

**FACTORS INFLUENCING ADHERENCE TO OPTION B+ AMONG HIV
POSITIVE PREGNANT AND LACTATING MOTHERS AT
KALISIZO HOSPITAL, RAKAI DISTRICT**

**A RESEARCH REPORT SUBMITTED TO UGANDA NURSES AND
MIDWIVES EXAMINATIONS BOARD IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
THE AWARD OF THE DIPLOMA IN
NURSING SCIENCES**

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ABSTRACT

Globally, 30-45% of infants born to HIV-positive mothers become infected during pregnancy, child birth and breastfeeding due to poor ARV adherence. Therefore, the purpose of the study was **to determine** factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district. A descriptive cross-sectional study and quantitative methods of data collection was used. 58 mothers were selected by purposive sampling technique. Data collected using well- structured questionnaire was analyzed using Microsoft excel and word.

90% of the mothers knew the meaning of adherence to option B+. 60% did not adhere to EMTCT drugs as 49% lacked transport, 20% were fearing people, 20% were feeling healthy state and 9% reported forgetfulness, while the least 2% missed drugs while away from home. 52% reported that EMTCT/Option B+ helps to prevent HIV transmission to babies. Major socio-economic factor was transport challenge as 69% used >2000/= and 74% used Bodaboda. 84% moved 6KM or more from home and 57% could wait for services for over 4 hours. Although 59% were satisfied with the health staff assistance and overall rate towards quality of services was good, still study findings revealed poor adherence due to the above factors.

Emphasis on intensive adherence counseling to the HIV positive pregnant and lactating mothers is needed to improve on adherence. Advising them on income generating activities is needed to enable them earn some money.

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DEDICATION

I dedicate this research proposal to my God the almighty, my husband Katta Jude, my sisters Prosy, Passy and others, my brother frank together with my children Sarah, UrlikaNisch and Aloysius for their support towards my studies.

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I thank God for keeping me alive throughout the course of my studies.

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I am greatly indebted to my husband Mr. Katta Jude who has continuously encouraged and supported me financially throughout my research and during the course of study may the Almighty bless thee abundantly.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral
CD4	Cluster of differentiation four
EMTCT	Elimination of Mother to Child Transmission
et al.,	and others
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immune Virus
KIU-TH	Kampala International University-Teaching Hospital
KIU-WC	Kampala International University-Western Campus
MOH	Ministry of Health
UNAIDS	Joint United Nations Program on HIV/AIDS
WHO	World Health Organization

DEFINITIONS OF TERMS

Adherence: refer to the extent to which the mother continues taking the antiretroviral drugs under limited supervision when faced with conflicting demands.

Good adherence: means that a mother took 95% or more of the antiretroviral drugs as prescribed by the Doctor, Medical clinical officer or nurses.

Option B+: means that all pregnant and lactating women living with HIV are offered life-long ART, regardless of their CD4 count or WHO clinical staging criteria in order to prevent HIV transmission to their children.

Poor adherence: means that a mother took less than 95% of the antiretroviral drugs as prescribed by the Doctor, Medical clinical officer or nurses.

HIV positive: means that the mother's blood is infected with HIV.

Mothers: refers to pregnant and lactating women.

Factors: a phenomenon that affects adherence to antiretroviral drugs.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Human immunodeficiency virus/Acquired Immunodeficiency Syndrome is public health problem the world has ever witnessed (WHO, 2009). Nearly 33.3 million people were living with HIV, 2.6 million were newly infected, and 1.8 million died of AIDS at the end of 2009 (WHO, 2009). An estimated 35.3 million were adult people and 3.2 million children under the age of 15 were living with HIV in the year of 2012 (UNAIDS, 2013). As cited in Abera's study revealed that India had an estimated 2.4 million people living with HIV, of which 3.5% are children according to HIV sentinel surveillance of 2008-2009 (Abera, 2015).

Majority of 68% of the global total HIV burden (22.5 million people) was in Sub-Saharan Africa (UNAIDS, 2013). The risk of HIV transmission from mother-to-child without preventive interventions ranges 15% to 40% (Ebuyet *al.*, 2014). According to UNAIDS (2011), 57% of pregnant women living with HIV in low and middle-income countries received effective antiretroviral drugs for PMTCT, a substantial increase from 48% in 2010. The WHO in 2011 released new guidelines recommending lifelong ARV treatment for all pregnant and breastfeeding women living with HIV, the guidelines recommended Option B+ where lifelong ARV treatment is provided to all pregnant and breastfeeding women living with HIV regardless of their CD4 count or WHO clinical stage (WHO, 2011).

