of facilities providing appropriate Emergency Obstetric Care (EmOC) is still low and so is access to postnatal care within first week of delivery which stands at 26% (Health Sector strategic Plan 2009/2010). About 15% of all pregnancies develop life threatening complications and require EmOC, more so in those that conceived too early (under 18) or too

late (above 35 years) according HSSP of 2009/2010. The report further says that only 11.7% of women deliver in fully functional comprehensive EmOC facilities.

According to the National Health Policy 2010, currently Uganda has a MMR of 435/100,000 births. It is estimated that 14 women die every day during childbirth in Uganda. 12.5% of the women have a lifetime risk of dying from pregnancy related complications.

Although antenatal attendance is high (90%), delivery in a health center stands at 79% in urban areas as compared to 36% in rural areas. However the Uganda National percentage of births in health centers has increased from 37% to 42 % according to UDHS 2006. This low health center delivery rate especially in rural areas is one of the risk factors for maternal mortality.

1.2 The study area

The HMIS Database of Wakiso District indicates that the district lies in the Central Region of the country, bordering with Nakaseke Disrtict and Luweero District the North, Mukono District, Kalangala District in Lake Victoria the South, Mpigi District in the Southwest and Mityana District the Northwest. Wakiso, where the district headquarters are located, lies approximately 20 KM, by road, Northwest of Kampala the capital of Uganda and the largest city in the country.

Wakiso district is administratively made up of two counties namely Busiro and Kyadondo. It has 2 municipal divisions Entebbe A and Entebbe B. It has 4 town councils Nansana, Wakiso, Kira and Kakiri. It has 16 sub counties, 148 parishes, 704 villages of which some are semi urban and a total population of 1,260,900 people (2010 projected population). It has a diverse ethnical population, majority being Baganda. It is mostly rural area and majority of

the people are peasants and the major economic activities include fishing, agriculture and animal rearing.

The district has 104 health facilities that range from dispensaries to hospital level both Governments funded and NGOs. Out of these, there are 21 health centers (16 HC III and 5 HC IV) where antenatal care is offered and deliveries conducted. It is at the hospital level (HC IV) that caesarean sections are performed because this is where an operating theatre exists (HMIS 2010).

There are 7 health sub districts which include Kyadondo East, South and North, Busiro East, South and North and lastly Entebbe (Wakiso district HMIS 2010).

Wakiso district was chosen as a study site because it is majorly a rural area and it is believed that the mothers here do not deliver from health units. The study therefore sought to establish factors that determine their place of delivery among rural women in Wakiso district.

1.3 Scope of the study.

This study was conducted in Wakiso District at the household level and involved mothers who had delivered a child in the past 2 years before the study was done.

1.4 Problem statement

Maternal and child health conditions carry the highest total burden of disease with prenatal and maternal conditions accounting for 20.4% of the total disease burden in Uganda (HSSP 2009/2010). According to the Uganda Demographic Health survey (UDHS) 2006 and National Health Policy (NHP) 2010, Uganda's maternal mortality rate stands at 435 per 100,000 live births. Most of these deaths occur at the place of delivery which can be in health units, home or at the TBA's place.

On average, 42% of women in Uganda deliver under skilled professional care. The remaining 58% deliver at home or at the TBA's place and do not seek medical care at all making a lifetime risk of dying from pregnancy related complications 12.5% (UDHS 2006).

The place of delivery is where the majority of complications occur which include excessive bleeding, infections mostly due to unsafe abortions and prolonged labor. It is after such complications that mothers die. These complications can arise anytime before, during and after delivery. If they occur in a health unit, they can be prevented, controlled or treated early enough to avoid death. However if they do occur under unskilled care, the outcome of child birth is likely to be poor both to the mother and child.

Despite the provision of maternal health care services in all health sub districts in Uganda, many mothers continue to deliver outside these facilities and the reasons for this are unclear. Although studies have been done, they are mainly focused at health facilities and few studies have targeted rural mothers at home who never turn up at the health units.

It is upon this background that the study sought to identify the determinants of place of delivery among rural women. By addressing the reasons that influence mothers' choice of delivery will help policy makers and health workers to design programs and strategies that will encourage mothers to deliver under skilled professional care. By doing this, Uganda could lower the MMR and therefore help her meet MDG 5 by 2015.

1.5 Purpose of the study

The overall aim of the study was to identify factors that rural mothers in Wakiso district consider when choosing the place of delivery. Information as to why mothers choose to deliver

in a health facility under skilled care, at home or TBA's place is important for policy makers, health workers and planners in order to rationally design the appropriate maternal services.

The study assessed social demographic, cultural, maternal, and lastly health related factors that influence place of delivery.

1.6 Objectives

General Objective

To determine factors associated with choice of place of delivery among rural mothers in order to generate information that will be used to design interventions aimed at encouraging delivery in health units hence reducing maternal mortality rates.

Specific Objective

i. To determine social- demographic factors that influence place of delivery among mothers with children aged 2 years and below by the time of the study.

ii. To assess maternal factors that influence choice of place of delivery among rural women with children below 2 years.

iii. To identify cultural factors that hinder or enhance choice of place of delivery among rural mothers in Wakiso district.

iv. To identify health facility related factors that determine place of delivery among rural mothers in Wakiso district.

1.7 Research questions

- ✓ What social demographic factors determine place of delivery among rural mothers?
- ✓ What cultural factors determine of place of delivery in rural mothers?
- ✓ What health facility related determine place of delivery in rural areas?
- ✓ What maternal factors determine place of delivery among rural mothers?

1.8 Significance of the study

One of the ways of reducing MMR is by encouraging delivery in health centers under the supervision of skilled trained health professionals. In order to improve delivery in health centers, there is need to understand factors associated with low deliveries in hospitals. Strategies to increase accessibility and availability of health care services are important particularly for communities in rural areas.

The knowledge attained from the study will be used to design interventions that will increase the proportion of mothers who are cared for in health facilities during pregnancy, delivery and puerperium which will later on reduce the risk to mothers and their babies and reducing maternal and infant mortality rates.

The knowledge also gained from the study will help to improve maternal health services delivery and to promote safe delivery. In the long term we hope this will also help to lower the MMR of Uganda and help her keep on track of achieving MDG 5. To meet this target, Uganda needs to reduce its MMR from 435/100, 000 live births to 131/100,000 births by 2015.

The findings will provide an in depth analysis of the situation, its magnitude and ways of improving maternal health by making known factors that deter women from using health centers as places for delivery.

The findings can be used by researchers, communities and policy makers in order to design effective strategies for safe motherhood.

Furthermore the study will help identify gaps in maternal care delivery and suggestions on how to improve practice of health workers. Training can be advocated as a result of the study findings.

1.9 Conceptual framework for place of delivery in Wakiso district.

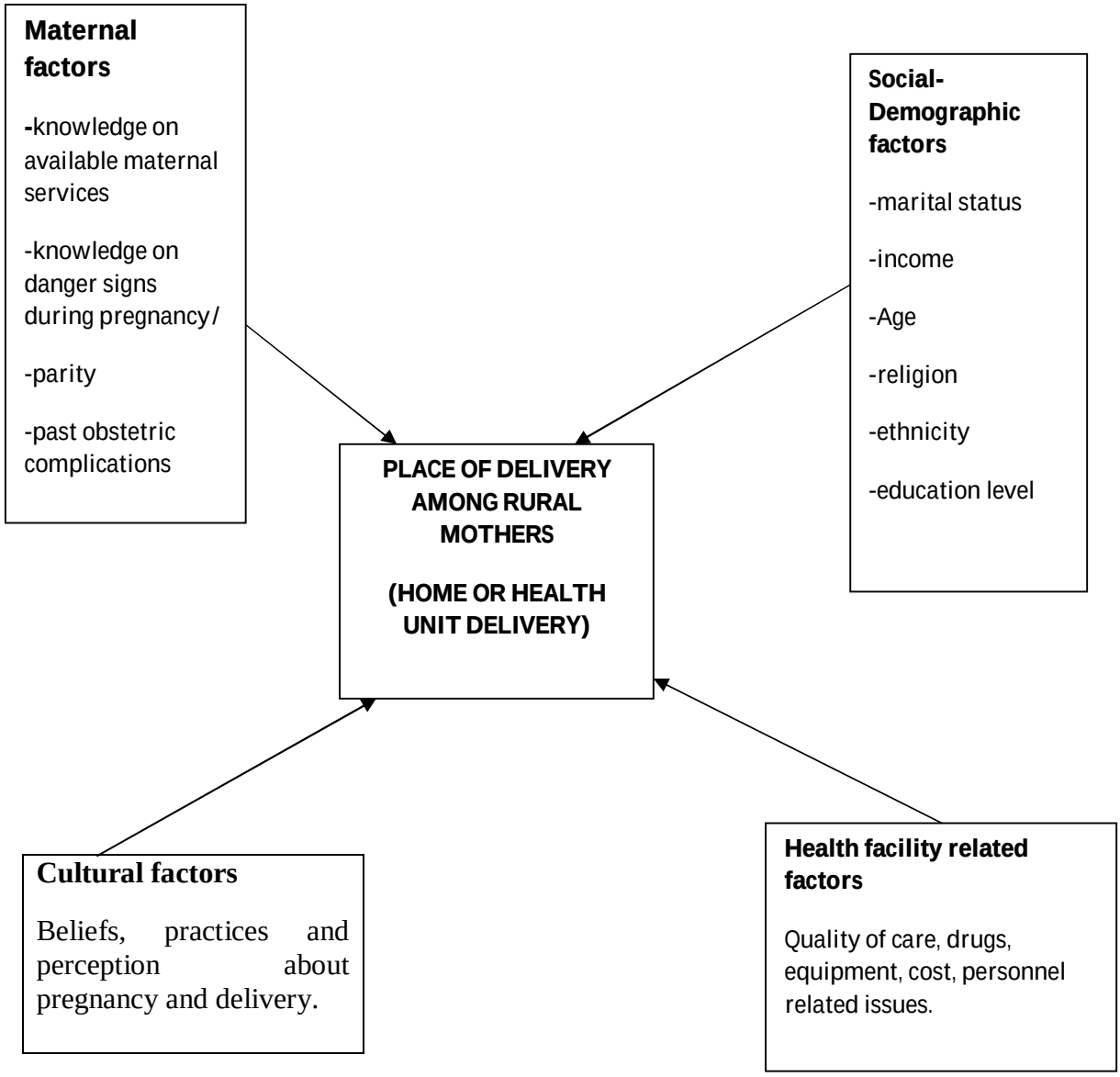


Figure 1.0 Conceptual framework

CHAPTER TWO

LITERATURE REVIEW

This chapter describes the objectives of the study in detail and in relation to other studies that have been done both in Uganda and the rest of the world concerning place of delivery.

2.1 Determinants of place of delivery.

These are factors that influence the place of delivery. When women are planning the place of delivery, these play an important role because they influence the choice of delivery. They include

- Social-demographic factors such as age, religion, educational level, marital status, income, occupation and ethnicity.
- Maternal factors such as knowledge about available maternal services, parity, past obstetric complications and general knowledge about pregnancy and delivery and their danger signs.
- Cultural factors such as practices, beliefs and perception.
- Health facility related factors such as competence and attitude of health workers, availability of drugs and equipment, quality of care offered and cost of services.

Social-Demographic factors

These include age, education level, occupation, income, ethnicity, tribe and marital status.

Age was an important determinant and it was revealed that older women were less likely to deliver in health unit because they tended to rely on past obstetric history including deliveries. The young age groups more especially prime gravid women were more likely to deliver in health units because this category of mothers had no prior experience and may be were more educated than the older women (Idris 2003).

In a study done in rural Ethiopia which examined factors that influence the use of maternal care, multivariate logistic regression analysis was employed to explore the significance of a number of demographic and social cultural variables and how they affect place of delivery. Results of the study revealed low ANC and delivery rates of 27% and 6% respectively using skilled professional care. The most important factors that influenced use of maternal care were demographic factors like education level of the mother, marital status, and place of residence, parity and religion (Mekonnen 2003).

Adolescent pregnancy is one of the major contributors of maternal mortality as was seen by kistinia 2009 and Tann et al 2007. In a study done in Wakiso district which compared adolescent pregnancy with that of adult women revealed that adolescents were more disadvantaged in terms of seeking health care during pregnancy. They were more likely to be school dropouts with no income at all. They were more likely to attend ANC visits less than four times compared to adult pregnant women. In addition they were stigmatized by their family members and the community at large (Atuyambe et al 2008.)

Mother's education

There are multiple reasons that could explain why maternal education is always associated with health seeking behavior (Sabine et al 2009). These include increased knowledge of the benefits of preventive health care and awareness of health services, higher receptivity to new health-related information, socialization to interact with formal services outside the home environment familiarity with modern medical culture. Educated women are more likely to have access to financial resources and health insurance, more control over resources within the household and wiser spending, more egalitarian relationship and better communication with the husband. They also tend to have more decision-making power, increased self-worth and self-confidence, better coping abilities and negotiating skills as well as reduced power differential towards health care providers and thus better communication and ability to demand adequate services.

Education also reflects a woman's childhood background, including familiarity with health services and certain beliefs and norms. It has also been suggested that there may be community effects of education, with more highly educated communities organizing themselves and demanding better public services and a higher position for health on the political agenda. By contrast, better awareness of poor quality in many facilities and higher confidence in self-care may delay care seeking among educated women. Furthermore where strong public health programs reach out to disadvantaged sectors of the population, the education gradient in health service use may be small (Sabine et al 2009).

Education is likely to be associated with wealth and even residence. Adjusting for current wealth will measure the direct effect of education, excluding its indirect effect through improved

living standards. It is also important to control for confounding by maternal age since average education levels may have changed substantially over time. With few exceptions, all studies in the field include maternal education and find a strong and dose-dependent positive effect of educational level on use of skilled attendance, but levels of education are classified differently (Sabine et al 2009).

