Maternal Healthcare Barriers in Urban and Rural Uganda

By: Krystal Brady

Project Advisor: Dr. Romano Byaruhanga

Academic Advisor: Dr. Charlotte Mafumbo

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This paper is dedicated to mothers everywhere. May you attain respect and dignity as you succeed barriers to attaining the health care to which you are much deserving.

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**Glossary**

FAAP- Fellow of the American Academy of Pediatrics

FACOG- Fellow of the American College of OB-GYNs

IPT- Intermittent Preventive Treatment

KARODEC- Kagando Rural Development Center

MDG- Millennium Development Goal

OB-GYN- Obstetrician/Gynecologist

SVD- Spontaneous Vaginal Delivery

WHO- World Health Organization

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**Abstract**

The goal of this research project was to determine the barriers that mothers face to accessing maternal healthcare services in urban and rural Uganda. The maternal mortality ratio in Uganda has been exceedingly high for several years and will continue to be unless these barriers are addressed. Two main categories of delays were studied: the delay mothers experience from their households to the health facilities and delays that occur at the health facilities. Within these two categories, there were several subsections addressed including transportation, social/cultural practices, gender roles, antenatal care, delivery, postnatal care, timeliness, and quality of privacy, staff’s attitudes, and amenities available.

The research was conducted at Nsambya Hospital, which is located in urban Kampala, and Kagando Hospital, which is located in rural Kasese. Research methods utilized were survey questionnaires, key informant interviews, and participatory observation. Questionnaires concerning maternal healthcare were given to 50 pregnant women at each hospital. Key informants chosen for interviews were midwives at the hospitals, and an OB-GYN and pediatrician from the United States. Observations were made at the antenatal clinic, labor ward and surgical theatre at each hospital.

It was discovered that mothers face major delays to accessing maternal healthcare both in urban Kampala and rural Kasese. The delay from household to health facility was found to mainly affect mothers in the rural area of Kasese, while the delay at the health facility affects mothers at both Nsambya and Kagando Hospital. The delay from household to health facility was largely contributed to transportation issues faced by women in Kasese. These transportation barriers led more women in the rural area to attend antenatal care when they were already too far into their pregnancies, or to deliver at home, without the care of a skilled birth attendant. The delays experienced at the health facilities were similar for both hospitals. At both Nsambya Hospital and Kagando Hospital, improvements must be made with the number of urine tests given to mothers and the implementation of pap smears to check for cervical cancer. Many mothers also acknowledged the excessively long amount of time spent waiting to receive medical attention at antenatal care visits. All of these and many more barriers are causing Ugandan women to experience inadequate maternal healthcare services.

**Introduction**

Uganda has one of the eight worst maternal mortality ratios in the world.[[1]](#footnote-1) The maternal mortality ratio in Uganda is currently 430:100,000 live births,[[2]](#footnote-2) while in developed countries such as the United States, the ratio is 13:100,000 live births.[[3]](#footnote-3) Maternal mortality should be an extremely rare event since it is highly preventable if the correct measures are taken. One of the Millennium Development Goals was to reduce the maternal mortality ratio by three-quarters between 1990 and 2015, which has made slow progress, according to maternal health indicators.[[4]](#footnote-4) The leading cause of death for Ugandan women is pregnancy-related.[[5]](#footnote-5) The issue of maternal healthcare has been recognized by Ugandan citizens as well as the international community, yet the ratio has not significantly changed over the past 20 years.

This research project aimed to determine the primary causes of the high maternal mortality ratio in Uganda, by focusing on the social and cultural factors that act as barriers to receiving maternal healthcare. There have been many studies conducted on the physiological causes of maternal mortality, but few done on how these physiological issues could have been prevented from occurring in the first place.

There are several different ways “access” can be defined when referring to healthcare access. The model of access that was used during this research project is the “Fit Model,” developed by Roy Penchansky. The “Access as Fit” model defines access as “the concept of ‘fit’ between the patient’s needs and the system’s ability to meet those needs.” According to this model, there are five ways that access can be measured. These 5 ways are: availability, accessibility, accommodation, affordability, and acceptability.[[6]](#footnote-6)

This project aimed to address each of these facets of accessing maternal healthcare in the following manner:

1. **Availability:** quantity of healthcare providers and services. This concept was addressed by asking women about their satisfaction with staff and amenities available as well as the different antenatal and postnatal services they accessed.
2. **Accessibility:** location of healthcare services. This concept was addressed by asking women how far away they lived from the hospital which they were attending and what means of transport they used to arrive at the hospital.
3. **Accommodation:** comfort patients experience at health facilities. This concept was addressed by asking women about their satisfaction with privacy, staff, amenities, and their typical wait time at antenatal appointments.
4. **Affordability:** financial ability and perception of value to patients. This concept was addressed by asking women what their occupations and their husbands’ occupations were. Questions were also asked pertaining to the financial support that husbands or partners provided.
5. **Acceptability:** attitudes of healthcare providers and receivers. This concept was addressed by asking women about their perceptions of staff’s attitudes and what improvements they would like the hospital to make.

**Background Information**

St. Francis Nsambya Hospital and Kagando Hospital are both private, tertiary referral hospitals. Tertiary hospitals are hospitals with major infrastructure, many physicians, and several specialty departments. These hospitals offer some of the best services in Uganda, compared with smaller health facilities. Therefore, the statistics gathered from these hospitals are likely superior to other health facilities in Uganda. Background information was gathered pertaining to maternal health indicators at Nsambya Hospital and Kagando Hospital and the maternal mortality ratio at Nsambya Hospital, Kagando Hospital, and in the United States and Uganda. The chart below, “Maternal Health Indicators” shows several categories of maternal health assessments made at each hospital.

**Maternal Health Indicators[[7]](#footnote-7),[[8]](#footnote-8)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicator** | **Nsambya Hospital 2007/2008** | **Nsambya Hospital 2008/2009** | **Nsambya Hospital 2009/2010** | **Kagando Hospital 2009** | **Kagando Hospital 2010** |
| **Total Deliveries** | 7837 | 7182 | 7561 | 3834 | 4982 |
| **SVDs (Spontaneous Vaginal Deliveries** | 6125 | 5398 | Unknown | 1750 | 2479 |
| **Caesarian Sections** | 1712 | 1784 | Unknown | 1269 | 1057 |
| **Caesarian Section Rate** | 22% | 25% | Unknown | 42% | 30% |
| **Maternal Deaths** | 9 | 8 | 11 | 12 | 4 |

**Analysis:** From the chart it is evident that there is a much higher caesarian section rate at Kagando Hospital than Nsambya Hospital because women in Kasese are typically much shorter than women in Kampala, which makes some of their pelvis bones too small to carry out a spontaneous vaginal delivery.[[9]](#footnote-9) Therefore, many women in rural Kasese resort to caesarian sections out of necessity.