Treatment should be maintained after delivery and completion of breastfeeding for life however, suboptimal adherence after initiation were reported (Abera, 2015). Similarly, in Lilongwe and Malawi barriers to ART initiation and adherence were also reported (Kim *et al.*, 2016). Cramer *et al.* (2008), define adherence to a medication regimen as the act of conforming to the recommendations made by the provider with respect to timing, dosage, and frequency of medication taking. A study done in Ethiopia found 36.19% of people living with HIV had poor adherence to their ART treatment (Abera, 2015).

Meanwhile in Uganda, 190 women tested HIV positive and 92% were started on ARV treatment in the ART clinic between 17th October and 31st December 2012 And a total of 82% (155) returned to receive their refill, 162 women were started on ARV treatment in the antenatal clinic and only 20 (12%) women returned to receive their refill (Lesley, 2013). A study of women starting ART according to WHO guidelines in the ART and antenatal clinic at Mulago National Referral Hospital in Kampala district in central Uganda, found that women enrolled on ART in ART clinic were more likely to return for care(adhere) than those enrolled in antenatal clinic for option B+ (Namara, 2013).

Although the prevalence of HIV/AIDS is reducing adherence remains as one of the challenges to the control of HIV/AIDS, where only around two third of People living with HIV/AIDS were well adhered to ART in Rakai district (MOH, 2015). The undersigned study will establish factors influencing adherence to option B+ among HIV positive mothers at Kalisizo hospital, Rakai district.

1.2 Problem statement

Although maternal mortality among pregnant women living with HIV had reduced to 57% due to introduction of ART drugs, the rates due to HIV worldwide still remains high (WHO, 2011). About 24% of all pregnancy-related deaths are still in sub-Saharan Africa (Hodgson *et al.*, 2014).

Furthermore, globally, 30-45% of infants born to HIV-positive mothers become infected during pregnancy, child birth and breastfeeding due to poor ARV adherence (Muluye *et al.*, 2012). In addition, Abera (2015), found 36.19% of Women living with HIV had poor adherence to their ART treatment.

According to Uganda MOH (2015) report, the HIV positive women accessing ART for EMTCT was 85% but only 33% was reported to have been taking their ARVs regularly. In central region of Uganda particularly in Rakai district did not have a well stated figure on ART/ARVs adherence despite having Kalisizo hospital which serve number of HIV positive mothers initiated on option B+.

Ebuy *et al.*, 2014 cited in their study that adherence to Antiretroviral drugs help to reduce maternal mortality and eliminate mother to child HIV transmission, however non-adherence to EMTCT drugs, the reverse becomes true. Therefore, this study seeks to determine factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.

1.3 Purpose of the study

The purpose of the study was to determine factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.

1.4 Specific objectives

- i. To determine the knowledge of mothers on adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.
- ii. To determine the socio-economic factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.
- iii. To assess the hospital related factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.

1.5 Research questions

- i. What do mothers know about adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district?
- ii. What socio-economic factors influence adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district?
- iii. What hospital related factors influence adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district?

1.6 Justification of the study

Option B+ implies that pregnant and lactating HIV positive women are given lifelong ART regardless of their CD4 count, or WHO clinical staging (UNICEF, 2012). If a

pregnant and lactating woman refuses to adhere taking ART after being found HIV positive this can result in their infants acquiring HIV from them. (Andrinam and Deborah, 2015).

Despite Uganda's implementation of EMTCT program reflected in 2012 such as Option B+, adherence remains as one of the challenges in control of HIV/AIDS (Biribonhwa, 2016). Therefore, it is very crucial to study factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district. The results from this study may help the Uganda MOH, Rakai District Health Team and Kalisizo Hospital Team plan intervention regarding this known challenge to improve on EMTCT program. It may also be used to implement health education on ART adherences to mothers. Academically, it may be used for future research reference in the same field.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

It contained the literature that was relevant to this field of study and was reviewed in this chapter according to the objectives to establish knowledge of the mothers, socio-economic and hospital related factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers.

2.2 Knowledge of the mothers on adherence to option B+ among HIV positive mothers

The Information-Motivation-Behavioral skills (IMB) model of ART assumes that adherence related information and motivation are associated with adherence related behavioral skills and these skills directly predict adherence to ART (Amicoet *al.*, 2011). The implication of this model translate to the extent that patients on ARVs if well informed, will be motivated to take action and adopt the required behavioral knowledge and skills to act effectively when taking ARV drugs (Amicoet *al.*, 2011).