Husband's education

Educated husbands may be more open toward modern medicine, aware of the benefits of skilled health care providers and more able to communicate with them and demand appropriate care, as described for women's education. They may also put fewer constraints on their wives' mobility and decision-making, thus facilitating care-seeking. Husband's education is associated with occupation and with household wealth. Some studies even use husband's education as their measure of household socioeconomic status. Considerations concerning confounding and pathways are similar to those described for mother's education. Nearly all studies that consider husband's education find that higher education is associated with skilled attendance at delivery, although the effect is often less than that of the mother's own education (Sabine et al 2009).

In the studies done by Tann et al 2007 and Kistiania 2009, it was shown that educated women are more likely to have greater awareness of the existence and importance of modern maternal care as opposed to the illiterate ones. As a result of this exposure they are empowered with knowledge, are likely to recognize danger signs during pregnancy and delivery therefore likely to seek modern maternal care.

Economic accessibility

Economic accessibility refers to the relation between financial capability of the family and costs of a health facility delivery including transportation costs. While directly affecting whether a woman can actually reach a facility for delivery (second delay), the anticipation of high costs will affect whether a decision for a health facility delivery is made in the first place (first delay) as was reported by Sabine et al in 2009.

Mother's occupation

Women who are working and earning money may be able to save and decide to spend it on a health facility delivery. However, in many settings women either do not earn money for their work or do not control what they earn. An increased range of movement and better access to information are suggested as reasons why formal work may promote women's use of health facilities for childbirth (Sabine et al 2009).

On the other hand, working may be poverty-induced and indicate resource constraints, which would make working women less likely to use health services for delivery.
Variables associated with occupation may include education, wealth and place of residence and these may act as confounders. Studies have shown that formally employed women are more likely to use delivery services (Kistinia 2009).

Husband's occupation

Wives of husbands with higher status occupations could be more able to use facilities for delivery. High status occupations are associated with greater wealth, making it easier for the family to pay costs associated with skilled delivery care. Certain professions include health insurance benefits, making care-seeking less costly (Sabine et al 2009).

Occupation is associated with education and wealth, and these may thus be confounding the relationship. Some studies use husband's occupation as a measure of household economic status but the majority also includes other measures such as household assets.

A study done in Nigeria in 2003 revealed both high rates of home deliveries and deliveries not supervised by skilled attendants as 70% and 78% respectively (Idris 2003). The factors that were identified as major contributors of this were low maternal education, unemployment among fathers and first pregnancy at less than 18 years of age.

Ability to pay

The cost of seeking health care in general includes costs of transportation, medications and supplies, official and unofficial provider fees as well as the opportunity costs of travel time and waiting time lost from productive activities (Sabine et al 2009).

Households on a tight budget will have great difficulties paying these costs and therefore be less likely to use a health facility for delivery. It is assumed that another reason for greater use of services is that households with higher living standard are more modern and therefore more receptive towards modern health care services (Sabine et al 2009).

On a larger scale, communities with less economic development are likely to be more traditional, give women less autonomy and have less positive attitudes towards service use. An alternative mechanism of how economic status affects care-seeking habits is that the characteristics of the health facilities serving the poor may discourage use mainly as a result of the inferior quality of care or worse availability of services in poor areas thus requiring users to travel long distances elsewhere (Sabine et al 2009).

Ability to pay for care-seeking may be associated with modern attitudes and women's autonomy and, on a community scale, with service availability and quality; all these factors are likely to act as confounders. Nearly all qualitative studies mention cost as an important barrier to formal care (Sabine et al 2009 and Mabirizi 2004).

TBAs are usually deemed affordable for poor families since their payment is negotiable in terms of amount and timing and can be informal as well. The financial cost of receiving care is often not a major determinant of the decision to seek care. On the other hand studies in Nigeria showed a decline in hospital delivery rates after the introduction of user fees while the admissions for complicated obstetric cases increased at the same time (Sabine et al 2009). This suggests that costs deter poorer women from using delivery services for preventive purposes, while they play a lesser role in case of complications where the cost-benefit ratio is different.

In addition to the above, it was found out that families with high economic status are likely to deliver in a health facility as compared to those of low income mainly because of affordability reasons. Also in the NHP 2010, health services for women is further compounded by decision making processes in families and it was reported that 40% of the women report that their husbands make decisions about their own health care.

In order to assess the relationship between social, economic and demographic factors on maternal health care utilization and place of delivery, a study was done in Indonesia by Kistinia 2009. Both bivariate and multivariate analyses of the data confirmed that women’s exposure to media, women’s age, birth order and place of residence had a significant relationship with the utilization of antenatal care and modern delivery care. The women’s and husband’s education

showed a strong relationship with maternal health care utilization, indicating higher use of quality care for pregnancy and delivery by high educated women and by wives of high educated men

Women's autonomy

There are various dimensions of autonomy, such as position in the household, financial independence, mobility and decision-making power regarding one's own healthcare and all these may impact on place of delivery. In Uganda generally women cannot decide on their own to seek care, but have to seek permission from a husband or mother-in-law because of culture and religious beliefs. Furthermore, women may lack control over material resources needed to pay for expenses, their mobility may be restricted or they may lack access to vehicles (Kyomuhendo 2003). Kistiana in 2009 in Indonesia reported that influence of women's autonomy on the use of health care appears to be as important as other known determinants such as education. Dimensions of autonomy such as freedom of movement, decision making power and control over finance can exert a strong influence over utilization of maternal services.

Utilization of maternal health care services by choosing the right place to deliver from could save unnecessary severe complications and death among women during pregnancy, delivery and after delivery. Numerous factors such as characteristics of the women and their family, characteristics of illness as well as characteristics of the health care system, including accessibility, acceptability, cost and quality of care, have contributed directly with the use of maternal health care.

The bivariate analysis done by Kistinia 2009 showed that almost all social, economic and demographic variables are significantly associated with all forms of maternal health care, namely

use of antenatal care, place of delivery and assistance during delivery. The only social variable which has a weak relationship with various form of antenatal and delivery care usage is women's autonomy. The results of logistic regression indicate that women's and husband's education remains the most independent variables affecting all forms of antenatal and delivery care usage. The interesting finding in this study is that in the multivariate analysis, women's working status and husband's occupation do not have a significant impact on the probability of women obtaining antenatal care and modern delivery care, although these variable, particularly husband's occupation is positively and strongly associated with the dependent variables (Kistinia 2009).

Cultural beliefs, practices and perception.

In a study in a rural set up in Western Uganda by Kyomuhendo 2003, the following factors were important for women who preferred home deliveries/ TBA to health center deliveries.

a) An adherence to cultural practices, beliefs and perceptions about pregnancy/birthing,
b) Belief that health care providers were poorly trained,
C) Past experiences of abuse/neglect when accessing care.

In the same study, it is believed culturally that women who seek medical care during pregnancy or delivery are considered lazy, weak, or not respectable. Some cultures in Uganda discourage women from crying out openly when in labor but they are supposed to be silent as this is a sign of bravery.

Ugandan women hold superstitious beliefs that the outcome of pregnancy is predetermined before even going into labor. Therefore a woman who attempts to seek medical care when faced with complications is believed to interfering with nature. The woman who

endures pregnancy or labor with no outside help is esteemed, as if the positive outcome was determined by her own inner strength (Kyomuhendo 2003).

Other cultural factors also promote maternal deaths in many areas, such as low status and neglect to girls and women, polygamy, early marriages and childbearing, underfeeding and dietary practices during pregnancy, and double standards of sexual ethics resulting in clandestine abortion or pre-pubertal marriage especially true in developing countries as seen in a study done by Kyomuhendo in 2003 in Hoima district.

Another complaint voiced by Ugandan women in the same study was the supine position in which they were expected to deliver. Traditionally, women in Uganda deliver in a kneeling position, which is preferred because it makes delivery less painful. However, when health care workers were interviewed regarding this complaint, they revealed that they were not comfortable delivering babies in this position.

In many cases, it is the medical 'culture' that may clash with the woman's, for example, when family members are not allowed to be present, supine birthing position is imposed or privacy not respected; this may lead to perceptions of poor quality and the mothers may therefore choose to deliver at home or TBAs place hence avoiding health units.

Maternal factors

This comprises of factors influencing the perception of how a health facility delivery with skilled attendance would benefit mother and newborn. This perception is shaped by general awareness of the dangers of childbirth and interventions or services available at health facilities, by individual past experiences with pregnancy, childbirth and health services, as well as by risk

assessment of the index pregnancy. As for the previous group, factors in this category are thought to primarily affect the decision to seek care (Sabine 2009 et al).

Previous obstetric use.

Women who delivered with a skilled attendant previously become more familiar with this setting, which may make them more likely to use it again. Also most determinants, particularly those that do not change (e.g. education, place of residence, beliefs) which influence a previous place of delivery, are likely to be similar. Even more than for ANC, any observed association between previous and subsequent facility delivery use is likely to be confounded by availability of and access to services, attitude towards health services, previous complications, knowledge about pregnancy risks and various other factors. Naturally, the same determinants that played a role for previous use are likely to influence present use.

Qualitative studies indicate that women tend to deliver with the same provider if a previous delivery went well and tend to change when they are dissatisfied (Sabine 2009 et al).

Past obstetric complications

Complications experienced during previous deliveries or loss of the newborn can make women aware of the dangers of childbirth and the benefits of skilled interventions and thus make them use skilled attendance for subsequent deliveries (Sabine et al 2009). Furthermore, women with specific medical interventions in a previous delivery, e.g. Caesarean section will be encouraged by health workers to seek skilled care for subsequent deliveries since there is an increased risk for rupture with a scarred uterus. Another possible pathway is that problems experienced during the index pregnancy can make women seek health services and health workers may then recommend health facility delivery.

Finally, complications during an attempted home delivery often influence women and their families to seek professional care, even though the original intention was to deliver at home. Alternatively, a precipitate labor may mean a woman intending to deliver in a facility ends up delivering at home or on the way.

The type and severity of complications that lead to a change in place of delivery depend on the perception of what is abnormal and what is amenable to medical treatment. As mentioned earlier, the factors involved in decision-making are likely to differ for preventive facility deliveries and for emergency care-seeking of attempted home deliveries that run into problems. In the latter case, the severity of complications may override the perception of barriers like distance and cost. Presence of complications could thus be an effect modifier for other barriers. People who consider "normal deliveries" or minor problems as not justifying cost, time and travel to a facility may attempt to overcome those barriers if there is danger to life, even if the cost is much higher. Many studies in settings with low levels of skilled care find that a large proportion of women say they have health unit deliveries because they experienced complications.

While few quantitative studies investigate the role of complications, those that do mostly find that at least some types of current or previous complications are associated with health service use for delivery (Sabine et al 2009).

In a similar study in Bangladesh it was revealed that majority of births occurred in unhygienic conditions by relatives and TBAs. As a result of this, there was a high incidence rate

of both maternal and infant mortality and this could be reduced if such births took place in health units or under the supervision of trained TBAs. A retrospective survey research design was used to collect relevant information and a multivariate analysis was used for the data. Slightly over 11% of the deliveries were conducted by trained health workers. The study also revealed that complications during delivery were the most significant factor determining the use of modern health care resources followed by parental education and pre natal care (BK Paul et al 2002).

Birth order and parity.

The first birth is known to be more difficult and the woman has no previous experience of delivery. Often a high value is placed on the first pregnancy and in some settings the woman's natal family helps her get the best care possible (Sabine et al 2009). Furthermore, health workers may recommend a facility delivery for first time mothers. By contrast, women of higher parity can draw on their maternity experiences and may not feel the need to receive professional care if previous deliveries were uncomplicated. Very high-order births, however, are more risky.

Additionally, women with several small children may have greater difficulty in attending facilities due to the need to arrange child care. High parity may reflect a lack of access to family planning services which may be associated with lack of access to delivery care. High parity can also indicate traditional attitudes and sometimes lower socioeconomic status.

In Pakistan, parity and education had the largest impact on health unit delivery: women were substantially less likely to deliver at a health facility after their first birth; women with primary or higher education were much more likely to deliver in a health unit. Other factors like age, autonomy, and household wealth, proximity to a health facility and exposure to mass media were also important determinants of place of delivery (Agha and Carton 2011).

A study done in Indonesia by Kistinia 2009 revealed similar findings that suggest that prime gravid women are more likely to seek professional care as opposed to older women who have had numerous deliveries. Multi gravid women thought that modern health care was unnecessary and they had accumulated knowledge and experience from previous deliveries. Also a large family size due to numerous deliveries implied that there are lower resources (time and money) available to seek health care.

A study in Arua District Uganda, revealed that most multi gravid women who had had successful home deliveries believed that health facility delivery was waste of time. It was also reported that young girls who got pregnant accidentally "shunned" health facilities for fear of being labeled bad mannered girls by doctors and nurses (Amandu 2004).

Knowledge and Information availability about maternal services.

Having access to information through modern media could influence women's knowledge about delivery risks and availability of services.

It may be hard to disentangle access to information from possession of radio or television and the higher socioeconomic status that makes these more likely. Literacy is essential for access to written information.

Health knowledge

Specific knowledge about the risks of childbirth and the benefits of skilled attendance should increase preventive care-seeking, while recognition of danger signs and knowledge about available beneficial interventions should increase care-seeking for complications.

Contact with a skilled attendant could increase specific knowledge on childbirth via health education. Specific knowledge may also be associated with educational level in general.

Women who know danger signs in pregnancy are more likely to deliver in a health facility as compared to those without such knowledge.

Health facility related factors.

Perceived quality of care: Perceived quality of care partly overlaps with medical quality of care and is thought to be an important influence on health care-seeking (Sabine et al 2009). Assessment of quality of services largely depends on one's own experience with the health system and what others have told them about it. Although some elements such as waiting time can be measured objectively, the perception of whether these are a problem and affect quality is more subjective.