**Maternal Mortality Ratio**

The maternal mortality ratios between Nsambya Hospital, Kagando Hospital, the United States and Uganda were compared with the MDG Target Goal of reducing the maternal mortality ratio in Uganda to 131:100,000 live births by 2015.[[10]](#footnote-10) The maternal mortality ratio in the United States is included for the purpose of referencing how rare maternal mortality can be in developed countries. The chart below, “Maternal Mortality Ratio per 100,000 Births”[[11]](#footnote-11),[[12]](#footnote-12),[[13]](#footnote-13),[[14]](#footnote-14) shows the where these hospitals and countries stand.

**MDG Target Goal for Uganda by 2015**

**Analysis:** Uganda’s maternal mortality ratio is still far above the MDG Target Goal of 131:100,000 births. Maternal mortality ratios at Nsambya Hospital were below the target goal in 2007/2008 and 2008/2009, but above the target goal in 2009/2010. Maternal mortality ratios at Kagando Hospital were far above the target goal in 2009, but far below the target goal in 2010. The MDG Target Goal is still far above the maternal mortality ratio in developed countries, such as the United States. Therefore, even when the MDG Target Goal is met, developing countries such as Uganda should still be able to make improvements to make maternal mortality as rare as possible.

**Organizations**

The mission of St. Francis Nsambya Hospital is “To Provide Sustainable Quality Health Care Training and Research without Compromising the Economically Disadvantaged.” The vision of Nsambya Hospital is “A Model Health Care Facility of International status within the context of Christina values.” The hospital provides patient care, research and teaching opportunities. It also has special wards for surgery, internal medicine, pediatrics and obstetrics and gynecology. Nsambya Hospital receives financial support from the Sisters of Charity.[[15]](#footnote-15)

The mission of Kagando Hospital is “To demonstrate and promote Christian love through holistic care and development of the rural population of Kasese District.” The vision of Kagando Hospital is “To be a model in community transformation and Christian care for the rural population of Kasese District. Kagando Hospital provides surgical, pediatric, maternity, leprosy, fistula, radiology, physiotherapy, pharmaceutical, optical and dental services. The hospital is funded by “Friends of Kagando,” “Kagando Mission Foundation,” and KARODEV (Kagando Rural Development Center).[[16]](#footnote-16)

Both St. Francis Nsambya Hospital and Kagando Hospital are tertiary, referral hospitals that receive referrals from the surrounding areas and smaller health facilities. Both hospitals are private, faith-based organizations.[[17]](#footnote-17),[[18]](#footnote-18)

**Objectives**

Main Objective: Compare the primary reasons for delays concerning maternal healthcare services in urban and rural areas of Uganda.

Description of Three Delays: There are three types of delays that affect maternal healthcare. The first delay is at the community level, which concerns a woman’s desire to seek maternal healthcare services, and the community’s approval of seeking these services. The second delay is between the household to the healthcare facility. This delay can be caused by transportation, financial issues, social/cultural practices, or gender roles. The third delay occurs at the health facility itself, and is caused by inadequate staffing, equipment, facilities, and other factors pertaining to the quality of care.[[19]](#footnote-19)

The first delay was not studied during this research project because the subjects studied were already present at the health facilities. Therefore, they were somewhat educated about the need for receiving maternal healthcare and they had most likely not experienced community disapproval.

* **Second Delay: Household to Healthcare Facility**
* Objective 1: Determine whether transportation acts as a barrier to receiving maternal healthcare in urban and rural areas.
* Objective 2: Determine whether social/cultural practices or gender roles act as barriers to receiving maternal healthcare in urban and rural areas.
* **Third Delay: At Healthcare Facility**
* Objective 3: Determine whether proper maternal healthcare is given during antenatal visits, delivery, and postnatal visits in urban and rural health facilities.
* Objective 4: Determine whether mothers are being attended to in a timely manner at urban and rural health facilities.
* Objective 5: Determine how mothers perceive the quality of privacy, staff’s attitudes, and the amenities in urban and rural health facilities.

**Justification**

Researching maternal health in Uganda was justified because the maternal mortality ratio in Uganda has been unacceptably high for many years. Millennium Development Goals has identified this issue as one of worst indicators of the healthcare system in Uganda by making one of its target goals to reduce the maternal mortality ratio by three-fourths between 1990 and 2015.[[20]](#footnote-20)

The research was carried out at two health facilities, St. Francis Nsambya Hospital and Kagando Hospital. It was justified to research at these two facilities in order to obtain a comparison between urban and rural healthcare in Uganda. The two hospitals were comparable since they are both tertiary, private hospitals. Nsambya Hospital is based in Kampala, the urban area of Uganda, while Kagando Hospital lies in the rural outskirts of Kasese, Uganda. It was beneficial to compare the two hospitals in order to understand the significant range of healthcare that Ugandans are receiving. The maternal mortality ratios at Nsambya Hospital are significantly below the national average, at 114-145 per 100,000 live births since 2007,[[21]](#footnote-21) while the maternal mortality ratios at Kagando Hospital have been between 80 and 313 per 100,000 live births since 2009.[[22]](#footnote-22)

This research project has the potential to benefit both St. Francis Nsambya Hospital and Kagando Hospital by informing care givers about the delays that mothers are facing with receiving maternal healthcare. The questionnaires gave the mothers the chance to share their opinions about the quality of maternal healthcare services, in a non-confrontational manner. It could also be beneficial for health providers at Nsambya or Kagando Hospital to compare results with one another, and to collaborate on how both hospitals’ results could be made optimal. Although health providers may only be able to directly affect the delays that occur at the health facility itself, it may be useful for them to discover what delays prevent women from arriving at the health facility, so that they may cater to these delays when providing educational or outreach programs.

**Methods**

The methods used were key informant interviews, surveying, and participatory observation.

**Key Informant Interviews**

The subjects were chosen based on their experiences with maternal healthcare. Pregnant mothers were key informants, since they were the current recipients of maternal healthcare. It was important to study mothers who were currently pregnant, because they had the most recent interaction with the maternal healthcare practices. Therefore, they could give answers based on actual experience and not reconstructed memory. It was also justified to interview mothers who had successfully completed at least one pregnancy, so that they could answer questions about past pregnancies as well.

Another category of beneficial subjects were midwives. Midwives were key informants because they are the primary providers of maternal healthcare. Midwives assist in every step of pregnancy, including maternal education, antenatal checkups, deliveries, caesarian sections, and postnatal care. They were well-informed about the types of care mothers should be receiving, and it was important to compare their standards to what mothers were actually experiencing. Midwives were informally interviewed, by asking questions while they were working.