According to Amicoet *al.* (2011), emphasized on the need to disseminate comprehensive and accurate information about HIV/AIDS infection and its medication adherence, potential side-effects and decision rules concerning adherence that it may be inaccurate when not continuously told to patient. This study is in agreement with Ebuyet *al.* (2014), who found in their study that the composite measure of knowledge for dissemination of comprehensive information among HIV positive pregnant women who heard about ARVs adherence showed that 56.7%, 28.1% and 15.2% had higher, moderate and lower knowledge on Option B+ EMTCT, respectively.

Furthermore, Amicoet *al.* (2011), cited that poor adherence to ART can occur when patients are poorly informed, not motivated to take action or lack the required behavioral skills and information to act effectively. In a study conducted in Ghana reported defaulting rate to ARV was 27% with variations in the rates at the various facilities (Boatenget *al.*, 2013). Most HIV positive mothers could receive guidance words to take their drug from relatives and health workers. This was much lower and

inconsistent with estimates of average rates of adherence to ART in many different social and cultural settings which range from 50% to 70% (Boaten *et al.*, 2013).

A study done by Ahmed *et al.* (2015) report, found that 54.1% miss their daily dose due to disappearance of symptom or feeling healthy state, forgetfulness (28.3%) and far away home (7.8%) due to lack of reminder. According to Ross *et al.* (2011), reported that one's acceptance of being HIV positive with enough information from the health personnel that HIV is treated by ART and that when taken drug regularly as ordered by doctors can lead to better adherence to ARV.

Furthermore, Side-effects can make one not to adhere to treatment as some patients discontinued ARV treatment when they experienced severe side-effects (Maokisa, 2011). Sometimes patients may not have a clear understanding of side-effects and tend to associate any illness that occurs to them as a side-effect of ARVs.

2.3 Socio-economic factors influencing adherence to option B+ among HIV positive mothers

Costs such as user fees, transport and other overhead costs were reported to be a concern that may influence adherence. HIV positive mothers frequently complained about the cost of transport and other treatment related costs incurred as a result of being on ARVs. Some patients failed to report on time to get their refills because they were still trying to get together the money needed to pay for transport to the clinic, this is a serious problem that is likely to affect adherence, even for those who try to be adherent (Nakiyemba *et al.*, 2008).

It is also not cost-effective if people fail to achieve optimal adherence and rapidly develop resistance to the first line drugs. In a study done by Abera (2015), revealed 14.03% of the respondents complain the blame rejection of families and friends and 36.65% fear of stigma and discrimination of the society. In Tanzania, Pregnant women living in rural areas were less likely to enroll in HIV care, with disparities persisting over time, likely reflecting the greater distance, time and cost of travel to health services; barriers that emerged in qualitative research on EMTCT in this setting (Gourlay *et al.*, 2013).

Factors within the broader community clearly also affect women's care-seeking behavior and thus were require attention in any efforts to improve the uptake of HIV-related services. On the other hand barriers to attending EMTCT services outside the health facility included: denial of the HIV diagnosis, financial barriers, lack of information, unsupportive partners and stigma (UNICEF, 2012).

They look at food and support for their children as urgent needs than taking medications properly (Chesney, 2007). However, Clients who understand their HIV disease and the relationship between treatment, adherence and successful outcome report high levels of ART adherence than those who do not have an understanding (Paterson, 2009).

2.4 Hospital related factors influencing adherence to option B+ among HIV positive mothers

Implementation of Option B+ (lifelong ART for all HIV-positive mothers) by health care providers could provide an incentive for pregnant women to seek care and

treatment earlier from the health personnel so as to avoid non adherences to ART (Levy, 2009). A study conducted by Mendelsohn *et al.*(2012), revealed that ART adherence was disturbed in conflict areas where patients were not able to access ART health facilities, hence this resulted in them missing their appointments and some were lost to follow-up.

Evidences showed that lack of access due to time to reach ART center can hinder the improvement of adherence among ART patients in resource-limited countries. In accordance to this, an Indian study (Cauldbeck *et al.*, 2009), and two African studies showed that travelling from distant places to ART centers was one of the barriers for adherence to ART (Wakibi, 2011; Markoset *et al.*, 2008). Despite extension of ART centers in different regions, People living with HIV (PLWH) were unwilling to even seek treatments at the nearest health institution because of fear of long waiting hours at the clinic (Wastiet *et al.*, 2011).

High adherence may be justified by the fact that free ART access will be closely monitored by health care provider to achieve optimum adherence. Good patient counseling by trained personnel and integrated HIV tests of mother's health will improve on client-patient relationship (Ahmed *et al.*, 2015).