Elements of satisfaction cover satisfaction with the outcome, the interventions with their appropriateness and with the service received including health workers' attitude towards patients, availability of supplies including drugs and equipment and waiting time.

Women report better quality of care in private facilities, but the high cost usually deters them from using them again. Perceived interpersonal quality of care overlaps to some extent with traditional beliefs and possibly sometimes with ethnic discrimination. Concerns about quality interact with other barriers, for example with distance or cost (Sabine et al 2009).

Objective measures of quality of care such as facility infrastructure, equipment and staffing are associated with physical accessibility, access to information and other aspects of remoteness such as poverty and traditional values. Health workers' attitude and behavior is an important determinant of place of delivery as most mothers report dissatisfaction with rude, arrogant and neglectful behavior at health facilities and prefer the care of a TBA or relative. Shortcomings in personal care at facilities are often coupled with shortcomings in hygiene and medical care (Sabine et al 2009).

Antenatal care use

Antenatal care (ANC) services can provide opportunities for health workers to promote a specific place of delivery or give women information on the status of their pregnancy, which in turn informs their decisions on where to deliver. Risk assessment during ANC may explicitly recommend a place of delivery, for instance to deliver in a hospital for a twin pregnancy. On the other hand, women who are told their pregnancy is fine may feel encouraged to deliver without a skilled attendant. In Uganda, a study described that nurses abuse women without ANC cards and hinder their admission for delivery services; this deters women who did not use ANC from seeking delivery services (Kyomuhendo 2003).

ANC attendance can be a marker of familiarity in interacting with the health system and with the health facility. Women who use ANC may therefore be more likely to use facilities for delivery. Alternatively, use of ANC may signify availability of a nearby service, which may also provide delivery care. In many settings, however, ANC is also provided by mobile clinics and small facilities that do not offer delivery services. Moreover, while timing for ANC is flexible and the service free in most places, this is not true for delivery services.

Any observed association between ANC use and facility use for delivery is always suspect of arising from con founding by other factors, in particular availability of and access to services, since those women closer to facilities are more likely to go to both. Other confounding factors may be knowledge of pregnancy risks and attitude towards health services, complications and most other factors influencing service use. When examining the effect of other determinants on use of skilled attendance, controlling for ANC use may be inappropriate as it is likely to be on the causal pathway.

A study done in India by Dalal and Dawad 2009, revealed the following as reasons why women preferred home deliveries as opposed to health unit deliveries. They include;

1. 'There is no nearby facility';
2. 'facility timing is not convenient';
3. 'health personnel are often absent, rude, unethical and verbally abusive when providing care.'
4. 'waiting time is too long'; and
5. 'Poor quality of care'.

In Nigeria, similar factors as why mothers shunned health units and preferred home deliveries included health related factors such as substandard care by healthcare providers, poor-quality services due to lack of management protocols or failure to follow clinical protocols, and poor monitoring of patients (Ozumba and Nwogu 2006).

In a similar study in Nkozi hospital by Mabirizi in 2004, the following reasons were identified as indicators for low turn up in health units for maternal health services hence influencing the place of delivery. They included organizational barriers in health units like unprofessional staff attitudes, restricted working hours, unpredictable charges, poor referral system, poor human resource management, cognitive barriers like lack of information about services available in the hospital and unresponsiveness to community needs.

Physical accessibility

Like economic accessibility, physical accessibility affects indirectly the first delay which is deciding to seek appropriate health care and directly the second delay (reaching an appropriate obstetric facility the health facility) as reported by Sabine et al 2009.

Region and place of residence

Urban and rural areas differ in service and social environments and therefore differences in place of delivery are expected. Similar reasoning applies to differences between regions within a country and it can be difficult to know which factor to ascribe any differences in service use to. Place of residence may be associated with education, ability to pay, parity, ethnicity/religion, beliefs, information availability, autonomy, availability and quality of services and accessibility of services.

The vast majority of studies on delivery service use include region or urban/rural residence among their variables. It has been found out that women in urban areas are more advantaged as compared to their counterparts in rural areas in terms of accessibility to health care services.

Distance and transport

Distance to health services exerts a dual influence on use, as a disincentive to seeking care in the first place and as an actual obstacle to reaching care after a decision has been made to seek it. Many pregnant women do not even attempt to reach a facility for delivery since walking a long distance is difficult in labor and impossible if labor starts at night, and transport means are often unavailable. Those trying to reach a far-off facility often fail, and women with serious complications may die en route.

The obstacle effect of distance is stronger when combined with lack of transport and poor roads, and its disincentive effect is less pronounced if women have serious complications or the reputation of the provider is good. Even where facilities are conveniently located, they are underused if their quality is considered bad. Where people have the choice between several facilities, they sometimes travel further if the target facility is perceived to offer superior quality

care. It would thus be useful to consider distance together with service quality and transport options.

It has been argued, that in common with rural place of residence, "distance to hospital also captures other aspects of remoteness such as poor road infrastructure, poor communication between communities, poverty, limited access to information, strong adherence to traditional values and other disadvantages that are difficult to measure quantitatively".

Despite general acknowledgement of its importance, distance or travel time to health facilities is not regularly considered in studies on determinants of place of delivery. In this particular study, physical factors as listed above were not among the variables under study.

Many qualitative studies mention distance as an important deterrent from delivering in facilities, in particular when labor starts unexpectedly or at night and in the absence of transport options.

The vast majority of quantitative studies that include distance report less use of skilled attendance at delivery in women living far away from a facility.

A study done in Zambia assessed the effect of distance to care during delivery. As the distance to the nearest health unit increased, the chances of health unit delivery increased by 29% (Gabrysch 2011 et al).

2.3. Factors that contribute to lower maternal mortality ratio by encouraging health unit delivery.

According to The Annual Health Sector Performance Report of 2009/ 2010 (HSSP), a number of core interventions were identified to tackle the unacceptably high maternal mortality

rate as a result of poor choice of delivery. Key among these was promotion of health unit delivery through the introduction of Emergency Obstetric Care (EmOC) Services at HC III, IV and hospitals. This includes the establishment of maternal death reviews, scaling up goal oriented antenatal care (ANC) including the provision of Intermittent Preventive Therapy in pregnancy (IPTp) such as malaria prophylaxis. Others include introduction of sexual and reproductive health care as a package. These measures were introduced through training of health workers and identification of health facility gaps in the equipment, procurement and distribution of basic EmOC equipment, medicines and related health supplies to those facilities.

It has been found out that most maternal deaths can be prevented, treated or controlled at the place of delivery. This is only possible if births are attended by skilled health personnel who are regularly supervised, have the proper equipment and supplies, and can refer women in a timely manner to emergency obstetric care services when complications are diagnosed. Complications require prompt access to quality obstetric services equipped to provide lifesaving drugs, antibiotics and transfusions and to perform Caesarean sections and other surgical interventions (Nduba 2010).

Slow progress in addressing maternal health problems in Uganda is due to inadequate funding of government interventions, lack of human resource, medicines and supplies and appropriate buildings and equipment including transport and communication equipment for referral. The lack of decision making at household level by women affects their health seeking behavior including during pregnancy and delivery.

CHAPTER THREE

METHODOLOGY

This chapter contains the various methods that were used to identify the study population, size and also how the data obtained was analyzed in order to get the results. It also includes the study design, sampling and data collection techniques, quality control and assurance methods and limitations of the study.

3.1 Study Design

This was a descriptive, cross sectional study of rural mothers who had delivered children between the time of September 2009 and September 2011 to the time of the study in Kigungu Entebbe health sub district in Wakiso district.

3.2 Study population

This comprised of mothers at household level who had delivered a child and the child was below 2 years by the time of the study. These mothers were found living in any of the villages in Kigungu parish regardless of their duration of stay in that area.

For women with more than 1 child in the age group of below 2 years, information concerning the most current delivery was obtained.

3.3 Sampling technique

Using the simple random method, 1 out of the7 sub districts was chosen using the fish bowl method. The names of the sub districts were written on separate pieces on paper, folded uniformly and put in a tin. Out of the tin, a piece of paper indicating the name of the sub district

was picked and this represented the study site. The health sub district randomly chosen was Entebbe sub district.

Entebbe health sub district has 2 divisions A and B and using the fish bowl method, B was chosen. In division B are 2 parishes (Kigungu and Kiwafu) and again fish bowl method was used to identify Kigungu. Kigungu parish has 6 villages namely Kigungu Central, Old Entebbe, Mayazzi, Banuko-Misoli, Makunsa and lastly Lyamuni. The last 2 are islands on Lake Victoria and because of transportation constraints they were not sampled.

To identify the mothers in Kigungu parish who fitted the criteria, the snowball method was applied. This is whereby a mother, after participating in the study, identified another mother in her neighborhood that had a child aged 2 years and below. This mother was then approached and asked to take part in the study and she too recommended the next mother. This was done with the help of Local Council Chairpersons and the Secretary for Women Affairs in the villages.

The starting point in the village was at the office of the Local Council chairperson. To identify which direction to take from here was done by tossing a Ugandan coin of 200 shillings in air. If the court of arms appeared on top, then my starting point was to my right. If the coin was tossed and the picture of a fish appeared on top, then my starting point would be to my left.

Using the above described procedure, the coin was tossed and a picture of a fish appeared. My starting point was to the left side from the office of the village chairperson.

3.4 Sample size determination

Using Kish and Leslie formula below

$N= Z^2*p\ (1\_P) / C^2$

Where n was the required sample size,

Z is confidence interval at 95% (standard value 1.96),

P is National prevalence of health center delivery 42%,

C is margin of error at 5% (standard value 0.05)

Therefore substitute the values

$N=1.96^2*0.42(1\_0.42)/ (0.05)^2$

=374 respondents were interviewed using questionnaires.

3.5.1 Study Unit

The study unit was any mother who had delivered a baby and the child was either 2 years or below. The child should have been born between September 2009 and September 2011 to the time of the study, regardless of whether the child is alive or not. Duration of stay of the mother in the village was not assessed as it was considered non influential in the factors desired to study.

3.5.2 Inclusion criteria

- Any mother with a child aged below 2 years by the time of the study.

3.5.3 Exclusion criteria

- Mother who was found to be mentally unstable or sick at the time of the study.
- Refusal to give verbal consent.

3.6 Variables

3.6.1 Dependent variable

This was the place of delivery of the baby. This was in the health unit (government or private); at home or at the TBAs' place.

3.6.2 Independent variables

These are the factors that influence the place of delivery among rural mothers. They included the following.

a. Socio demographic factors like age, level of education, income, birth origin, religion, marital status and occupation.

b. Cultural factors like practices, beliefs and perception before, during and after delivery.

c. Maternal factors like parity, past obstetric complications and knowledge on danger signs and risk factors during pregnancy and delivery, knowledge on available maternal care services.

d. Health facility related factors like quality of care, availability of drugs and equipment, attitude and knowledge of health workers.

3.7 Data collection techniques

Data was collected using interviewer administered questionnaires to the women. These questionnaires contained both open and close ended questions that captured qualitative and quantitative data about factors that influence place of delivery in rural mothers in Kigungu, Wakiso district.

There were one to one interviews between the researcher and the mothers during which time questionnaires, either in English or Luganda as preferred by the mother, were filled in by

the researcher. Answers were filled in the questionnaire after each question had been asked by the researcher.

Data was collected by the researcher together with the help of research assistants.

3.8 Data analysis and presentation

Questionnaires were checked for completeness. Data was then coded, cleaned and entered into the computer using EPI-DATA software version 3.1. Analysis was done using EXCEL 2003/7 and SPSS software version 18. Frequency distribution and cross tabulations were done in order to generate data. Statistical tests like chi square were applied to find out level of association between the variables. Data was analyzed by use of graphs and tables.

3.9 Quality control and assurance

Research assistants underwent training concerning relevance of the study and emphasis was made on the data collection tool to make sure that correct data was obtained. Training was done by the researcher.

Validity and completeness of the questionnaires (both English & Luganda) were done using pre testing which was done in Wakiso town council and 20 respondents were chosen randomly. No gaps in the data collection tool were identified and therefore no alterations were made to the final data tool used.

Also the questionnaire was translated into Luganda which is the most common native language in the area.

3.10 Ethical considerations

Permission to carry out research was obtained from the University. A letter of approval from the University was attached to my introductory letter to the District Health Officer.

Approval was also sought from Wakiso District Health Officer and the Local Council chairpersons of Kigungu.

Participation in the study was voluntary. Verbal consent was obtained from respondents as well. For confidentiality reasons, no names were used on the questionnaires. Respondents were free to withdraw from the study at any time.

3.11 Limitation

1. In the study, there was some recall bias especially with data concerning previous pregnancy. This was overcome by limiting the baby's age to below 2 years.

2. Generalization of findings may be difficult because the study was done in only one health sub district out the seven health sub districts in Wakiso district.

3. During data analysis some of the variables were merged or grouped hence loss of some of detail. For example some independent variables such as age, the researcher had to use the median age as opposed to age groups in some instances to allow general analysis. Also the dependent variable (place of delivery) was grouped into health unit or home delivery yet each of these places could further be divided into government/private/ home/ TBA's Place. During data collection each of these places was accountable for.

4. Other limitations were in terms of funding since this was a self sponsored study. Time was also another limitation.

CHAPTER FOUR:

DATA PRESENTATION AND ANALYSIS

This chapter presents the findings and interpretation of the study findings of mothers in Kigungu village. The data was collected in September 2011 and it involved mothers who had had a delivery of a child not more than 2 years preceding the time of the study. The results are presented in tables, bar graphs and pie charts. Findings have been interpreted and arranged according to the study objectives. The chapter begins with a description showing the bio data of the mothers (respondents) followed by socio-demographic characteristics, then the maternal, cultural and lastly health facility related factors that determine place of delivery among these mothers.