Besides mothers and midwives, Paul Niewrzel MD, FACOG (Doctor of Medicine, Fellow of the American College of OB-GYNs), an OB-GYN (Obstetrician/Gynecologist) from the United States, and Teresa Brady MD, FAAP (Doctor of Medicine, Fellow of the American Academy of Pediatrics), a pediatrician from the United States, were interviewed in order to compare experts’ opinions in a developed country to healthcare providers’ opinions in Uganda and to the services mothers receive in Uganda. Dr. Niewrzel and Dr. Brady were interviewed via email about questions regarding antenatal care, postnatal care and delivery (See Appendix A).

The choice of pregnant mothers, midwives, an OB-GYN and a pediatrician for informants was effective because it allowed for comparison between ideal care and actual care given to pregnant women. Pregnant mothers and midwives are the two most important groups of people in the natal process in Uganda while OB-GYNs and pediatricians are common providers of maternal and neonatal healthcare in the United States.

**Surveys**

One of the methods used was surveying. A survey was designed that asked 52 questions about demographic information, antenatal care, past pregnancies, postnatal care, transportation and quality of service (See Appendix B). These surveys were given to 50 pregnant women that were waiting for antenatal care appointments at each health facility. The women were randomly chosen by midwives that were working in the antenatal care clinics. It took a period of 4-7 days at each hospital to complete the surveys.

At Nsambya Hospital, many of the women were literate, and filled out the surveys themselves. Many also were interviewed with the questions. At Kagando Hospital, only a few women were able to fill out the surveys themselves. The rest were interviewed using a translator. These questionnaires were used because they were a quick way to gather a large quantity of information. In order to examine the typical maternal healthcare that a woman receives at both of these hospitals, a large amount of subjects were necessary.

The surveys were successful in gathering a large amount of information quickly. However, there were some issues that could have affected the results of the survey. One of the issues is that the researcher was wearing a white lab coat while asking questions at Nsambya Hospital. Therefore, even though the researcher identified herself as a student, the subjects could have misinterpreted her appearance as a medical professional and been reluctant to complain about any maternal healthcare practices. Another issue is that the vocal surveys were always given within hearing distance of hospital staff. Again, this could have caused the women to answer questions more positively than they would have otherwise, for fear of not receiving the same quality of healthcare that they were currently receiving. The subjects were informed that their answers to questions would not affect their quality of healthcare, but it is still possible that some were reluctant to complain.

An issue that presented itself at Kagando Hospital is that few women were literate, and few could speak English. These problems resulted in a translator asking them most of the questions. Since the researcher did not understand *Lukonzo*, the local language, it is possible that some of the questions or answers were translated incorrectly.

**Participatory Observation**

Observations were another method used to gather information. At both places, the antenatal care clinic was observed while subjects were being questioned. Observing the waiting room was beneficial because it allowed for a comparison between mothers’ answers and reality. The waiting room served as a testimony to how long women wait to see a medical professional, the quality of the waiting room facilities, and whether or not a woman was accompanied by someone to her appointments. Antenatal care checkups were also observed at both facilities. These checkups were useful for learning about the typical procedures that are practiced at antenatal care visits and what the relationship is between patient and caregiver. The labor ward was a third place observations were made. It was vital to visit the labor ward to examine the quality of care given by midwives, the precautions taken to avoid mishaps during delivery, and whether or not a woman was accompanied during this process. Lastly, the surgical theatre was observed during several caesarian sections. Caesarian sections were essential to observe in order to determine the role that doctors play in maternal healthcare. For most women, the only time they would ever visit a doctor during pregnancy would be if a caesarian section was necessary. It was important to observe how long caesarian sections took to complete, and the quality of care that was given to mother and newborn in these circumstances.

All of the observations made were effective in studying maternal healthcare at these facilities. It may have been valuable to make more quantitative observations than qualitative, such as actually measuring how much time a woman waits before she sees a medical professional. It also would have been beneficial to follow one woman through her entire pregnancy and delivery process, but this was not possible given the time constraints.

**Findings**

Findings were made about demographic information, the two objectives relating to the delay from the household to the health facility, and the three objectives relating to the delay at the health facility.

**Findings for Demographic Information**

Demographic information was gathered pertaining to the age of mothers, gravidity, parity, the mother’s occupation, and the father’s occupation. This information established a broader context of the population of subjects studied at each research location.

**Age**

The average age of mothers at Nsambya Hospital was 29.5 years, with a range of 22 to 38. At Kagando Hospital, the average age of mothers was 26.36, with a range of 17 to 41. Therefore, mothers at Kagando Hospital an average of 3.14 years younger than mothers at Nsambya Hospital. Of the 50 mothers randomly chosen at each hospital, there were no teenage pregnancies at Nsambya Hospital, while there were 5 (10% of mothers) at Kagando Hospital.

**Gravidity and Parity**

The average gravidity of mothers at Nsambya Hospital was 3.1 children, while at Kagando Hospital it was 4.14 children. The average parity of mothers at Nsambya Hospital was 1.6 children, while at Kagando Hospital, it was 2.92 children. Therefore, on average, mothers at Kagando Hospital had been pregnant 1.04 times more than mothers at Nsambya Hospital, and had 1.32 more children.

The results for average ages of mother, gravidity, and parity are all slightly skewed due to the fact that primigravida mothers were avoided when choosing subjects. It was more beneficial to interview mothers who had already experienced the full process of pregnancy, because they could answer questions about delivery and postnatal care. If primigravida mothers had not been avoided, most likely the average age of mothers, average gravidity and average parity at both hospitals would have been slightly lower.

**Mother’s Occupation**

The mother’s occupation was studied in order to determine the level of education she had been exposed to and what type of income she was most likely receiving. The chart below, “Mother’s Occupation,” shows the occupations of mothers at each hospital.

**Mother’s Occupation**

**Father’s Occupation**

The father’s occupation was also important to address, in order to determine what other sources of education and income the mother was accessing at home. The chart below, “Father’s Occupation” shows the occupation of fathers at both hospitals.

**Father’s Occupation**

**Analysis:** At Nsambya Hospital, the majority of mother and father were skilled workers, such a business men and women. Only 8% of women and 2% of their partners at Nsambya Hospital did not have a steady-income job. At Kagando Hospital, almost all (92%) of the women surveyed were peasant farmers, and most (58%) of their partners were peasant farmers. High-salary jobs were found to be much scarcer in rural Kasese than in urban Kampala.

**Findings for Delay 2: From Household to Healthcare Facility**

**Findings for Objective 1: Determine whether transportation acts as a barrier to receiving maternal healthcare in urban and rural areas.** This objective was achieved by examining how far women typically travel to reach each hospital and the types of transportation they used.