According to Altice *et al.* (2008), reported in their study that a meaningful and supportive relationship between a client and a health care provider helps a client to overcome significant barriers to antiretroviral therapy adherence. This relationship plays an important role in improving adherence to prescribed ARV drugs. It is believed

to be a motivating factor for adherence to HAART. Trust and confidence in provider has been shown to increase the levels of ART adherence.

Nevertheless, Qualitative research in South Africa suggests that young HIV-positive pregnant women face discrimination and rudeness by health workers in health facilities discourage clients from accessing drugs meanwhile providing additional support tailored care to young HIV-positive pregnant women and improving health workers' behavior through training and supervision may encourage attendance (Varga & Brookes, 2008).

Patient overall satisfaction and trust with the health care provider and the patient's opinion on the provider's competence, provider's willingness to include the client in decision making process (Paterson, 2010). Two recent studies done on client- provider relationship to show the effect of trust of the client on physician and the impact on client's ART adherence showed that good relationship thus improved the adherence ten-fold when compared to those clients who had no trust on the physician (Paterson, 2010).

The above study was in agreement with a study done by Jani (2012), found that trust in the provider and clinical staff, good communication, adequate education about medication, the provider's willingness to include the patient in the decision-making process, the affective tone of relationship may affect the adherence, including the patient's overall satisfaction. Overall patient satisfaction with medical care has been found to correlate with increased adherence. The perception of providers as being warm and caring has been related to greater adherence (Jani, 2012).

CHAPTER THREE: METHODOLOGY

3.1 Introduction

It consists of the study design, study setting, study population, sample size determination, sampling procedure, inclusion criteria, study variables, research instruments, and data collection procedures, data management, data analysis and presentation, ethical considerations, study limitations and dissemination of results.

3.2 Study design and rationale

A descriptive cross-sectional study design were used which employed a quantitative method of data collection through the use of a researcher administered questionnaire.

The design were considered because it enable data collection at specific point of time, it saves time and costs for the study and would help us describe the various factors that influence adherence to option B+ in HIV positive mothers.

3.3 Study setting and rationale

The study was carried out at mother baby care clinic in Kalisizo General Hospital. Kalisizo General Hospital is found in the Central region of Uganda, government-owned with a bed capacity of 120 and above. The hospital is located in the town of Kalisizo, Rakai District on the Masaka-Mutukula Road about 30 Kilometres (19 m) southwest of Masaka Regional Referral Hospital.

The hospital provide many health services for both outpatient and inpatient departments such as; Antenatal clinic, HAART Clinic including mother baby care point for HIV positive mothers and their babies, Surgical, Maternal and Child Health, Family Planning, Laboratory, Radiology, Theatre among others. Kalisizo Hospital consists of various professional staff are; Medical Officers, Medical Clinical Officers, Nurses, Midwives among others. The reason why Kalisizo hospital was chosen is, it has a big number of pregnant and lactating mothers attending mother baby care clinic who were to help the researcher study about adherence on option B+.

3.4 Study population

The study population was targeting HIV positive pregnant and lactating mothers attending mother baby Care clinic at Kalisizo hospital, Rakai district. This population was chosen because they were to determine the level of adherence to option B+.

3.4.1 Sample size determination predict

The researcher's sample size of the study participants was determined using Wright

Fisher (1990), Formula which states that; $n = \frac{z^2 pq}{d^2}$

Where;

n –Desired sample size

z – Standard deviation at a desired degree of accuracy which was 95% and the standard deviation was 1.96.

P– Proportion of the population with desired characteristics.

In this study p represented HIV positive pregnant and lactating mothers who are not adhering to option B+. According to Uganda MOH (2015), the HIV positive women accessing ART for EMTCT was 85% but only 33% was reported to have been taking their ARVs regularly as prescribed. The same percentage was assumed not far different in Kalisizo hospital. Therefore taking the findings above from Uganda MOH, the percentage of HIV positive pregnant and lactating mothers who were not adhering to option B+ was 67%, Therefore $p = 0.67$

q = 1-p, so $q = 0.33$

d – Margin of error acceptable usually estimated at 5% = 0.05

Therefore,

$$n = \frac{(1.96)^2 \times 0.67 \times 0.33}{(0.05)^2}$$

$n = 340$ Participants

But sample sizes of 58 mothers were used because there was limited time and resources (funds).

3.4.2 Sampling procedure and rationale

Purposive sampling technique was used to select HIV participants with an objective of choosing only HIV positive pregnant and lactating mothers on EMTCT drugs who possess the characteristics of the population of interest so that the study results could be generalized.