For purposes of running some statistical tests like chi square, the median age of the mothers was used. Elsewhere, the maternal age was grouped into 5 especially for cross tabulations with other variables.

4.1 Bio data

Table 1.0 Bio data of the mothers in Kigungu village

Variable	Mother with a baby aged either 2 years or below	Total, N (%) 374, (100)
Age		
≤ 30 years		282 (75.4)
> 30 years		92 (24.6)
Religion		
Anglican		107 (28.6)
Catholic		132 (35.3)
Muslim		81 (21.7)
Traditional believer		12 (3.2)
Others		42 (11.2)
Place of Origin		
Central		210 (56.1)
East		47 (12.6)
North		34 (9.1)
South		10 (2.7)
West		73 (19.5)
Marital status		
Married		259 (69.3)
Single		60 (16)
Separated/Divorced		38 (10.2)
Widowed		17 (4.5)
Level of education		
		37 (9.9)
None		160 (42.8)
Primary		98 (26.2)
Secondary		79 (21.1)
Tertiary		
Number of children per mother (Parity)		175 (46.8)
≤ 2		135 (36.1)
3 or 4		64 (17.1)
≥ 5		
Occupation		89 (23.8)
Business lady		47 (12.6)
Professional (Teacher etc)		51 (13.6)
Peasant (subsistence farmer etc)		187 (50.0)
Unemployed (House wife)		

Source: primary data

The table above shows that 75.4% of the mothers were below 30 years of age and 24.6 of the mothers had children while they were more than 30 years of age. Most of the mothers were

Catholics by religion 35.3%, followed by Protestants 28.6%, Muslims 21.7%. Others included born again and seventh day Adventist as represented by 11.2% and lastly traditional believer 3.2%.

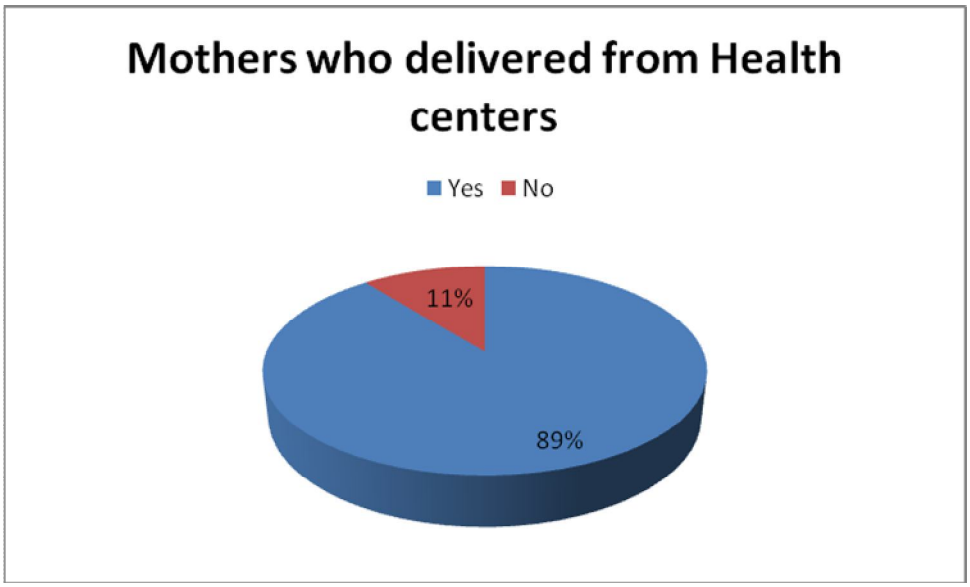
The table also shows majority of the mothers interviewed 56% were from the central region while 19% were from West, 13% were from the East, 9% from the North and lastly only 3% came from the South of Uganda.

Majority of the mothers were married (69.3%), followed by the single (16%), separated or divorced (10.2%) and lastly the widowed mothers (4.5%) were the minority. 42.8% of the mothers had at least primary level of education. This was followed by 26.2% who had secondary level of education, then 21.1% had at least tertiary education and the least were mothers with no education at all totaling to 9.9%.

Forty seven percent of the mothers had either 1 or 2 children while 36% had 3 or 4 children and the minority 17% had more than 5 children. Half of the mothers were not employed at all and these were followed by 24% who were engaged in business activities, 14% were subsistance farmers while only 12% had formal employment like teaching**.**

4.2 Social- demographic factors that influence place of delivery

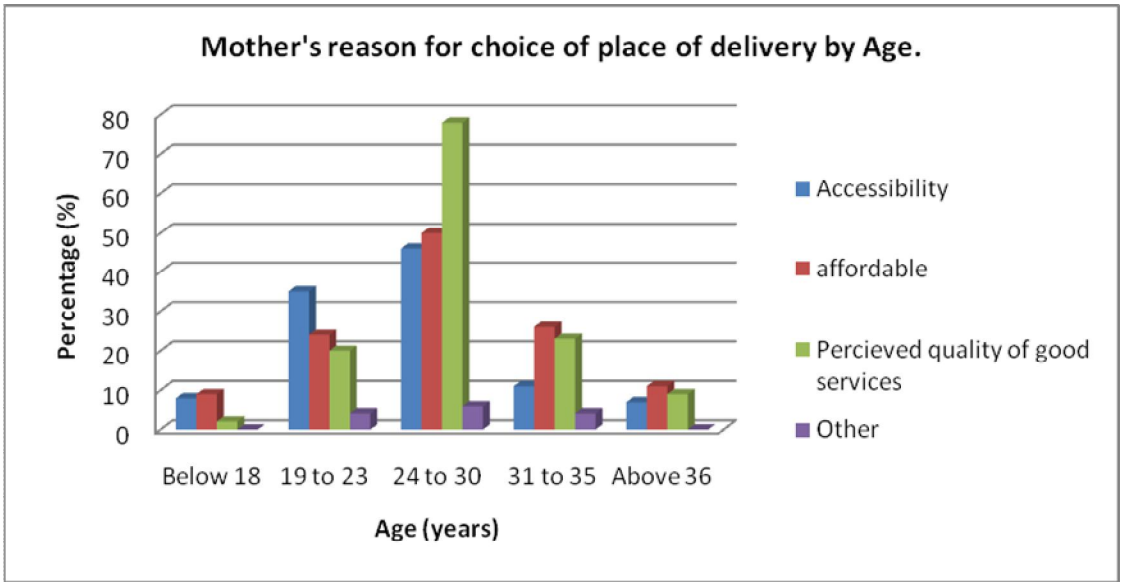
These are factors that influence place of delivery. They include attendance of ANC, place of delivery and its reasons. This section also has a bivariate analysis of some independent variables against place of delivery.



Source: primary data

Figure 2.0 Place of delivery among mothers.

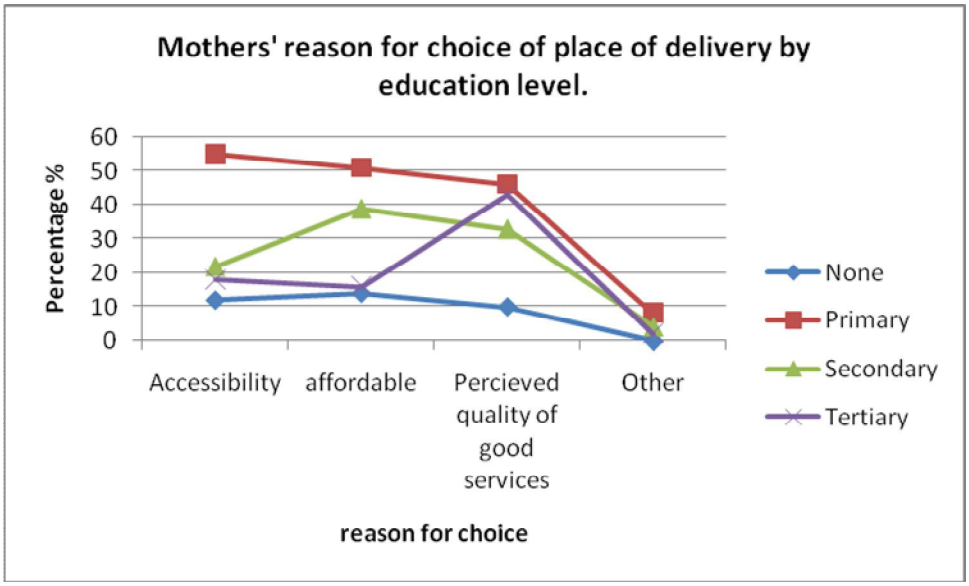
The figure above shows that 89% of the mothers in Kigungu village chose to deliver in health centers while only 11% of them chose elsewhere.



Source: primary data

Figure 3.0 Reasons for choice of place of delivery by age.

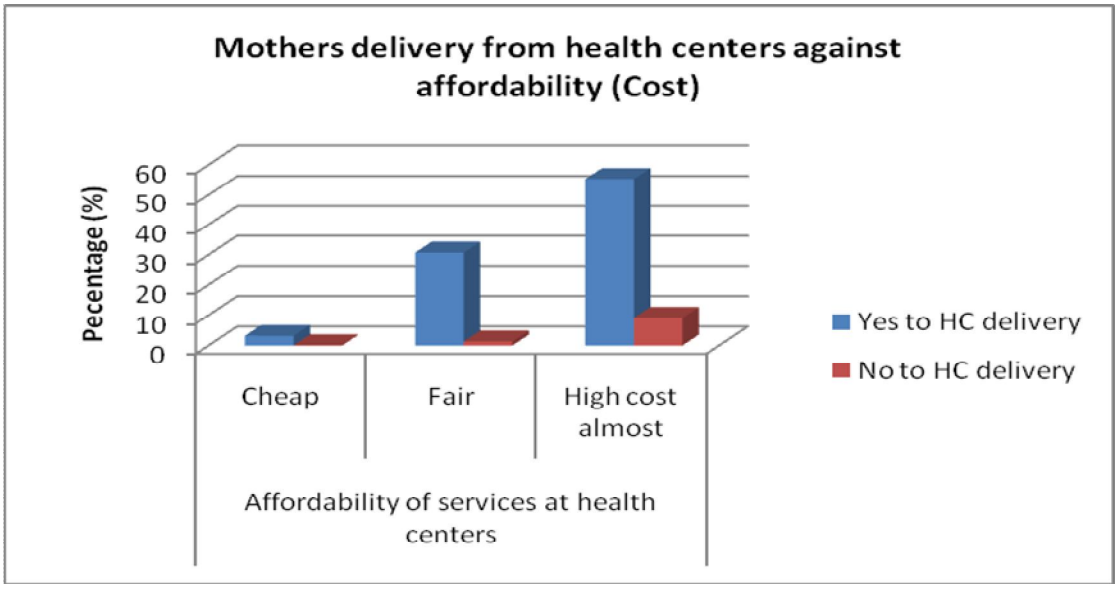
The graph 3.0 above shows that the dominant age bearing group (24-30 years), mothers chose to deliver in their respective places because of the perceived quality of good services. Mothers aged between 19 to 23 years chose places of birth due to accesibility. This reseacher attributes this mainly to the low education level of younger mothers in rural areas thus differing from the should be core reasons such as good services. Other reasons included directives from family members and friends among others.



Source: primary data

Figure 4.0 Mothers level of education against reason for choice of place of delivery.

The graph above shows that majority of mothers that had primary as their highest level of education, chose place of delivery due to accessibility while mothers with tertiary education went for perceived good services which should be the ideal reason for choosing a place of delivery. This shows that level of education influences place of delivery.



Source: primary data

Figure 5.0 Shows whether mothers delivered from health centers against affordability.

Over half of the mothers reported that delivery in health units was almost unaffordable. However there is also a high percentage of mothers who did not deliver in health units because of affordability.

Table 2.0 Socio demographic factors that determine place of delivery.

Independent Variables	**Mothers who delivered from health centers.** N is 374		**χ2 (95% CI)**	**P-value**
	Yes	**No**		
	334 (89.3)	40 (10.7)		
Mother's Age				
≤ 30 years	255 (68.2)	28 (7.5)	0.782	0.377
> 30 years	79 (21.1)	12 (3.2)		
Level of education				
None	31 (8.3)	6 (1.6)	4.293	0.232
Primary	144 (38.5)	16 (4.3)		
Secondary	91 (24.3)	7 (1.9)		
Tertiary	68 (18.2)	11 (2.9)		
Marital status				
Married	239 (63.9)	20 (5.4)	7.346	0.062
Single	50 (13.4)	10 (2.7)		
Separated/Divorced	32 (8.6)	6 (1.6)		
Widowed	13 (3.5)	4 (1.1)		
Number of children per mother				
≤ 2	161 (42.5)	17 (4.5)		
3 or 4	124 (33.2)	12 (3.2)	16.746	0.001
≥ 5	48 (12.8)	11 (1.9)		
Religion				
Anglican	101 (27.3)	6 (1.6)	34.380	0.001
Catholic	122 (32.6)	10 (2.7)		
Muslim	69 (18.4)	12 (3.2)		
Traditional believer	5 (1.3)	7 (1.9)		
Others	36 (9.6)	5 (1.3)		
Ocupation				
Business lady	82 (21.9)	7 (1.9)	7.312	0.063
Professional (Teacher etc)	44 (11.8)	3 (0.8)		
Peasant (subsistence farmer etc)	39 (11.2)	11 (2.9)		
Unemployed (House wife)	168 (44.4)	19 (5.1)		

Source: primary data

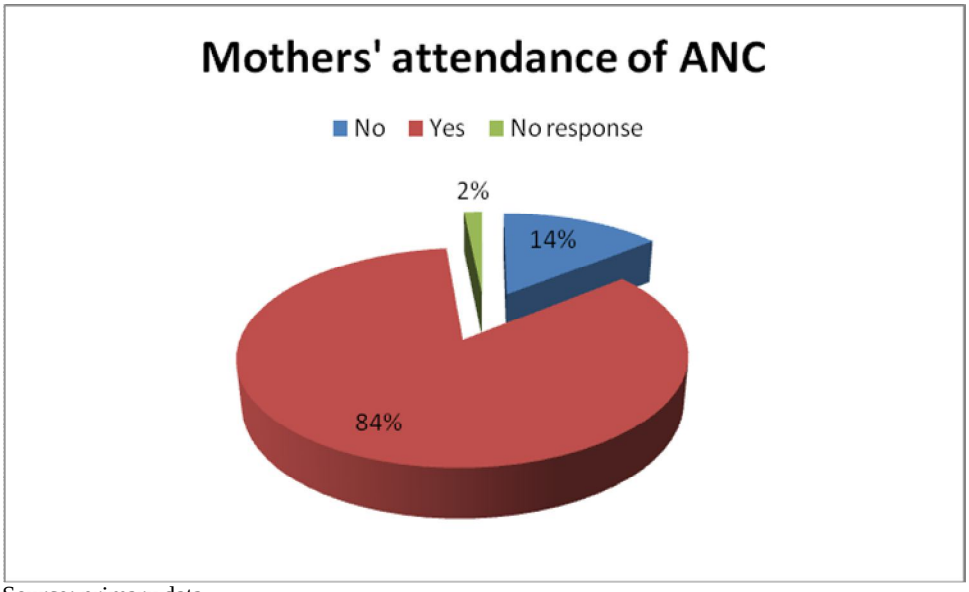
Dependent variable: Mother's delivery from health centers (0 = yes, 1 = no), P-value = 0.05

The table above shows that both number of children (parity of the mother) and religion were the social factors that influenced mothers' choice of place for delivery

The majority of the mothers that chose to deliver in health units had the following characteristics. They were most likely to be less than 30 years of age (68.2%), 38.5% of them had at least a primary level of education, 63.9% were married and had 1 or 2 children (42.5%). Furthermore they were likely to be Catholics (32.6%) and 44.4% of them were unemployed.