**Distance Traveled to Reach Hospital**

The average distance that mothers lived from Nsambya Hospital was 13.28 kilometers away, with a range of ½ to 122 kilometers. The average distance that mothers lived from Kagando Hospital was 6.4 kilometers away, with a range of 0 to 84 kilometers. Therefore, mothers that visited Kagando Hospital typically lived about 7 kilometers closer to the hospital than mothers that visited Nsambya Hospital did. However, these results were mostly self-reported by mothers who could have experienced difficulty judging the distance from their house to the health facility.

**Types of Transportation Used**

It was important to assess the types of transportation used to reach each hospital in order to determine how these forms of transport increase or decrease access to health facilities. The chart below, “Transportation,” shows the main types of transportation that mothers at Nsambya Hospital and Kagando Hospital used to arrive at the hospital.

**Transportation**

**Analysis:** At Nsambya Hospital, the most popular means of transport are taxis, personal cars, and boda bodas in decreasing order. At Kagando Hospital, the most popular means of transport are walking, boda bodas, taxis, and personal hires, in decreasing order. None of the women at Nsambya Hospital walked to seek service, while none of the women at Kagando Hospital used personal cars for transportation. The differences between the main types of transportation used at Nsambya Hospital and Kagando Hospital most likely reflect inequalities in income. Since most mothers and fathers that visit Nsambya Hospital are skilled workers, they can afford personal cars. Most mothers and fathers that visit Kagando Hospital are peasant farmers, which caused many mothers to avoid spending money on transportation, by walking to seek healthcare.

**Conclusion:** Means of transport are creating barriers to accessing maternal healthcare in both urban and rural areas. The women that use taxis to commute would not be able to use them in an emergency situation, because they would have to wait on them to arrive. Also, taxis, especially in Kampala, frequently become caught in traffic jams, causing passengers to travel short distances in long amounts of time. Boda bodas, another frequent mode of transport for pregnant mothers, are faster, but much less safe than taxis. According to Steven Kasiima, The Commissioner for Traffic and Road Safety, “boda bodas contribute 70% of all major fatal accidents” in Kampala.[[23]](#footnote-23) Therefore, they are not ideal for pregnant mothers. The women that walk to Kagando Hospital may experience delay in the amount of time it takes to walk a few kilometers, especially if any strenuous health or weather conditions exist. During an emergency situation, it would be difficult for a woman to walk to the hospital, even if it is not extremely far away. Personal cars are the safest and least time consuming means of transport, but are only used by 30% of women at Nsambya Hospital, and 0% of women at Kagando Hospital.

**Recommendations:** A recommendation given by one woman at Nsambya Hospital and one woman at Kagando Hospital is for these hospitals to expand outreach services. Outreach services can compensate for transportation barriers that women face when seeking maternal healthcare services. Especially at Kagando Hospital, where many women walk to the hospital, outreach clinics for antenatal and postnatal care would greatly increase access to these services.

**Findings for Objective 2: Determine whether social/cultural practices or gender roles act as barriers to receiving maternal healthcare in urban and rural areas.** This objective was addressed by examining the locations where mothers had previously given birth, how many antenatal visits mothers usually attend, when mothers first seek antenatal care, whether mothers had planned for their pregnancy, whether they were using contraceptives, and how their partners support them during pregnancy.

**Location of Past Deliveries**

It was important to examine where mothers had delivered their babies in the past in order to determine the feasibility of arriving at a hospital or health facility for delivery. At hospitals and health facilities, a doctor or midwife always delivers the babies. Women who deliver at home are usually attended to by Traditional Birth Attendants, who are not recognized as professionally trained healthcare providers. The chart below, “Location of Past Deliveries,” shows where mothers at each hospital have delivered babies in the past.

**Location of Past Deliveries**

**Analysis:** 97% of women at Nsambya Hospital had always had their babies delivered at a hospital or health facility. At Kagando Hospital, 73% of women had always had their babies delivered at a hospital or health facility.

In the rural area of Kasese, women are experiencing more of a barrier with reaching the hospital for delivery than women in the urban area of Kampala. While almost all women in Kampala had reached the hospital for deliveries, more than one in four women in Kasese had delivered at least one child at home. One reason for this disparity could be due to transportation issues. Another reason is that only one woman at Kagando Hospital knew her actual expected delivery date. The others only knew the month. When women do not know when they are going to deliver, the delivery may onset quickly and the mother may be unprepared to travel to the hospital. In these emergency situations, mothers may turn to the best person available: a traditional birth attendant.

**Conclusion:** Delivering at home is not in the best interests of the mother or newborn baby because if an emergency arises, there will be no one qualified to handle the situation, which could result in injury or death. Women, especially in rural Kasese, are experiencing a barrier with arriving at the hospital for delivering their babies.

**Recommendations:** Health workers should try harder to make sure mothers are aware of their expected delivery date. They should also warn mothers about the dangers of delivering at home. Another suggestion could be to make sure mothers are aware of emergency contact numbers, so that they could call the hospital in an emergency situation and health workers could travel to the home.

**Number of Antenatal Visits**

WHO (The World Health Organization) recommends that women attend at least four antenatal care appointments before delivery.[[24]](#footnote-24) Dr. Niewrzel, the OB-GYN interviewed from the United States, recommended at least nine antenatal appointments, while Dr. Brady, the pediatrician from the United States, recommended at least thirteen antenatal appointments. These appointments are important for monitoring growth, blood pressure, blood sugar, preventing malaria, and providing important education to mothers.[[25]](#footnote-25) The chart below, “Number of Antenatal Visits” shows how many antenatal visits mothers at each hospital reported having before delivery.

**Number Recommended by pediatrician**

**Number Recommended by OB-GYN**

**Number Recommended by WHO**

**Analysis:** 80% of women at Nsambya Hospital and 73% of women at Kagando Hospital are attending at least four antenatal care appointments. Overall, women at Nsambya Hospital reported attending more antenatal care visits than women at Kagando Hospital.

**Conclusion:** There are barriers preventing mothers from attending the correct number of antenatal visits, especially in rural Kasese. Not attending enough antenatal care appointments prevents mothers from having their blood pressure, blood sugars, and blood proteins monitored often enough, which puts them at higher risk for preeclampsia and diabetes.[[26]](#footnote-26)

**Recommendations:** Mothers should be educated about how many times they should receive antenatal care and about the dangers of seeking care often enough.

**Time of 1st Antenatal Visit**

WHO recommends that women attend the first antenatal appointment at or before 16 weeks,[[27]](#footnote-27) while Dr. Niewrzel, the OB-GYN from the United States, recommended that the first visit take place between 6 and 8 weeks and Dr. Brady, the pediatrician from the United States, recommended that women seek medical attention when they are one month pregnant. The chart below, “Time of 1st Antenatal Visit,” shows when mothers first sought antenatal care during their pregnancy.