3.5 Inclusion and exclusion criteria

3.5.1 Inclusion criteria

The study included only HIV positive pregnant and lactating mothers attending mother baby Care clinic at Kalisizo hospital, Rakai district who were willing to participate in the study and are permanent resident of the study area.

3.5.2 Exclusion criteria

It excluded HIV positive pregnant and lactating mothers attending mother baby Care clinic at Kalisizo hospital, Rakai district that were too sick to be interviewed, refused to participate in the study and those who could not communicate with the researcher by any means.

3.6 Study variables

3.6.1 Dependent variable

Adherence to option B+ among HIV positive mothers at Kalisizo hospital, Rakai district.

3.6.2 Independent variables

Factors influencing adherence to option B+ examples; knowledge, social-economic and hospital related factors.

3.7 Research instruments

The study used researcher administered questioner to collect information from respondents. The questionnaire which consisted of open ended and closed ended questions; it would be used after pre-test to check validity and liability.

3.8 Data collection procedures

Data collection were conducted using structured questionnaire which were pre-tested few days on three mothers at KIU-TH before the actual data collection process to check for validity and reliability. During the time of data collection privacy was ensured and also respondents were informed that the information collected was confidential. A letter of approval was obtained from KIU-WC School of Nursing and taken to the Medical Supretendant of Kalisizo hospital, Rakai district to start data collection.

3.8.1 Data management

The filled questionnaires were checked for mistakes before leaving the data collection site. Maximum level of confidentiality of information that was collected from each individual participant was maintained, unauthorized personnel was not allowed to access the data except the researcher.

3.9 Data analysis and presentation

Data were first analyzed manually using electronic calculators, also electronically by feeding into Microsoft excel and word for analysis to generate descriptive and statistical information were then presented in the form of tables, figures, charts and bar graphs.

3.10 Ethical considerations

Permission to carry out study was sought from School of Nursing sciences of Kampala International University-Western Campus, Ethics Review Committee and Medical Superintendent of Kalisizo hospital, Rakai district. The study was on voluntary basis and the information was kept private and confidential. The study was conducted while upholding the professional code of conduct in the manner that did not compromise the scientific inclination of research.

3.11 Limitations of the study

Time was limited factor during data collection since I had to work on the research project as well as other studies for the course. This however was managed by well self-programming to meet both goals.

It was hard to obtain audience from mothers as they thought it was wastage of their time. This however was overcome by creating good rapport.

3.12 Dissemination of the results

On completion of the report, copies were disseminated to the Uganda Nurses and Midwives Examination Board as partial fulfillment of the award of Diploma in Nursing Sciences, Kampala International University-Western Campus School of Nursing Sciences and Library of Kampala International University-Western Campus.

CHAPTER FOUR: RESULTS

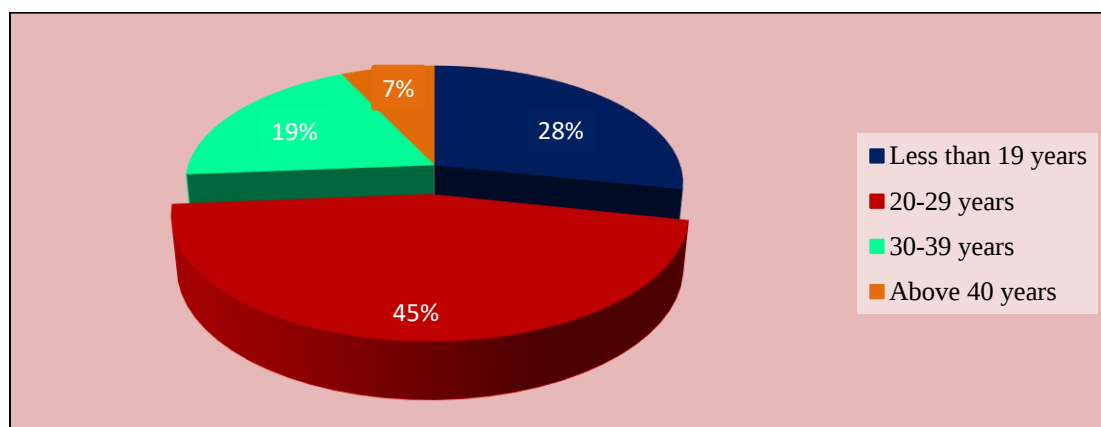
4.1 Introduction

This analyzed data is presented in tables, graphs, pie chart and brief explanations in this chapter according to the objectives to establish knowledge of the mothers, socio-economic and hospital related factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo Hospital, Rakai district.