4.3. Maternal factors that influence place of delivery among mothers in Kigungu village.

This section describes some of the maternal factors that determine place of delivery. They include ANC attendance, mother's parity, past obstrtric history and complications,



Source: primary data

Figure 6.0 Mothers' attendance of ANC.

The figure above shows that over 8 in every 10 mothers attended ANC, however 14% still didn't attend while 2% did not give any response.

Table 3.0 Reasons for and against ANC attendance by mothers in kigungu village.

Did mother attend ANC?			
Yes, reason for attendance	**(%)**	**No, reason for not attending**	**(%)**
Educated about its use	76	Financial difficulties	48
Husband's directives	9	Information gap (lack of knowledge)	38
Other reasons i.e. To know the state and gender of the child.	15	Lack of services	14

Source: primary data

Of the mothers who attended ANC, 76% of them did so because they were educated about its importance while 15% gave other reasons like encouragement and support from family/ friends. A small number (9%) attended because they were directed by the spouse and did not know its importance. For the mothers who never attended ANC, 48% cited financial constraints as a hindering factor while 38% of them lacked knowledge/ information about ANC and its importance. Fourteen percent of the mothers knew of the importance but the services were not available (14%).

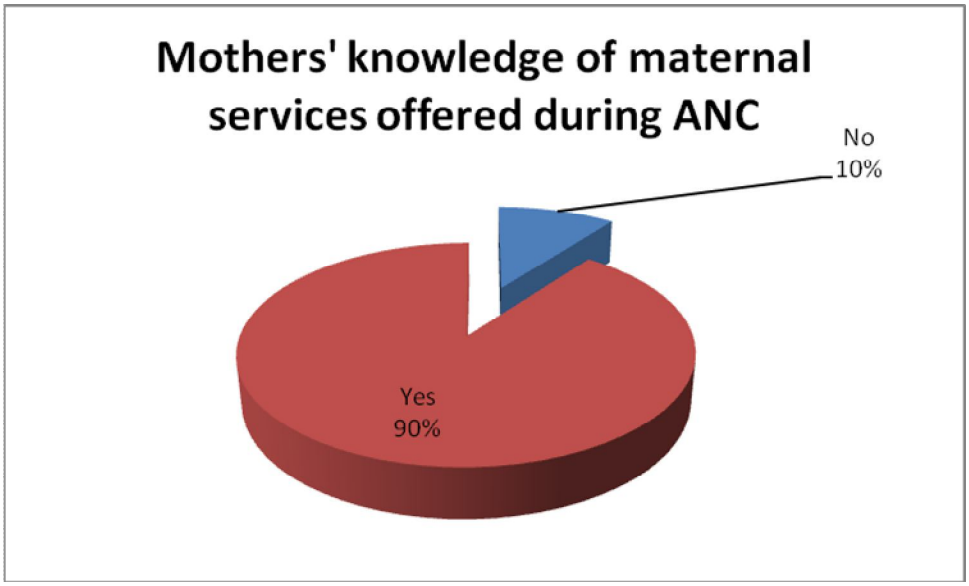
Table 4.0 Bivariate analysis of some maternal, health related & cultural factors and place of delivery.

Independent Variables	Mothers who delivered from health centers. N is 374		χ2 (95% CI)	P-value
	Yes	**No**		
	334 (89.3)	40 (10.7)		
Any complications during delivery				
Yes	102 (27.3)	12 (3.2)	0.005	0.944
No	232 (62.0)	28 (7.5)		
Knowledge of a woman dying during delivery				
Yes	277 (74.1)	3 (0.8)	2.427	0.119
No	57 (15.2)	37 (9.9)		
Influence that cultural beliefs and practices have in determining place of delivery				
A lot	130 (34.8)	18 (4.8)	0.657	0.720
Not at all	155 (41.4)	16 (4.3)		
To a less extent	49 (13.1)	6 (1.6)		
Does mother's culture encourage delivery of children from health centers				
Yes	305 (81.6)	29 (7.8)	13.243	0.001
No	29 (7.8)	11 (2.9)		
Were the health workers competent?				
Yes	294 (78.6)	13 (3.5)	74.89	0.001
No	40 (10.7)	27 (7.2)		

Source: primary data

Dependent variable: Mother's delivery from health centers (0 = yes, 1 = no), P-value = 0.05

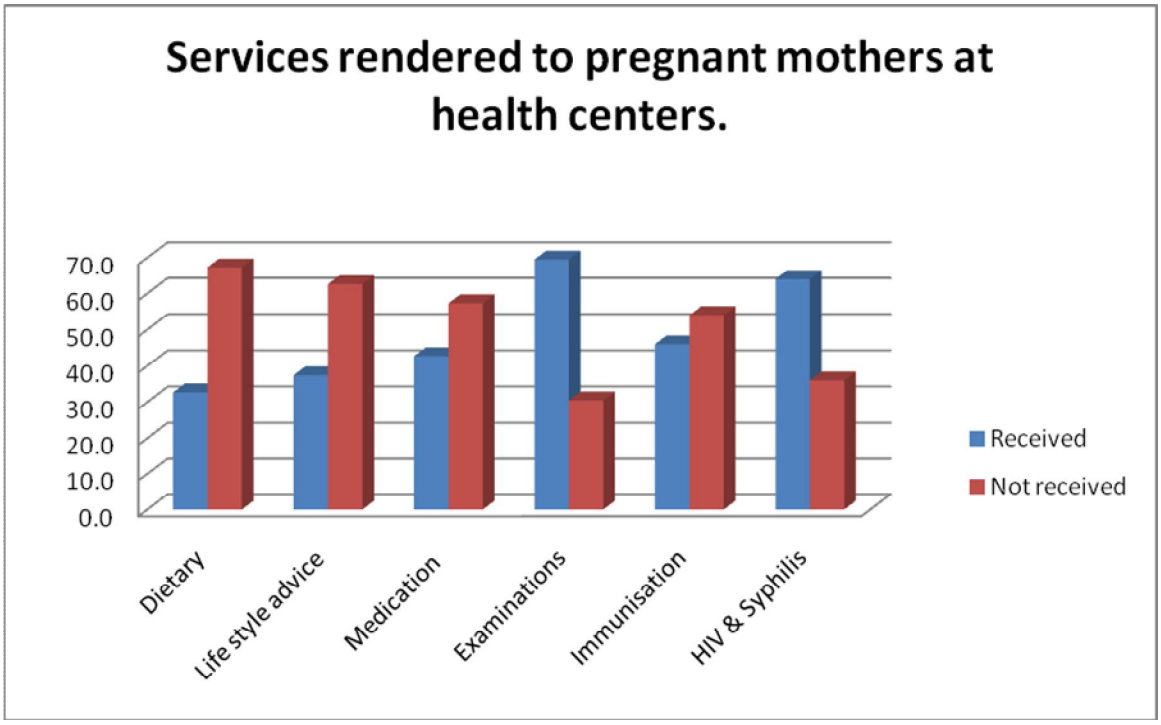
The table above shows that both cultural and health related factors (health workers' competence) influenced mothers' choice of place for delivery.



Source: primary data

Figure 7.0 Mothers'knowledge about services offered to prengant mothers

The pie chart above shows that 90% of the mothers interviewed knew about the services at health centers offered to pregnant women.



Source: primary data

Figure 8.0 Services rendered to pregnant women at health centers

The graph above shows that most mothers (77.0%) reported to having had an abdominal examination while they were pregnant followed by testing for HIV and syphilis. The least service available to pregnant mothers is dietary advice by close to 30% of the mothers.

4.4 Cultural factors that influence place of delivery among mothers in Kigungu village.

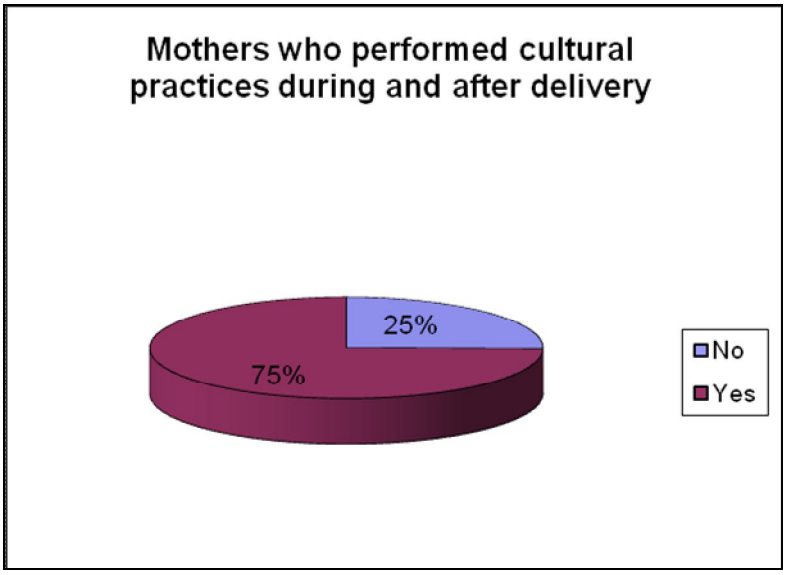
Table 5.0 Multivariate analysis of age, place of delivery, cultural influence on place of delivery

Mother's Age	Was your baby delivered from a health center?		Does mothers' culture encourage women to deliver their children from health centers?			χ2 (95% CI)
			No	Yes	Total	
Above 30	No	Count	4	8	12	
		% of Total	4.40%	8.80%	13.20%	
	Yes	Count	8	71	79	
		% of Total	8.80%	78.00%	86.80%	
	Total	Count	12	79	91	0.027
		% of Total	13.20%	86.80%	100.00%	
Less than 30	No	Count	7	21	28	
		% of Total	2.50%	7.40%	9.90%	
	Yes	Count	21	234	255	
		% of Total	7.40%	82.70%	90.10%	
	Total	Count	28	255	283	0.005
		% of Total	9.90%	90.10%	100.00%	

Source: primary data

There is a statistical difference between mothers whose culture encouraged delivery from health centers and those whose culture did not as shown by p values 0.027 and 0.005 less than level of significance 0.05. However mothers' age did not have any effect on the place of delivery.

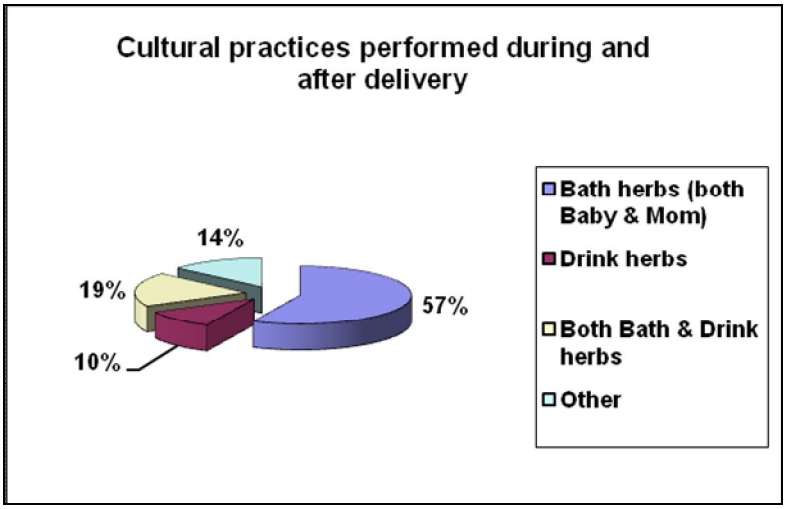
More than 3% of the mothers aged 30 and below delivered from health centers compared to those aged 30 and above. Over 4% of the mothers whose culture encouraged health center delivery did deliver from HC and were less than 30 years of age more that those above 30 years of age.



Source: primary data

Figure 9.0 Number of mothers who performed cultural practices during and after delivery.

The pie chart above shows that 75% of the mothers performed some cultural practices during and after delivery.