**Number of Weeks Recommended by WHO**

**Number of Weeks Recommended by pediatrician**

**Number of Weeks Recommended by OB-GYN**

**Analysis:** While 70% of women at Nsambya Hospital reported attending antenatal care at or before 16 weeks, only 38% of women at Kagando Hospital reported visiting the hospital early enough. Women in rural Kasese are experiencing a larger barrier with attending antenatal appointments early enough. Most women at Kagando Hospital do not visit the hospital until at least 20 weeks into their pregnancy. It is possible that women in the Kasese area are not as aware about when they first become pregnant, since they often do not know the date of their last menstrual period, which makes it difficult to calculate their expected delivery date. Women in urban Kampala may be more aware of the earlier signs of pregnancy, or more concerned with reaching the hospital. There may also be delays at home or between home and the health facility that are preventing women in rural areas from attending antenatal care appointments until they feel that it is pertinent.

**Conclusion:** There are barriers preventing mothers in both rural and urban areas from visiting the hospital early enough for antenatal care. Women in rural Kasese report more delays than women in urban Kampala with attending the first antenatal appointment by 16 weeks, which is putting them at great risk for diabetes, eclampsia, malaria, and maternal mortality in general.[[28]](#footnote-28)

**Recommendations:** Healthcare providers should enforce education about when women should have antenatal care visits and encourage women to keep track of their menstrual periods. They should also inform mothers of the dangers of not seeking antenatal care early enough.

**Family Planning**

Family planning is important for mothers and fathers to be prepared financially and resourcefully before they conceive a child.

At Nsambya Hospital, 78% of mothers reported that their current pregnancy was planned, while at Kagando Hospital, 69% of mothers reported that they had planned their pregnancy.

At Nsambya Hospital, 43% of mothers reported using contraceptives, while at Kagando Hospital, 22% of mothers reported regular contraceptive use.

The chart below, “Planned Pregnancy and Contraceptive Use,” shows the different combinations of planned pregnancy and contraceptive use that mothers reported at each hospital.

**Planned Pregnancy and Contraceptive Use**

**Analysis:** Most women at both hospitals reported having planned their pregnancy, while not using contraceptives. More women at Nsambya Hospital planned their pregnancy while using contraceptives, and more women at Kagando Hospital did not plan their pregnancy and were not using contraceptives. At both hospitals, it was least common to have an unplanned hospital while using contraceptives, as this category represents that contraception failed.

More women reported planning their pregnancy and using contraceptives at Nsambya Hospital. Low contraceptive use in rural Kasese could prevent many families from planning for the children they have. This lower incidence of family planning and contraceptive use in rural Kasese could be due to religious reasons or lack of access to family planning methods.

**Conclusion:** A smaller percentage of women in rural Kasese plan for their pregnancies and use contraceptives. This is probably one of the main reasons that women in the rural area had a higher average gravidity and parity than women in Kampala. It could be detrimental for these women to continue not using contraceptives and having unplanned pregnancies, because many of these families are not financially stable enough to support so many children. As previously discussed, most fathers and mothers in rural Kasese are peasant farmers and do not have steady incomes that can support an overwhelming number of children.

**Recommendations:** Healthcare providers should educate women about family planning methods at antenatal and postnatal care appointments. Outreach services could also provide family planning methods, which would make them more accessible to women, especially in rural areas.

**Gender Roles**

It is important to investigate the type of support that husbands or partners provide to pregnant mothers to determine how or if their support is affecting access to maternal healthcare services. The chart below, “Husband/Partner’s Support,” shows the support that husbands provide during pregnancy at each health facility.

**Analysis:** The majority of women studied reported that their husband/partner supported them in seeking medical attention and postnatal care, as well as paying for transportation and hospital expenses. However, it was observed that men almost never attend antenatal care appointments, or deliveries, especially in rural Kasese.

At Nsambya Hospital, 80% of women surveyed reported that they had discussed a “Birth Plan” with their husbands, while at Kagando Hospital, 86% of women reported having discussed a “Birth Plan.” A “Birth Plan” is important for planning how the mother will arrive at the hospital for delivery, who will accompany her, and what supplies and materials she will bring with her.

At Nsambya Hospital, 90% of women report that their partners support seeking medical attention and 94% report that their partners help pay for hospital expenses. At Kagando Hospital, 84% of women report that their partners support seeking medical attention and 88% report that their partners help pay for hospital expenses. Despite this overwhelming “support,” many women do not receive antenatal care appointments early or often enough and many women at Kagando Hospital do not reach the hospital for delivering their babies.

Although 85% and 79% of women at Nsambya Hospital and Kagando Hospital, respectively, reported that their partners support seeking postnatal care, only 79% at Nsambya Hospital and 54% of women at Kagando Hospital actually reported attending postnatal care.

Although 84% of women at Kagando Hospital reported that their partners helped pay for transportation, only 60% of these women actually use forms of transportation that require money, while the other 40% walk to the hospital.

**Conclusion:** Many discrepancies exist between the reported support that partners give and the maternal healthcare that mothers actually receive. According to the subjects’ reports, there is not a large barrier created by their husband or partner’s support. However, even with husband/partner support, many pregnant women are not accessing enough health services during pregnancy, postnatal care appointments, or transportation. Therefore, there is either another barrier that is causing this anomaly, or women did not answer truthfully about their partners’ support.

**Recommendations:** Healthcare providers should make more of an effort to include men in the natal process. They should encourage women to bring their husband or partners to their healthcare appointments, because men are vital assets to women accessing these services. They often control resources and may be more likely to support their partners if they feel more integrated in the process.

**Findings for Delay 3: At Healthcare Facility**

**Findings for Objective 3: Determine whether proper maternal healthcare is given during antenatal visits, delivery, and postnatal visits in urban and rural health facilities.** This objective was achieved by determining what types of antenatal care and education mothers receive, whether mother receive the correct number of IPT (Intermittent Preventive Treatment), whether mothers receive enough urine tests and what types of postnatal care and education mother receive.

**Antenatal Care**

WHO recommends that mothers be educated about danger signs during pregnancy, delivering the baby, breastfeeding and nutrition, HIV, and family planning so that they can be prepared for having a successful delivery and healthy baby. WHO also recommends that mothers receive an HIV test during pregnancy and that they take iron/folate supplements.[[29]](#footnote-29) It is important that mothers know their HIV status so that they can take necessary precautions to avoid transmitting HIV to their unborn child. Pregnant mothers should also take iron/folate supplements to prevent anemia and to reduce the risk of having a child with spina bifida.[[30]](#footnote-30) The chart below, “Antenatal Care/Education” shows which of these services have been received by mothers at Nsambya and Kagando Hospital.

**Analysis:** The majority of women at both hospitals are receiving all of the services stipulated by WHO. Although the results are comparable, more women at Kagando Hospital report accessing all of these services, except taking iron/folate supplements. Nsambya Hospital needs the most improvement with providing education regarding family planning, while Kagando Hospital needs the most improvement providing education regarding danger signs during pregnancy. At both hospitals, the percent of women receiving education regarding HIV was exceptionally high.