Only 58 participants were enrolled to assess factors influencing adherence to Option B+ among HIV positive pregnant and lactating mothers at Kalisizo Hospital.

4.2 Demographic data of the participants

Figure 1: A pie chart showing age group of the respondents $n=58$



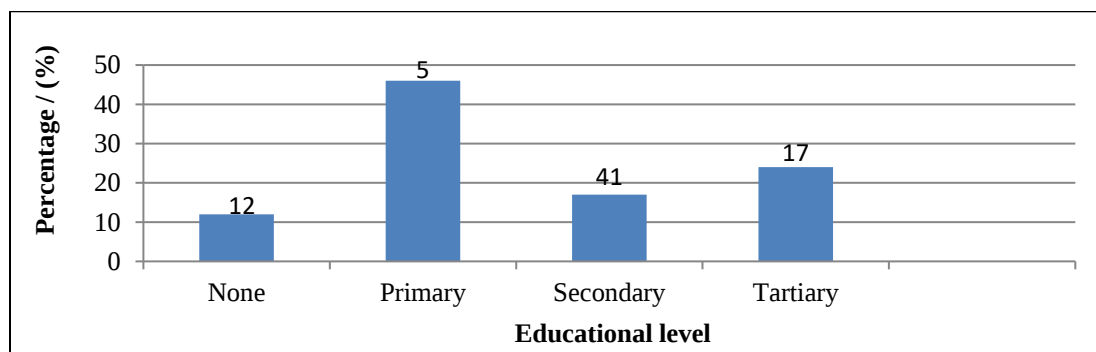
Majority of the participants 45% were in the age range 20-29 years, while the least 7% were above 40 years.

Table 1: Shows distribution of respondent's marital status n=58

Marital status	Frequency (n)	Percentage
Married	38	66%
Separated	6	10%
Widowed	1	2%
Cohabiting	13	22%
Total	58	100%

Most of the respondents in this study 66% were married while the least 2% were widow.

Figure 2: A graph showing participants according to their educational level n=58



Majority of the participants 46% had attained primary level of education, while a few of them 12% never went to school.

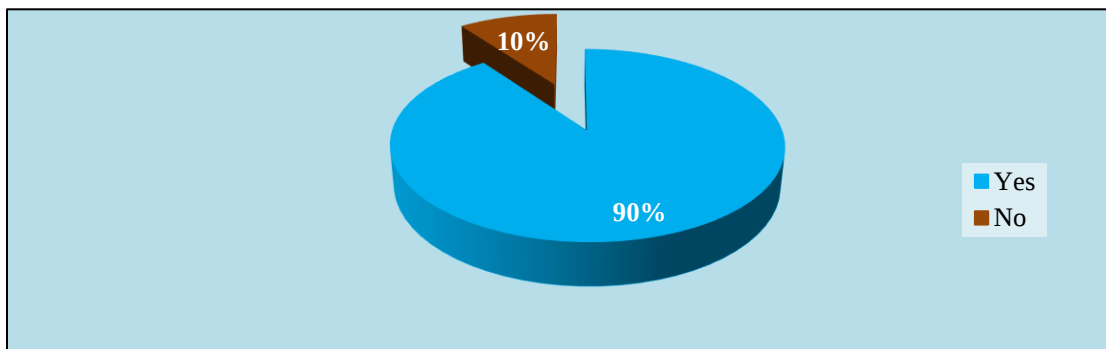
Table 2: Show distribution of participants according to occupation n=58

Occupation	Frequency (n)	Percentage / (%)
Peasant	36	62%
Business	13	22
Employed	9	16
Total	58	100

Most of the participants 62% were peasants and least of the participants 16% were employed by different employers.

4.3 Knowledge on adherence to option B+ among HIV positive mothers

Figure 3: A pie chart showing whether respondents knew the meaning of adherence to option B+. n=58



Majority of the participants 90% knew what adherence to option B+ means while few of them 10% did not know.

Table 3: Shows participants who usually adhere to drugs n=52

Variable	Frequency (n)	Percentage / (%)
Yes	21	40
No	31	60
Total	52	100

Majority of the participants 60% were not adhering to drugs followed by only 40% who were adhering.