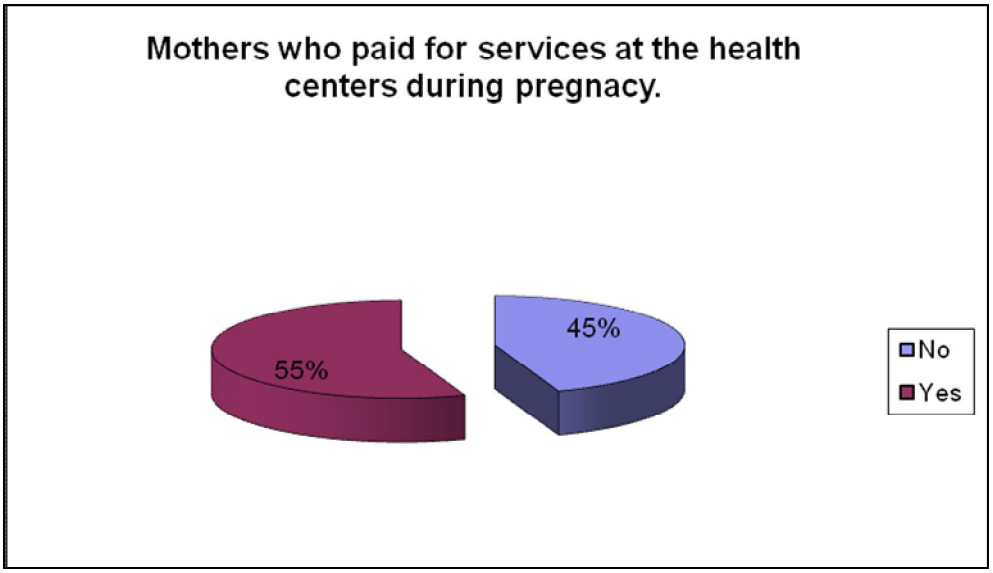


Source: primary data

Figure 10.0 Some of the cultural practices listed by mothers.

The graph above shows the majority of mothers and their new born were given herbs to bath (57%), 19% drink and bath herbs, 10% only drink medication while 14% reported other practices such as placenta disposal and cleansing.

4.5 Health facility related factors that determine place of delivery.



Source: primary data

Figure 11.0 Mothers who made any payment for services at the health units.

The graph above shows that 55% paid for antenatal care services at health centers while 45% did not pay any money.

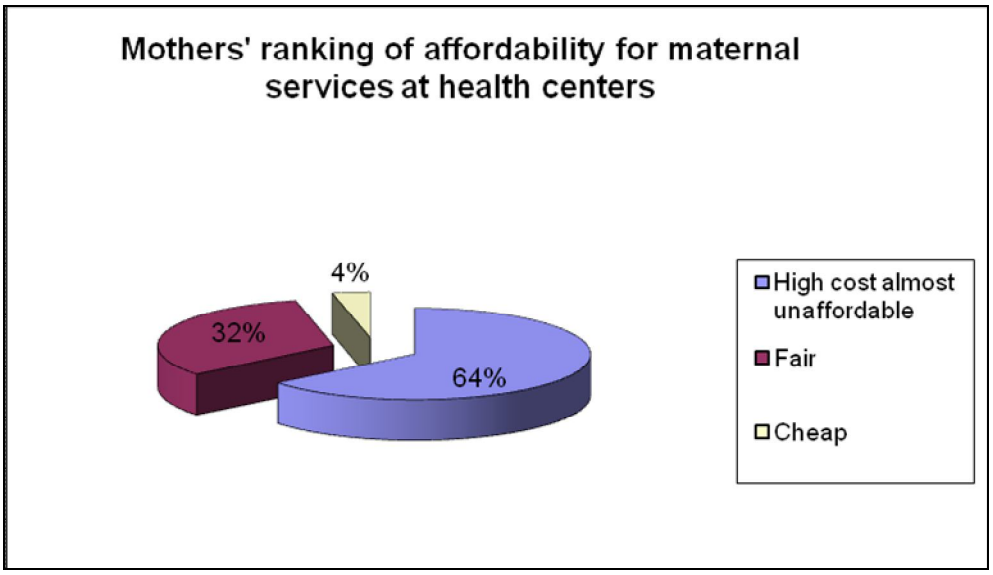


Figure 12.0 Affordability of services offered to pregnant women at health centers.
Source: - Primary data

The graph above shows that most mothers ranked affordability of maternal services as a high cost that is almost unaffordable.

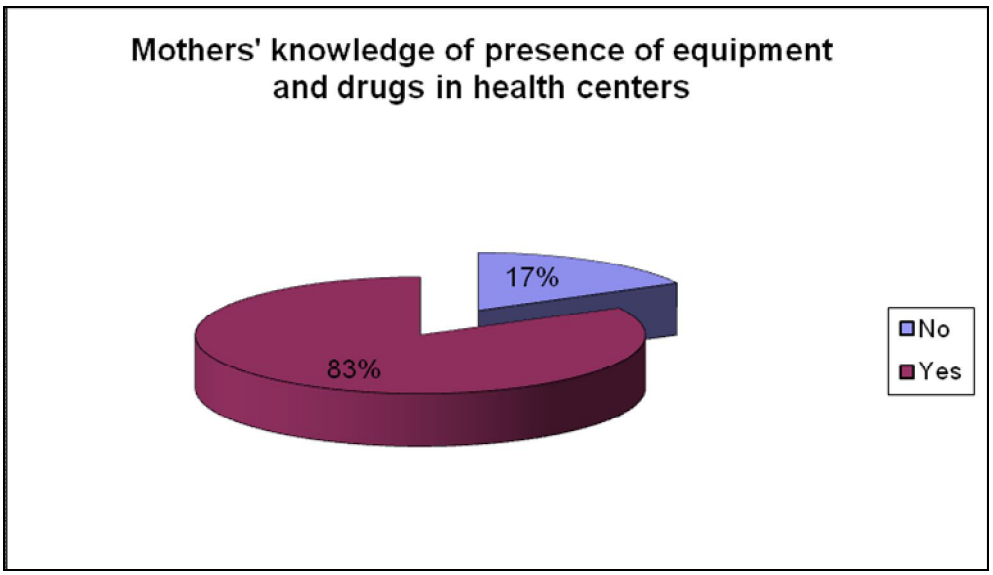
Table 6.0 Health workers attitude and rank of services

Mothers' perception of quality of care and health workers attitude			
Did services offered at HC meet pregnant mothers needs	**(%)**	**Health workers attitudes**	**(%)**
Agree	73	Good	82
Disagree	12	Fair/Average	13
Neither Agree nor Disagree	15	Poor	5

Source: primary data

Majority of the mothers (73%) perceived health services as being adequate for them while 12% disagreed and 15% neither agreed nor disagreed.

It also shows that 82% of the mothers ranked health workers attitudes as good. A small number of mothers 13% and 5% reported health workers' attitude as being average and poor respectively.



Source: primary data

Figure 13.0 Presence of of equipment and drugs during delivery.

The graph shows that 83% of mothers thought drugs and other eduipment were available in health units during delivery while 17% said they were inadequate. This could have attributed to the high ANC and delivery rates in Kigungu as perceived by the mothers.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

The study investigated determinants of place of delivery among rural mothers in Kigungu Village Entebbe health sub district in Wakiso district. The following chapter discusses the findings of the study and also highlights any similarities or differences with other studies.

Characteristics of the mothers in Kigungu village.

The majority of the mothers in Kigungu were 30 years and below (75.4%) and were married Christians (Catholics, Anglican, Pentecostals) from the Central region of Uganda. Most mothers had primary as their highest level of education, unemployed with less than or equal to 2 children.

Religion and parity were among the factors that influenced health unit delivery with p value of 0.001 < level of significance 0.05. This means that the 2 factors were likely to determine place of delivery among the mothers in Kigungu village.

As the number of children per woman increased, the chances of not delivering in either health units decreased, this was attributed to increased knowledge brought about by experience. Regardless of one's religion, most mothers chose to deliver in health units.

Age, level of education, marital status and occupation of the mother did not influence place of delivery because they all had p values greater than 0.05, the level of significance.

The above findings are somehow different from other studies which showed that marital status, age, level of education as major determinants of place of delivery (Atuyambe et al 2008, Idris et al 2003, Owusu 2007). This could be brought by continued Government and NGOs sensitization on maternal health issues which usually target the whole population.

Place of delivery: Eighty nine percent of the mothers in Kigungu village delivered in health units (government owned or private) while only 11% delivered home or TBA's place. This prevalent rate is higher than the national prevalence of 42% and indicates great improvement.

The reasons that could explain the high health unit delivery rates were influenced by the mothers' knowledge about ANC services (90%), mothers' perception on the availability of drugs and equipment at 83% and health workers' competency (82%). These are major factors that could have enhanced delivery from health units.

Even though many mothers in Kigungu village are less likely to deliver at home or the TBAS place, there is still more sensitization needed (the 11% who chose home deliveries) in order to know the importance of delivering under skilled professional care.

Other studies done elsewhere showed that mothers avoided health unit delivery because the services were not readily available and also reported that the health workers treated them poorly hence they chose to deliver at home or at the TBA's place who they viewed as friendly and kind (Kyomuhendo 2003, Tann et al 2007).

The reasons why mothers chose to deliver in their respective places are shown in figure 3.0. Among the dominant child bearing age group, most mothers chose places of delivery because of the perceived quality of good services. Mothers aged between 19 to 23 years chose places of delivery due to accesibility. The reseacher attributes younger mothers in rural areas to have low education and financial constraints hence the reson for place of delivery (accessibilty factor) as opposed to good qulality care. Other reasons included directives from family members and friends among others. Comparing mothers' level of education and reason for choosing place

of delivery (figures 4.0 and 5.0), it was noted that mothers with primary education as their highest level of education mainly chose accessibilty as reason for choice while those with tertiary education chose quality of services.

These findings are similar to those of Sabine et al 2009 who noted that highly educated women were most likely to deliver in health units because of the good services offered while their counterparts chose places of delivery that were accessible and fairly cheap regardless of the quality of care offered. This shows that there is need to assist younger mothers as they often go for affordability and accessibility when choosing place of delivery. It has been shown by some studies that TBAs are more affordable therefore in some communities they deliver many mothers (Sabine et al 2009). There is a need to subsidize cost especially for the young mothers and create awareness of services in health centers. The government has to ensure that medical supplies and trained health workers (these constitute perceived good quality care) are available in these units in order to encourage mothers to deliver in health units.

Social- demographic factors

Table 2.0 shows bivariate analysis of some independent variables against place of delivery. Of the mothers who chose to deliver in health units, 68.2% were below 30 years of age and likewise this same age group was dominant in home/ TBA's for delivery (7.5%). Age was not a determinant of place of delivery since its p value was 0.378 > than 0.05 the level of significance.

In the same table which shows mother's level of education and place of delivery, mothers with primary education were the most dominant in health units and home deliveries as shown by 38.5% and 4.3% respectively. The least mothers to deliver in both categories of birth places (health units or home) were those with no education at all. The study further revealed that almost all mothers with tertiary level of education went for perceived good services. This could have been enhanced by their knowledge about available services, knowledge about benefits of seeking good maternal care and coupled with financial support. Level of education was not a determinant factor for place of delivery with a p value of 0.23 > than 0.05 the level of significance value.

The bivariate analysis of marital status and place of delivery showed that most married mothers 63.9% delivered in health units as compared to 5.4% who delivered at home/ TBA's. Widowed mothers were the least likely to deliver in health units as was shown by 3.5%. The researcher attributed this to lack of support especially financially from a spouse as opposed to married mothers. This therefore shows the importance of having a spouse as this encourages a mother to choose a place of delivery because of good services as opposed to accessibility and affordability (NHP 2010).

Marital status was not a determinant factor for place of delivery since its p value was 0.062 > than the level of significance.

The findings are also similar to those of Amandu 2004 who reported that single, widowed mothers chose not to deliver in health units because they feared being ridiculed and scorned for getting pregnant yet they did not have a significant spouse to offer support during that time.

Mother's occupation did not have a significant relationship with place of delivery with a p value of 0.06 which is greater than 0.05 the stated value.

Maternal factors that determine place of delivery among mothers in Kigungu ,Wakiso district.

Figure 6.0 shows mothers' ANC attendance rates as 84% while 14% did not attend ANC and 2% gave no response. This shows a slight improvement from the national health unit prevalence rate of 79% (UDHS 2006). This implies that MOH should be recommended for the improvement in creating awareness about ANC and making services available in the communities.

Majority of the mothers who attended ANC 76% of them said they did so because they knew of its benefits while 9% of them were directed by their spouses. Fifteen percent of them said they went for ANC because of influence from family and friends (Table 3.0).

In the same table, the reasons why mothers did not attend ANC were because of financial constraints (48%), 38% of the mother said they were not aware of the services being offered anywhere while 14% said the services were not available in the community.

The findings are similar to those of Atuyambe et al 2008 and Nduba 2010 which showed that lack of knowledge on available health care services, high costs incurred when accessing health care and unavailable services in the communities as reasons given by the mothers who did not attend ANC. This shows that there is still need for the government to sensitize communities about available health services while ensuring that they are readily accessible as well.

Figure 7.0 shows mothers knowledge of available ANC services. The data showed that 90% of the mothers interviewed knew about the services at health centers offered to pregnant women.This shows that most women in rural areas know about the services offered to pregnant women at health centers but some don't recieve them as shown by the 14% who didn't attend ANC because of reasons shown in table 3.0.

Of the services offered during ANC, 77% reported to having had an abdominal examination, followed by HIV and syphilis testing, immunization, medication, life style advice and lastly dietary couselling in that order. A number of the mothers got a combination of some or all of the services. MOH is recommended for making these services available to the mothers in Kigungu village. Despite the available services, there were some mothers who reported not to have received the most basic ANC service which is an abdominal examination and yet this is vital in dictating early danger signs during pregnancy and delivery. Other mothers reported not to have had services as shown in figure 8.