**Conclusion:** At both hospitals, observations of antenatal education talks were observed. The issue with these educational talks was that they seemed only to occur in the morning. Therefore, many women would miss these talks because they would arrive too late. Both hospitals seem to provide all of the correct educational services, but possibly at inconvenient times.

**Recommendations:** Antenatal education talks should be given throughout the day, or to each mother on an individual basis. It would also be beneficial for brochures or pamphlets to be handed out, regarding these antenatal education issues.

**IPT**

IPT (Intermittent Preventive Treatment) helps women prevent contracting malaria during pregnancy. WHO recommends that women receive IPT 1 by 24 weeks and IPT 2 by 34 weeks.[[31]](#footnote-31) Women who have not been immunized against malaria during pregnancy are at risk of having miscarriages, or babies with low birth weights. It is estimated that “200, 000 infants die annualy as a result of malaria infection during pregnancy.”[[32]](#footnote-32) The chart below, “IPT,” shows the percent of mothers at each hospital that received IPT 1 and IPT 2 by the correct time.

**Analysis:** Most women at both hospitals received IPT 1 on time, but the percents that received IPT 2 on time dropped dramatically. Many women, especially at Kagando Hospital, are not receiving a 2nd dose of IPT during their pregnancy. One woman at Nsambya Hospital and 5 women at Kagando Hospital reported contracting malaria during pregnancy, which could have been prevented, had they received the 2 doses of IPT by the stipulated time period.

**Conclusion:** IPT implementation, especially IPT 2 needs to be improved in order to decrease the number of malaria cases, and therefore decrease the maternal and newborn mortality rate.

**Recommendations:** For IPT implementation, women should be educated about when they need to visit the hospital to receive these at the appropriate time. If it is difficult for women to arrive at these appointments, then outreach services could possibly include IPTs.

**Urine Tests**

Urine tests are important for early diagnosis of diabetes and preeclampsia, which can both become deadly conditions during pregnancy.[[33]](#footnote-33) WHO recommends that women receive a urine test at each antenatal visit, which should be at or before 16, 28, 32 and 36 weeks into pregnancy.[[34]](#footnote-34) Dr. Niewrzel and Dr. Brady, the medical doctors from the United States both recommended that mothers receive urine tests at every antenatal visit. The chart below, “Urine Tests” shows how many mothers received each of these urine tests by the stipulated time.

**Analysis:** At both hospitals, most mothers had not received the correct number of urine tests, according to how many weeks they were along in their pregnancies. While very low percentages of women that should have received a first or second urine test had actually received them, almost no women that should have received 3 or 4 urine tests actually did receive them.

**Conclusion:** A major problem at both hospitals is a lack of urine tests. Urine tests need to be conducted at every antenatal visit. This policy is obviously not being followed at either hospital, and must be if eclampsia cases, and therefore maternal mortality ratios are to be decreased.

**Recommendations:** One recommendation given by a medical student interning at Kagando Hospital is that Kagando Hospital needs to gather the resources to conduct urine analyses at every antenatal visit. In some cases, there were no written records at the hospital that had the number of urine tests recorded. At both hospitals urine tests should be conducted at every antenatal visit, and these tests should be recorded.

**Postnatal Care**

WHO recommends that women receive education regarding breastfeeding and nutrition, danger signs regarding the newborn and mother, and family planning at postnatal care appointments. WHO also recommends that women receive cervical cancer inspections, that the mother and newborn are adequately examined and that the newborn’s growth is monitored.[[35]](#footnote-35) The chart below, “Postnatal Care/Education,” shows the percentage of mothers at each hospital that accessed each of these postnatal services.

**Analysis:** A majority of mothers accessed most of these services at both hospitals. The only service that was not practiced regularly at either hospital was cervical cancer inspections. All postnatal care services were accessed by a larger percentage of women at Kagando Hospital than Nsambya Hospital, except mother and newborn examination and cervical cancer inspection. The postnatal service that needs the most improvement at both hospitals is cervical cancer inspection.

**Conclusion:** The quality of postnatal care at both hospitals is fairly acceptable. The only service that is not being received at either Nsambya Hospital or Kagando Hospital is cervical cancer inspections. Dr. Niewrzel and Dr. Brady, from the United States, agreed that women should receive pap smears in order to check for conditions such as cervical cancer, before they become too advanced to be treated.

Although postnatal services at these facilities may be adequate, many women are not accessing postnatal care at all. At Nsambya Hospital, a total of 79% of mothers reported seeking postnatal care, while at Kagando Hospital, 54% of mothers sought postnatal care. Therefore, access to postnatal care in general needs great improvement, especially in rural Kasese.

**Recommendations:** Cervical cancer inspections should be carried out at postnatal care at both health facilities. Women should be encouraged to attend postnatal care appointments. Outreach programs could improve access to some of these postnatal services.

**Findings for Objective 4: Determine whether mothers are being attended to in a timely manner at urban and rural health facilities.** This objective was accomplished by asking mothers how long they usually spent waiting before they were attended to.

**Time Spent Waiting for Appointment**

The time that mothers spend waiting for antenatal care appointments can greatly affect their experiences at the health facility. While this long wait time may not be causing a direct health issue, it can discourage mothers from returning to the hospital for more antenatal appointments. According to Dr. Niewrzel and Dr. Brady from the United States, mothers should not spend more than 30 minutes for a health appointment. The chart below, “Time Spent Waiting for Appointment,” shows the average time that most mothers spend waiting for an antenatal care appointment at each hospital.

**Amount of Time Recommended by OB-GYN and pediatrician**

**Analysis:** The majority of women at both hospitals reported waiting more than one hour for appointments. The largest number of mothers at both hospitals reported waiting more than two hours. 90% of women at Nsambya Hospital and 98% of women at Kagando Hospital reported waiting longer than 30 minutes at antenatal visits. On average, mothers wait longer at Kagando Hospital than Nsambya Hospital, with almost half of mothers at Kagando Hospital reporting that they wait more than two hours for appointments.

**Conclusion:** Most women are waiting an unacceptable amount of time at both hospitals. The amount of time spent waiting to see a medical professional at both hospitals is creating a large barrier at the health facility. This delay is caused by several reasons. One reason is that many mothers visit these hospitals at the same time, in order to hear the antenatal educational talks. There does not seem to be any set appointment time and date, which could spread out mothers more and cause them to wait for less time. Another reason for delay is that there simply are not enough staff to tend to all of the pregnant mothers. Many mothers end up spending almost the entire day at the hospital for their antenatal care visits, because they are waiting for staff to attend to them. The issue of short staffing is exacerbated by the fact that staff are doing administrative work, such as checking people in when they arrive, and entering information into computers. These staff are trained to be tending to mothers and should not be doing clerical work that a less skilled person could be hired to do.