Figure 4: A pie-chart showing reasons why participants don't adhere to drug n=31

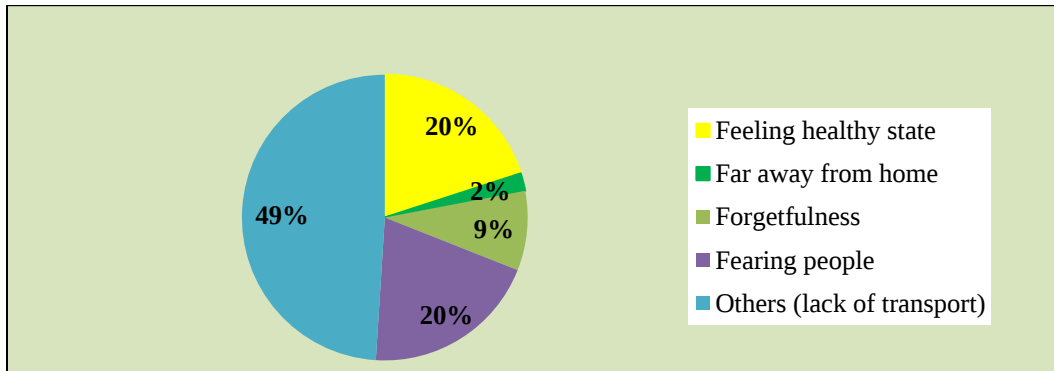


Figure 4 results shows that majority of the respondents 48% lacked transport, while least of them 2% did not take their drugs as they were far away from home.

Table 4: Show participants' benefits of EMTCT/Option B+ adherence n=21

Variables	Frequency (n)	Percentage / (%)
To improve her quality of life.	2	10
Prevent HIV transmission to her baby	11	52
All of the above	8	38
Total	21	100

Table 4 above results shows that majority of the participants 52% stated that EMTCT/Option B+ prevent HIV transmission to their babies, while the least 10% stated that it improves their quality of life.

4.4 Socio-economic factors influencing adherence to option B+

Figure 5: A bar graph showing amount of cost to come to the clinic. $n=52$

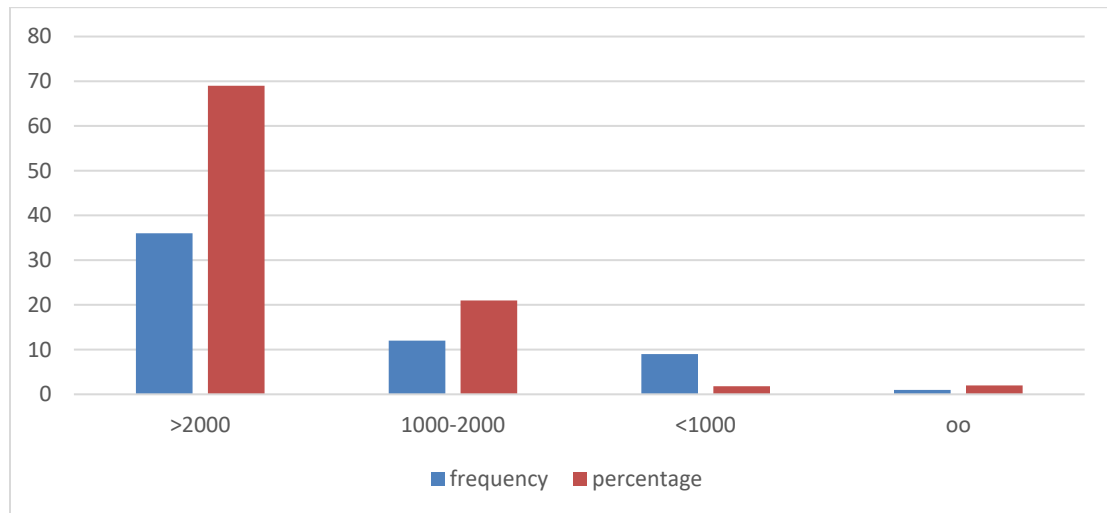


Figure 5 results shows that majority of the participants with 69% spend > 2000/= as their transport to come to the clinic while 7% spend less than 1000/=

Table 5: Shows participants' transport means used to come for ARV at the hospital $n=52$

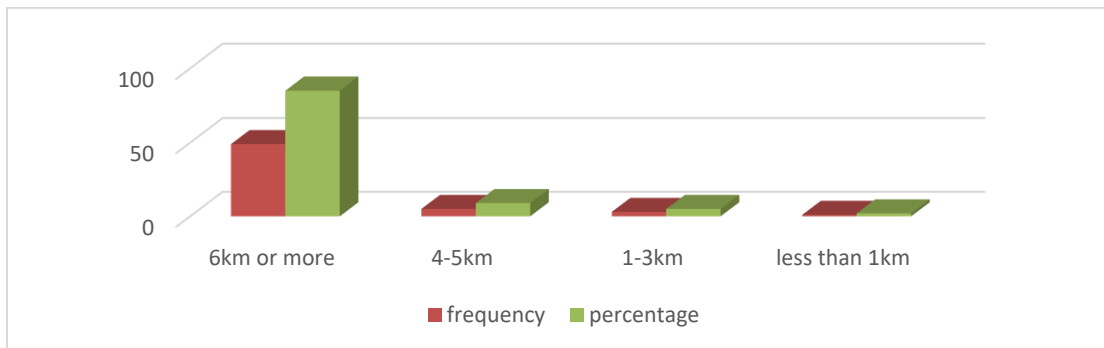
Variables	Frequency (n)	Percentage
On foot	1	2%
By bicycle	3	5%
Motorcycle Bodaboda	43	74%
Taxi	9	16%
Own means	2	3%
Total	58	100%