Table 4.0 shows a bivariate analysis of some maternal, cultural and health facility realated factors against place of delivery. The findings are peculiar because of the mothers who got complications during delivery, 27.3% of them were in health units while only 3.2% were at home. In the same table, 74.1% of the mothers who reported to having heard of a woman dying during pregnancy said the place of delivery was in health units. Other studies done elsewhere indicated that the causes of deaths in health units was as a result of late refferals of mothers having tried to deliver at home under unskilled care and complications arose (Mekonnen 2003, Baguma 2010). On arrival in health units, the information that the mothers tried to deliver at home or TBA's place is concealed from the health workers and the blame is put on the health units as the place of death.

This researcher therefore could not attribute the maternal deaths in health units to any particular factor but only encourages more research to be done so as to explore this issue.

The bivariate analysis showed no significant relationship between mother's complications and knowledge of a woman dying during delivery since both had p values of 0.95 and 0.12 greater than 0.05 as shown in table 4.

Cultural factors that determine place of delivery among mothers in Kigungu, Wakiso district

Table 4.0 shows a bivariate analysis of some cultural factors and place of delivery. It shows that 41.4% of the mothers were not influenced by cultural beliefs/practices since they chose to deliver in health units, 34.8% of them still delivered in health units though they were greatly influenced by culture and only 13.1% who delivered in health units were mildly influenced.

Cultural beliefs and practices did not determine place of delivery since p value was 0.72 > than the level of significance 0.05. This means that the mother's cultural beliefs do not influence whether to deliver in health units or not.

However in the same table, mother's culture was found to determine place of delivery with a p value of 0.001 < than the level of signficance.

In a multivariate analysis of mother's age, place of delivery and whether culture encouraged her to deliver in a health unit, there is a statistical difference between mothers whose culture encouraged delivery from health centers and those whose culture did not as shown by p values 0.027 and 0.005 < the level of significance 0.05. However mothers' age did not have any effect on the place of delivery. Mothers who were 30 years and below were more likely to deliver in health units and their culture encouraged them to do so as shown by 3% and 4% respectively as compared to their counterparts aged 30 years and above.

Much as mothers were not influenced by culture when deciding the place of delivery, they still carried out some practices as shown by 75% in figure 9.0. Some of the cultural parctices done are shown in figure 10.0. Majority of the mothers together with their new born babies (57%), were given herbs to bathe, 19% of them drank and bathed herbs, 10% only drank herbal medication while 14% reported other practices such as placental disposal and other cleasing rituals.

The findings are similar to those obtained by Kyomuhendo 2003 and Emily 2010 in which herbs were used for bathing and drinking by both the mothers and their new born. Herbs given to the mother during before or during delivery were meant to soften the muscles in the birth canal and also to precipitate labor therefore making it short and less painful. The herbs given to the new born were meant to soften the baby's skin making it attractive and also to cleanse and protect the infant from evil spirits.

Health facility related factors that influence place of delivery.

Table 6.0 shows mothers perception on the adequancy of maternal services offered in health units. Majority of them (73%), perceived services as being adequate while 12% disagreed and only 15% neither agreed nor disagreed.

While comparing health workers' attitude and competence in tables 6.0 and 4.0, 82% and 78.6% of mothers perceived good attitude and competence of health workers respectively. The bivariate analysis indicated that mothers'perception of health workers' competence determined place of delivery with a p value of 0.001 < than the level of signficance 0.05.

The Government of Uganda through MOH should be applauded for training proffessional health workers into being competent in maternal care delivery. The researcher attributes high health unit delivery rate in Wakiso distrcict to the mothers' perceived good services offered in health units that includes competent health workers and available drugs and equipment. Also the high delivery rate in Kigungu Entebbe health sub district could be as a result of the study area being semi urban and the district itself borders with Kampala district which is an urban area.

Figure 11.0 shows mothers who paid for services at health units as being 55%. These mothers could have delivered from private health units or if in government health units they were requested for buy some drugs or necessities such as gloves, surgical razor blades, syringes or delivery polythene bags.

Figure 13.0 shows whether mothers perception on the availability of drugs and other equipment. It shows that 83% of them thought that drugs and other equipment were available in health units while only 17% differed from this belief.

Figure 12 shows affordability of services when pregnant and during delivery. Over half of the mothers reported services as being unaffordable (65%), 32% said they were fair/ affordable while only 3% said they were cheap. The unaffordable costs are mainly because majority of the mothers are unemployed or carry out subsistance farming as a source of income and this low income makes it difficult when it comes to affordability of maternal services. As a result these poor women avoid seeking skilled health care when pregnant and may chose to deliver elsewhere.

This is as opposed to other studies which revealed that women were not delivering in health units because of bad attitude and non proffesional behaviour of health workers coupled with poor services and unavailable equipment and drugs (Mabirizi 2004). The similarity with others studies is that high costs of seeking health care discourages mothers from choosing good places of delivery such as health units.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

This chapter gives a summary of the major findings as discussed in chapter 5. It also includes the researcher's recommendations based on the study findings.

6.1 Conclusion

Bio data and social- demographic factors that determine place of delivery in Kigungu.

In Kigungu, majority of the mothers were below 30 years, married, Catholics, had primary level of education as their highest attainment, unemployed, from Central Uganda and had less than 2 children.

Eighty nine percent of the mothers in Kigungu village Entebbe health sub district delivered in health units while the remaining 11% chose to deliver at home/ TBA. Religion and parity were determinants of place of delivery with p value of 0.001 < than the level of significance. These 2 factors were likely to influence place of delivery. Mothers with fewer children were more likely to deliver in health units and religion encouraged them to seek skilled health care during pregnancy and delivery. Age was not a determinant of place of delivery.

Maternal factors that determine place of delivery among mothers in Kigungu village.

The study shows a marked improvement in mothers seeking ANC and also the delivery rates in health units has increased 84% and 89% respectively.

However some women were not aware of any maternal care services and also did not receive some ANC like an abdominal examination while at the health units. Therefore there is need to continue sensitizing mothers about ANC services their benefits and the MOH should design safe motherhood programs in which comprehensive services can be offered appropriately to all mothers.

The study also revealed that more mothers who delivered in health units got complications and they had heard of a woman dying in health units during delivery.

Cultural factors that influence place of delivery in Kigungu village Wakiso district.

Culture influenced place of delivery with p value of 0.001< the level of signficance. Regardless of the cultural beliefs, 90% of the mothers delivered in health units and carried out some practices as shown by 75%. The most common practice was herbal medication either for the new born baby or the mother or both for either for drinking and bathing. However there is need for more research on the safety, efficacy and if necessary the tolerable doses of the herbs used.

Health related factors that influence place of delivery among mothers in Kigungu, Wakiso district.

Mothers in Kigungu perceived maternal services to be adequate (73%), health workers were competent and had a good attitude (78.6% and 82%), and while 83% said drugs and other equipment were available in health units. Health workers' competence was a determinant of place of delivery with p value of 0.001< than the level of significance.

Much as the services were perceived to be available, they were unaffordable by 65% of the mothers who also are majorly unemployed.

In conclusion therefore, mothers in Kigungu village chose to deliver in health units because of the available maternal services (drugs and other equipment) and the health workers' attitude and competence which they perceived as good. The mothers' knowledge of maternal services and their availability could have enhanced them to deliver in health units.

The place of delivery was determined by mother's parity, religion, culture and perception of health workers' competence. Age was not a determinant for place of delivery.

The factor that seems to hinder mothers from delivering in health units were the high cost of services therefore unaffordable to majority of the mothers who are unemployed.

6.2 Recommendations

1. The Government should use religious activities when promoting safe motherhood practices. Sentitazation of reproductive health issues including place of delivery campaghns can be initiated in religious institutions.

2. Government should continue to make maternal health care its priority and services should be readily available and affordable to all. It can do this by working in partnership with private health facilities and should subsidize maternal service costs. The improvement of access and quality of care in health units though technically and financially difficult may also prove to be an important intervention for promoting delivery in health units.
3. More research should be carried out in health units to ascertain causes of complications and how they can be avoided. More studies should also look at cultural practices especially herbal medication,its efficacy and effectiveness.

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APPENDIX

Appendix A: Questionnaire for mothers of children aged 2 years and below.

My name is Wavamunno Priscilla a Master's student of Public Health from International Health Science University. I am carrying out a study to find out factors that determine place of delivery among mothers living in this area. You have been chosen to take part in the study because you recently had a child and this child is below 2 years of age. The information gathered will help to identify gaps in health care delivery and how best to handle them in order to improve maternal care in Uganda.

You are requested to join the study by answering some questions. This is voluntary participation and you are free to withdraw from it any time you feel like. No names will be used on these questionnaires.

Initials of interviewer……..

Questionnaire NO……. Date …….

A:Social-demographic data the mother. Circle appropriately

1. How old are you?

a. Below 18 b. 19 to 23 c. 24 to 30 d. 31 to 35 e. Above 36

2. What is the highest level of education that you attained?

a. None b. Primary c. Secondary d. Tertiary

3. What is your religion?

a Anglican b. Catholic c. Muslim d. Traditional believer

e. Others (Specify) ……..

4. From which part of Uganda do you come?

a. South b. North c. East d. West e. Central

f. Others (specify) …….

5. What is your occupation?

a. Business lady b. Professional (Teacher, Medical Personnel etc) c. Peasant

d. Unemployed

6. What is your marital status?

a. Married b. Single c. Separated/ Divorced d. Widowed

7a. How many pregnancies have you carried including miscarriages?

a. Less than 2 b. 3 to 4 c. 5 to 6 d. 7 and Above

7b. Of these, how many of the children are alive?

a. All of them b. Some c. None

B: Information about the spouse.

8. What is the highest level of education attained by your husband?

a. None b. Primary c. Secondary d. Tertiary

9. What is his occupation?

a. Business Man b. Professional (Teacher, Medical Personnel etc) c. Peasant

d. Unemployed

10. What is the average family monthly income in Ugandan shillings?

a. Below 50,000 b. Between 50,000 to 150,000 c. Between 150,000 to 250,000

d. Above 250,000

C. The next set of questions refers to events during pregnancy and delivery of the baby who is less than 2 years of age.

11. Where was your baby delivered from? Tick only one.

a. Government hospital/ Health center b. Private hospital/ Clinic c. TBA

d. Home

12. Why did you choose to deliver from the above mentioned place? Tick all that apply.

a. Accessible b. Affordable c. Good services (professionals)

d. Others (Specify)

…….

……

13. Did you attend ante natal care in a health unit when you were pregnant?

a. Yes b. No

14. If yes, why did you attend ante natal care? Tick all that apply.

a. Educated about its use

b. Because of my Husband

c. Others (Specify)

…….

……..

15. If no, why did you not attend ante natal care? Tick all that apply.

a. Financial difficulties (cost of service and transport to access the unit)

b. Information (lack of knowledge about its use)

c. Lack of services

d. Others (Specify)

……..

……

16. If yes to Qn 13, how many times did you go for ante natal care?

a. None b. Less than 2 c. 3 to 4 d. All the visits

17. Did you get any complications during the delivery?

a. Yes b. No

18. If yes what were the complications that you got during delivery? Tick all that apply.

a. heavy bleeding b. b.fever c. infections d. Dehydration

e.backpains f.abnormal position of the baby g.tears

h. Others (Specify)

……

……

D: Maternal factors including services and risk factors in pregnancy and delivery.

19. Do you know of any services that are offered to pregnant women in the nearest health unit?

a.)Yes b.) No

20. If yes, what maternal services are obtainable at that health unit? Tick all that apply.

a. Dietary b. Lifestyle advice (exercising) c. Medication (Vitamins)

d. Examinations (Blood pressure, Weight, Baby positioning etc) e. Immunization (tetanus),

f. HIV & Syphilis testing and treatment

g. Others (Specify)

……
……..

21. Do the services meet all the needs of pregnant mothers?

a.) Agree b.) Disagree c.) Neither Agree nor Disagree

22. Have you ever heard of a woman dying during pregnancy, delivery or soon after birth?

a.) yes b.) no

23. If yes, where did she give birth from?

a. Government hospital/ Health center b. Private hospital/ Clinic c. TBA

d. Home

24. What danger signs do you know that can occur during pregnancy or delivery? Tick all that apply.

a. Bleeding b. Weight gain

c. Nightly cramps in the legs are another common pregnancy problem.

d. Contractions of the uterus.

e. Infections (Urinary tract infection, fever, diseases such as herpes, pregnancy diabetes)

f. Mental diseases (Depression) h. swelling of the legs

g. Others (Specify)

……..

……

25. In case any of these happened what would you do? Tick all that apply.

a. Nothing b. wait for my husband, the decision maker and he tells me what to do.

c. Ask a friend/ relative/ neighbor for advice d. To go TBA e. Use herbs

f. Do not know g. Go to hospital

26. Which of these groups of pregnant women are at high risk during pregnancy or delivery? Tick all that apply

a.) women carrying more than 1 fetus at a time e.g. twins

b.)Very young i.e. below 18 years

c.) very old i.e. above 40 years

d.)Those who have had more than 8 pregnancies

e.) those who have any existing illness e.g. hypertension. Diabetes, heart, liver, kidney diseases

f.) HIV/AIDS women

g.) those who have ever had a caesarian operation

h.)Extremely short women

i.) those that have ever had any complication during previous pregnancy or delivery e.g. death of a baby, vacuum extraction etc.

j.) none of the above

k.) I do not know.

l.) others

……

……..

27. Where did you get this knowledge about the above factors from? Tick all that apply.

a.) during Ante natal visits

b.) friends, relatives, neighbors

c.) while at school

d.) media e.g. radio, television, newspapers

e.) others

Specify……

……

……

E: Mothers knowledge on cultural beliefs and practices during pregnancy.