**Recommendations:** 29 out of 36 women at Nsambya Hospital and 8 out of 20 women at Kagando Hospital that gave recommendations stated that the speed of service delivery needs to be improved. This recommendation was by far the most common response and very obvious, due to the overcrowded waiting rooms. Hospitals could reduce waiting times by setting strict appointment times, by hiring more qualified staff, and by hiring more unqualified staff that can carry out administrative work.

**Findings for Objective 5: Determine how mothers perceive the quality of privacy, staff’s attitudes, and the amenities in urban and rural health facilities.** The Uganda Maternal Health Review states that, “it would be important to also consider if mothers’ perceptions of quality of health facility services… are significant factors in discouraging women from having deliveries in health facilities.”[[36]](#footnote-36) This objective was achieved by asking mothers how satisfied they are with the quality of privacy and confidentially, staff’s attitudes and the amenities available at each hospital.

At Nsambya Hospital, 100% of mothers reported being satisfied with the degree of privacy and confidentiality they received, 100% reported satisfaction with staff attitudes, and 89% reported satisfaction with the quality of amenities available.

At Kagando Hospital, 92% of mothers reported being satisfied with the degree of privacy and confidentiality they received, 98% reported satisfaction with staff attitudes, and 100% reported satisfaction with the quality of amenities available.

**Analysis:** Overall, mothers at both hospitals reported being satisfied with all services. Staff attitudes received the most satisfaction from mothers, with only one mother reporting dissatisfaction. The degree of privacy and confidentiality received the next most satisfaction and the quality of amenities available received the least satisfaction. Although the large majority of mothers reported being satisfied with all services, the perceptions of the staff, the interns, and the researcher were not quite as positive. The degree of privacy and confidentiality could be improved with a larger budget for facility improvement. For all the deliveries observed, the women were only separated by curtains. At both hospitals, mothers could easily hear, and sometimes see other women giving birth, which created an invasion of privacy. Also, during antenatal appointments mothers were usually attended to in groups with little privacy given.

The staff at both hospitals seemed supportive and friendly, although sometimes lackadaisical about their duties. Interns frequently reported that other staff members had not completed their responsibilities, which caused a delay when others had to do their job for them. One reason that mothers’ responses to this question could have been biased is that there were often staff within hearing range when interviews were being conducted. Some mothers may have been reluctant to complain about staff attitudes when they knew that staff may be listening.

The quality of amenities was another issue recognized by researcher, interns, staff and mothers. The waiting rooms were often overcrowded, hot and stuffy. Interns often commented on the lack of equipment available. Some mothers were responsible for bringing their own supplies to the hospital, such as gloves and gauze.

**Conclusion:** The majority of women were satisfied with privacy and confidentiality, staff’s attitudes, and the amenities at both hospitals. However, all of these areas need improvement at both hospitals. Since women are satisfied, it is possible that their perceptions about quality of service are not creating a barrier to accessing maternal healthcare. Mothers may also be satisfied because they have not experienced anything different in their lifetimes, and may not have anything with which to compare their perceptions.

**Recommendations:** Two women at Kagando Hospital recommended that the degree of privacy be increased during delivery and antenatal visits. Four women at Kagando Hospital recommended that staff act with better morals and put more emphasis on being timely on attending to them. 19 mothers at Nsambya Hospital and one mother at Kagando Hospital made recommendations about improving amenities, including the availability of drugs and equipment, improving restroom conditions, and expanding the waiting rooms. If these hospitals could receive more funding, then they should keep stocks of all necessary medicine and equipment and increase the size of the waiting rooms to decrease congestion.

**Overall Conclusions and Recommendations**

Overall, mothers are experiencing large barriers to accessing maternal healthcare because of delays from the household to health facility and at the health facilities. The first delay, from the household to health facility is greatly affecting women in the rural Kasese area. One of the primary reasons for this delay is because of transportation issues. Delays caused by taxis, boda bodas and walking are more pronounced in the rural area because none of these women own a personal car. Because of transportation and other issues, less mothers at Kagando Hospital are visiting the hospital early enough during their pregnancy, and more mothers are delivering at home, under the care of a Traditional Birth Attendant. Not attending antenatal care early enough can cause late diagnosis of threatening conditions. Delivering at home can prevent mothers from being treated in emergency situations. All of these delays from the household to health facility are increasing the maternal mortality ratio in Uganda.

The second delay, at the health facility itself, is greatly affecting mothers both in Kampala and Kasese. During antenatal care, the most pertinent issue ascertained was the lack of urine tests occurring. The number of mothers receiving the correct number of urine tests was unacceptably low, which can cause for late diagnosis of diabetes and preeclampsia. At postnatal care, the most significant concern identified was the absence of cervical cancer inspections. Most mothers at both hospitals had never received a pap smear checking for cervical cancer, a life-threatening condition. Lastly, the most common complaint at both health facilities was the excessively long wait time before receiving medical attention. When mothers are forced to spend all day waiting in a crowded room for a short appointment, they are not inclined to return for future appointments.

If the maternal mortality ratio in Uganda is to be reduced to the MDG target of 131:100,000 live births by 2015, then these issues will need to be addressed. Some of the ways these matters can be improved are to increase outreach services, increase education about proper antenatal care, conduct urine tests at every visit, make pap smears a regular maternal health service, and hire more staff to attend to mothers in a timely manner.

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**Appendix A: Interview Questions for OB-GYN and pediatrician**

1. How many times should women receive urine tests during pregnancy?
2. Who delivers most babies in the United States?
3. How many times should women see medical professionals during pregnancy?
4. When should women first seek medical attention during pregnancy?
5. Is it important for women to be checked for cervical cancer?
6. How long should pregnant mothers have to wait before seeing a medical professional at antenatal care visits?