28. Does your culture encourage women to deliver children in a health center?

a. Yes b. No

29a) Are there cultural practices performed at home or TBA's place after delivery of a baby?

a. Yes b. No

29b. If yes, what are some of the cultural practices?

……
……..

……..

30. How do the above beliefs and practices influence your choice of delivery?

a. Not at all b. To a less extent c. A lot

F: Health facility factors for only mothers who delivered in a health center please answer questions 31-36. If you delivered at the TBAs or at home please answer questions 37 to 40.

31. How was the attitude of the health workers during the previous pregnancy?

a.) very good b.) Good c.) Fair/average d.) Poor

32. During your pregnancy, did you pay for any services at the health center?

a.) yes b.) No

33. If yes, how much in terms of affordability did you pay for the services?

a.) high therefore almost unaffordable b.)Fair c.)Cheap

34. In your opinion, do the health workers have the competence necessary to treat you during delivery?

a.) yes b.)No

35. During delivery in the health centers, is there equipment including drugs?

a.) yes b.) no

36. Any recommendations that you think may help to improve the health center so that mothers are able to deliver there?

a. Increase Accessibility b. Charges should be subsidized c. Good services (professionals)

d. others specify

……..……

……

…….

F: TBA facilities. For mothers that delivered at the TBA's place or elsewhere please answer questions 37- 40.

37. How was the attitude of the TBA or the person who helped you during the previous pregnancy?

a.) very good b.) Good c.) Fair/average d.) Poor

38. How do you rate services at the TBAs place in terms of cost?

a) Cheap therefore affordable. b) Fair c) expensive

39. In your opinion what special care did the TBA offer that is not available in health centers?

……

……

40. How can the TBAs be assisted in order to offer better quality care to mothers during delivery?

……

……

……

THANK YOU

Appendix B: Ebibuuzo bya Bamaama abalina abaana ab'emyaka ebiri (2) n'abatannagiweza.

Nze Wavamunno Priscilla, omuyizi mu International Health Science University era nga nsoma Diguli yakubiri (Masters). Ndi mu kukola okunoonyereza ku nsonga eziviirako abakyala abazito, okusalawo ekifo gyebagenda okuzaalira mu kitundu kino. Olondebbwa okwetaba mu kunoonyereza kuno kubanga wakazaala era omwanawo aliwa wansi w'emyaka ebiri. Bwiino akunganyizibbwa wakuyamba okuzuula emiwaatwa mu kuwa obujjanjabi ate n'okuzuula engeri y'okuziba emiwaatwa gino kisobozese obujjanjabi obulungi eri Bannakazadde mu Uganda.

Osabibwa okwetaba mu kunoonyereza kuno ng'oddamu ebimu ku bibuuzo bino. Okwetaba mu kunoonyereza kuno kwakyeyagalire, osobola okusalawo okuvaamu obudde bwonna nga bw'oba oyagadde. Tetujja kuwandiika Mannyago ku lupappula luno.

Ennukuta z'amannya g'abuuza……..

Omuwendo gw'olupappula lw'ebibuuzo …….

Ennaku z'omwezi …….

A: Ebikwata ku maama.

1. Olina emyaka:

a) Wansi wa 18 b)19-23 c)24-30 d)31-35 e) Waggulu wa 36

1. Wasomako kutuuka mu:

a) Saasomako b)Pulayimale c) Siniya

d)Tendekero eryawaggulu

3. Oli wa Ddiiniki oba nzikirizaki? (Teeka akayini ku Ddiiniyo)

a.) Mukristaayo b.)Mukatoliki c.)Musiraamu d.)Nzikiriza ya Kinnansi

e.) Ndala (Giwe wano…….)

4. Mu Uganda osibuka mu kitunduki? (Teeka akayini ku kitundu kya Uganda gy'ova)

a.) Maserengeta b.)Mambuka c.)Bukiika ddyo d.)Bukiika Kkono e.) Mu makkati ga Uganda f.) siri mu nauganda

5. Okola mulimuki?

a)Bizinensi b)Mulimu mutendeke (Musomesa, Musawo n'ebirala) c) Mulimi

d) Ssikola

6. Oyimiridde otya ku by'obufumbo?

a.) Ndi mufumbo b.) Ndi nzekka c.) Twayawukana d.) Ndi Nnamwandu

7ª. Wakafuna embuto mmeka ng'otwaliddemu nezavaamu?

a) Teziwera bbiri b) 2-4 c)5-6 d)7 okweyongerayo

b. Kuzino olinawo abaana bameka?

a) Bonna webali b)Abamu c)Tewali n'omu

B: Ebifa ku Mwami oba omwagalwawo.

8. Omwamiwo yasoma kukoma wa?

a) Saasomako b)Pulayimale c) Siniya d)Tendekero eryawaggulu

9. Akola mulimuki?

a)Bizinensi b)Mulimu mutendeke (Musomesa, Musawo n'ebirala) c) Mulimi

d) Talina ky'akola

10. Okutwaliza awamu mufuna sente mmeka awaka buli mwezi?

a.) Wansi w'emitwalo 50,000 b.) Wakati w'emitwalo 50,000- 150,000 c.) Wakati w'emitwalo 150,000- 250,000 d.) Zisinga mu mitwalo 250,000

C. Ekitundu kino kikwata ku byaliwo ng'oli lubuto ate ne gyewazaalira omwanawo ono ali wansi w'emyaka ebiri.

11a. Omwanawo wamuzaalirawa?

a.) Mu Ddwaliro lya Gavumenti b.) Mu Kilinika ya bwa Nannyini c.) Wa Mulerwa d.) Waka

12. Tusaba otuwe ensonga lwaki wasalawo okuzaalira mu kifo ekyo ky'otuwadde waggulu?

a) Waali kumpi b) Ng'ebisale bisoboka c)Bakola bulungi (Batendeke) d)Nsonga ndala (Giwe wano)

……
……
…….

14. Bwewali olubuto, eddagala walinywanga mu Ddwaliro? (Teeka akayini awatuufu)

a.) Yee b.) Nedda

15. Bwekiba Yee, lwaki wagendanga mu Ddwaliro?

a) Nasomesebwa b) Nagendangayo lwa mwami wange

c)Nsongandala(Giwewano)……
……

16. Bwkiba Nedda, lwaki tewangendanga?

a) Ssaalina nsimbi (ez'Eddwaliro n'entambula) b)Nali ssimanyi c)Tewaali buujjanjabi d) Nsonga ndala (Giwe wano)……
……

17. Wafuna obuzibu bwonna mu kuzaala?

a.) Yee b.) Nedda

18. Bwekiba Yee, wafuna buzibuki?

a) Navaamu omusaayi mungi b)Omusujja c)Nakwatibwa ebirwadde d) Naggwaamu amazzi e)Okulumwa omugongo f) Omwana yali yekiise

h) Okupasuka i) Kirala (Kiwe wano)……
……

D: Obumanyi ku by'obujjanjabi bw'abakyala ab'embuto ate n'obuzibu obuyinza okubeerawo mu kuzaala

19. Omanyi obumu ku buyambi/obujjanjabi obuweebwa abakyala abazito mu Ddwaliro erikuliraanye? (Teeka akayini ku kituukana naawe)

a.)Yee b.) Nedda

20. Bwekiba Yee, tuwe obuyambi buno bwomanyi, wammanga:

a) Ebyendiisa y'Abaana b)Okukola dduyiro c)Eddagala d)Okukeberebwa (Obuzito, entunnunsi,ekifo ky'omwana n'ebirala) e)Okugema f) Okukukebera n'okujjanjaba endwadde z'ekikaba g) Ndala (Ziwe wano wammanga)……

21. Olowooza obuyambi buno bukwata ku byetaago by'Abakyala ab'embuto byonna?

a.) Nzikiriza b.) Sikkiriza c.) Sirina ludda

22. Wali owulidde ku Mukyala afa ng'ali lubuto, mu Ssannya oba afa amangu ddala nga yakamala okuzaala?

a.) Yee b.) Nedda

23. Bwekiba Yee, yazaalirawa?

a.) Mu Ddwaliro lya Gavumenti b.) Mu Kilinika ya bwa Nannyini c.) Wa Mulerwa d.) Waka

24. Bubonero ki obubi bwomanyi obuyinza okulabika ng'oli Lubuto oba mu kuzaala bwomanyi: Teeka akayini ku kyonna ekituufu

a) Okuvaamu omusaayi b)Okugejja ennyo c)Okuzimba n'okusannyalala ebigere

d)Okuzimba kwa Nnabaana e) Agalwaddelwadde gamba ng'omusujja, endwadde z'ekikaba n'endala f)Okwennyamira g) Okugulumba mu lubuto ekiro

h)Bulala ,bumenye

wano……..

25. Singa akamu ku bubonero obwo bwotuwadde waggulu keeyoreka, kiki kyoteekwa okukola? (Teeka akayini ku buli kyomanyi nti kituufu)

a.)Tewali b.) Nninda Omwami wange okusalawo kyemba nkola

c.)Mbuuza mukwano gwange,ow'oluganda,Mulerwa oba muliraanwa ampe ku magezi d) Ngenda ewa Mulerwa e.) Nkozesa Ddagala lya Kinnansi

f.) Simanyi g.) Genda mu Ddwaliro

26. Bakyala ki mu Bibinja bino ababeera ku bwerende ngabali Olubuto oba mu kuzaala? (Teeka akayini ku kyonna ekituufu)

a.) Abakyala abalina omwana asoba mu omu mu lubuto, gamba ng'Abalongo

b.)Abato ennyo- abatannaweza myaka 18 egy'obukulu

c.) Abakadde ennyo; okugeza abasusizza emyaka 40 egy'obukulu

d.)Abakyala abasusizza embuto 8

e.) Abalina agalwadde nga Presa, Sukaali,endwadde z'Omutima, Ekibumba n'Ensigo

f.) Abalina akawuka ka Mukenenya

g.) Abo abaali balongoseddwaako

h.)Abakyala ba Nnakampiginya

i.) Abo abaali bafunye obuzibu ku mbuto ezisembeyo ate ne mukuzaala, okugeza abafiirwa abaana mu Lubuto ne bagyibwayo byuma

j.) Tewali nakimu kituufu

k.) Simanyi

l.) Bizibu biralala(Biwe wano)

…….....

27. Bino by'owadde waggulu wabimanyira wa? (Teeka akayini ku buli ky'okkiriziganya nakyo wammanga)

a.) Nabimanyira mu nkyala zennagendanga okunywa eddagal mu Ddwaliro

b.) Mu mukwano gyange, mu Baluganda bange ne baliraanwa

c.) Nabimanyira ku Ssomero

d.) Ku mikutu gyampuliziganya okugeza. Radio, TV n'empapula z'amawulire

e.) Nabiyigira walala (Watuwe wano)…….....

E: Obulombolombo bw'Omukyala alina olubuto.

28.Obuwangwa bwammwe bukubiriza abakyala okuzaalira mu Ddwaliro?

a) Yee b) Nedda

29. Eriyo obulombolombo ki obutuukirizibwa oluvannyuma lw'okuzaalira awaka oba ewa Mulerwa bwomanyi?

a) Yeee b) Nedda

29b) Bwekiba yee, bwebuliwa?

……
……

30. Ngeri ki obulombolombo obwo waggulu gyebukuviirako okusalawo wwa gy'ogenda okuzaalira?

a) Tebulina n'akatono b) Kitono c) nnyo

F: Ensonga eziviirako ba maama okuzaalira mu Dwaliro. Kino ekitundu 31-36 kiddibwemu abo bokka abaazaalira mu Ddwaliro. Bw'oba wazaalira waka oba ewa Mulerwa, ddamu ekibuuzo 37-40.

31. Omusawo yakuyisanga atya ng'oli lubuto?

a.) Bulungi nnyo b.) Bulungi c.) Bwatyo bwatyo d.) Bubi

32. Wasasulangayo sente okufuna obujjanjabi ng'Oli Lubuto, mu Ddwaliro?

a.) Yee b.) Nedda

33. Bwekiba Yee, ozigerageranya otya n'obusobozi bwo okuzisasula? (Teeka akayini awatuukana n'okulamula kwo)

a.) Zaali waggulu kyenkana nga Ssizisobola ……..

b.) Zaali zisaanidde …….

c.) Zaali wansi era nga Nzisobola

34. Ggwe mukulaba kwo, olaba ng'Abasawo balina obukugu, okukuwa obujjanjabi ng'ozaala?

a.) Yee b.)Nedda

35. Mu Ddwaliro eriyo ebikozesebwa n'Eddagala ng'ogenze okuzaalirayo?

a.) Yee b.) Nedda

36. Biki byewandyagadde bikolebwe, kisobozese ba Maama okwettanira okuzaalira mu Dwaliro?

a) Batuuse obujjanjabi mu bantu b)Bakendeeze ku nsimbi ezisabibwa

c) Abasawo abatendeke obulungi

d) Kirala (Kiwe
wano……
……

F: Abazaalira mu Bamulerwa. Bamaama abazaalira mu Bamulerwa, wattu ddamu ebibuuzo 37- 40.

37. Mulerwa yakuyisa atya ng'ogenze okuzaalirayo?

a.) Bulungi nnyo b.) Bulungi c.) Bwatyo bwatyo d.) Bubi

38. Ogerageranya otya empereza ya Bamulerwa n'ensimbi zebasaba? (Teeka akayini awatuukana n'okulamula kwo)

a) Basaba sente ntono kale zisoboka

b) Nsamusaamu

c) Babbeeyi nnyo

39. Mu ndowooza yo, kiki Bamulerwa ekyenjawulo kyebawa ba Maama abazaalirayo ekitali ate mu Malwaliro ga Gavument?

……
……

40. Ngeri ki ba Mulerwa gyebayinza okuyambibwa okusobola okulongoosa omutindo mu mulimu gwabwe?

……
……

Webale nnyo.

APPENDIX C: MAP OF UGANDA SHOWING WAKISO DISTRCT.