**Appendix B: Interview Questions for Pregnant Mothers**

**Questionnaire**

**Maternal and Newborn Care in Urban and Rural Hospitals**

**Social Demographic Characteristics**:

Initials: \_\_\_\_\_\_\_ Date:\_\_\_\_\_\_/\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_

Health Center or Hospital

1. Nsambya Hospital b. Kagando Hospital

Age:\_\_\_\_\_\_\_

1. Occupation:
   1. None
   2. Peasant Farmer
   3. Unskilled Worker
   4. Skilled Worker
   5. Secretary/Professional
   6. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Husband/Partner’s Occupation:
   1. None
   2. Peasant Farmer
   3. Unskilled Worker
   4. Skilled Worker
   5. Secretary/Professional
   6. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Marital Status:
   1. Single
   2. Married
   3. Co-habituating
   4. Separated
   5. Widowed
   6. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Religion
   1. Catholic
   2. Protestant
   3. Muslim
   4. Born-Again Christian
   5. 7th Day Adventist
   6. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Gravidity: \_\_\_\_\_\_\_\_\_\_
6. Parity: \_\_\_\_\_\_\_\_\_\_
7. How many pregnancies have you had aborted before the 22nd week? \_\_\_\_\_\_\_\_\_\_
8. Was this a planned pregnancy?
   1. Yes b. No
9. Were you using contraceptives before this pregnancy?
   1. Yes b. No
10. If you answered “Yes” on the previous question, what type of contraception were you using?
    1. Oral contraceptives
    2. Injectibles
    3. Intrauterine Contraceptive Device
    4. Implants
    5. Barrier Methods (condoms)
    6. Natural Family Planning
    7. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. Have you experienced any complications during or after your pregnancy? If so, please describe.
    1. Yes: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    2. No

**Antenatal Care**

1. Have you received education or counseling on the danger signs to be aware of during your pregnancy?
   1. Yes b. No
2. Have you received education or counseling regarding delivering your baby?
   1. Yes b. No
3. Have you received education or counseling regarding breastfeeding and proper nutrition for you and your baby?
   1. Yes b. No
4. Have you received education or counseling regarding HIV and PMTCT during your pregnancy?
   1. Yes b. No
5. Have you received education or counseling regarding family planning during your pregnancy?
   1. Yes b. No
6. How many TT (Tetanus Toxoid) vaccines have you received during your pregnancy? \_\_\_\_\_\_\_\_\_\_
7. How many IPTp (Intermittent Preventive Treatment of Malaria) interventions have you received during your pregnancy? \_\_\_\_\_\_\_\_\_\_
8. How many iron/folate supplements have you received during your pregnancy? \_\_\_\_\_\_\_\_\_\_
9. Have you been tested for HIV during your pregnancy?
   1. Yes b. No
10. If you tested positive for HIV, have you received HAART (Highly Active Antiretroviral Treatment)?
    1. Yes b. No c. Not Applicable
11. How many times have you received a urine check during your pregnancy? \_\_\_\_\_\_\_\_\_\_
12. Where do you plan to deliver your baby?
    1. Nsambya Hospital
    2. Kagando Hospital
    3. Health Care Facility closer to home
    4. At home
    5. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
13. Who decided where you should deliver your baby?
    1. You
    2. Your husband or partner
    3. You and your husband or partner
    4. Your female relatives (mother, sisters, aunts)
    5. Your male relatives (father, brothers, uncles)
    6. Your husband or partner’s female relatives (mother-in-law, sisters-in-law)
    7. Your husband or partner’s male relatives (father-in-law, brothers-in-law)
    8. Family friends or neighbors
    9. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
14. Have you discussed a birth plan with your husband or partner?
    1. Yes b. No

**Past Pregnancies**

1. Where have you delivered your babies in the past?
   1. Nsambya Hospital
   2. Kagando Hospital
   3. Health Care Facility closer to home
   4. At home
   5. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Who delivered your babies in the past?
   1. Doctor
   2. Nurse/Midwife
   3. Nurse’s Assistant
   4. Traditional Birth Attendant
   5. Family friend/relative
   6. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. In previous pregnancies, who decided where you should deliver your babies?
   1. You
   2. Your husband or partner
   3. You and your husband or partner
   4. Your female relatives (mother, sisters, aunts)
   5. Your male relatives (father, brothers, uncles)
   6. Your husband or partner’s female relatives (mother-in-law, sisters-in-law)
   7. Your husband or partner’s male relatives (father-in-law, brothers-in-law)
   8. Family friends or neighbors
   9. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. During previous pregnancies, how many times did you visit a medical professional? \_\_\_\_\_\_\_\_\_\_
5. During previous pregnancies, at what point did you first seek medical attention? \_\_\_\_\_\_\_\_\_\_months
6. Comment on the quality of care given during these pregnancies.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. During previous pregnancies, did your husband or partner support you with seeking medical attention during your pregnancy?
   1. Yes b. No
2. During previous pregnancies, did your husband or partner support you with seeking postnatal care after your pregnancy?
   1. Yes b. No
3. During previous pregnancies, did your husband or partner support you with paying for transportation to appointments?
   1. Yes b. No
4. During previous pregnancies, did your husband or partner support you with paying for hospital expenses?
   1. Yes b. No
5. Comment on how else your husband or partner did or did not support you during your pregnancy

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Postnatal Care of Past Pregnancies**

1. Did you seek postnatal care after your past pregnancies?
   1. Yes, for myself
   2. Yes, for my baby
   3. Yes, for myself and my baby
   4. No
2. If you did seek postnatal care, when did you seek care? \_\_\_\_\_\_\_\_\_\_months
3. If you did seek postnatal care, were you given information about proper breastfeeding or nutrition?
   1. Yes b. No
4. If you did seek postnatal care, were you given information about danger signs regarding your newborn?
   1. Yes b. No
5. If you did seek postnatal care, were you given information about danger signs regarding yourself?
   1. Yes b. No
6. If you did seek postnatal care, were you given information about family planning for the future?
   1. Yes b. No
7. If you did seek postnatal care, were you given information about cervical cancer, as well as receiving a visual inspection?
   1. Yes b. No
8. If you did seek postnatal care, were you and your newborn adequately examined?
   1. Yes b. No
9. If you did seek postnatal care, was your newborn’s growth monitored?
   1. Yes b. No

**Transportation**

1. How far do you travel to visit Nsambya hospital? \_\_\_\_\_\_\_\_\_\_km
2. What types of transportation do you use to travel to Nsambya hospital?
   1. Taxi
   2. Boda boda
   3. Personal Hire
   4. Personal Car
   5. Other (specify):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Quality of Service**

1. How satisfied are you with the degree of privacy and confidentiality you experience at this health facility?
   1. Dissatisfied
   2. Somewhat dissatisfied
   3. Neither dissatisfied or satisfied
   4. Somewhat satisfied
   5. Satisfied
2. How satisfied are you with the staff’s attitudes at this health facility?
   1. Dissatisfied
   2. Somewhat dissatisfied
   3. Neither dissatisfied or satisfied
   4. Somewhat satisfied
   5. Satisfied
3. How satisfied are you with the quality of amenities at this health facility?
   1. Dissatisfied
   2. Somewhat dissatisfied
   3. Neither dissatisfied or satisfied
   4. Somewhat satisfied
   5. Satisfied
4. When you visit this health facility, how long do you usually wait to see a medical professional?
   1. Less than 30 minutes
   2. 30 minutes-1 hour
   3. 1 hour-1.5 hours
   4. 1.5 hours-2 hours
   5. More than 2 hours
5. How could maternal health services at this health facility be improved?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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