Majority of the Participants 74% were using Motorcycle (Bodaboda) as their transport while least of them 2% were footing.

4.5 Hospital related factors influencing adherence to option B+

Figure 6: A bar graph showing distance from home to the hospital.

n=52



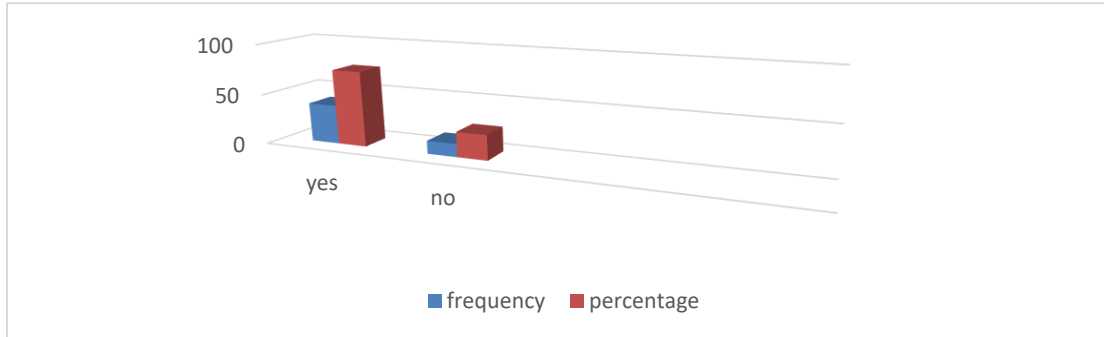
Majority of the respondents 84% were 6km away from the hospital or more, and a few of them 2% were less than 1km.

Table 6: Shows time spent while waiting for drugs at the clinic. n=52

Duration	Frequency (n)	Percentage
In < 1hour	3	5%
2hours	9	16%
3hours	13	22%
Over 4hours	33	57%
Total	58	100%

Majority of the participants 57% spent over 4hours and only 5% spent less than 1hour.

Figure 7: A graph showing participants' satisfaction with health staff assistance
n=52



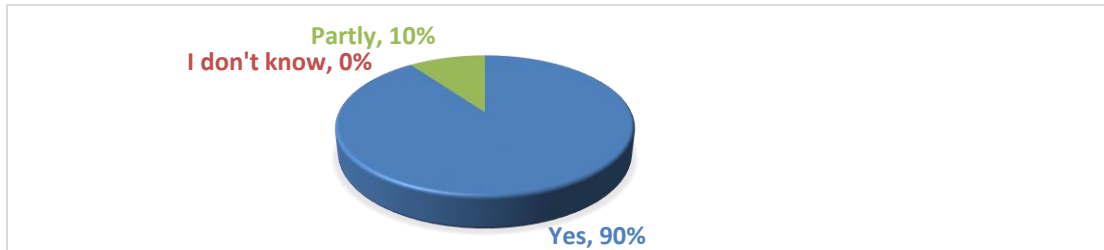
Majority of the participants 59% were satisfied with the health staff assistance and few of them 25% were not.

Table 7: Shows participants' rating of health worker's behavior in the hospital
n=52

Variables	Frequency (n)	Percentage / (%)
Friendly	49	85
Rude	3	5
Other (supportive)	6	10
Total	58	100

Majority of the participants 85% stated Doctors/nurses were friendly and only 5% stated rude.

Figure 8: A pie chart showing whether participant were contented with EMTCT through option B+ services. $n=52$



Majority of the participants 90% were contented with EMTCT through option B+ services and only 10% were not comfortable.

Table 8: Shows participants' overall rating the services received from the hospital $n=52$

Variable	Frequency (n)	Percentage
Excellent	9	16%
Good	47	81%
Poor	2	3%
Total	58	100%

Source: field data, 2017

Majority of the respondents 81% their overall rate were good and very few 3% rated poor.

CHAPTER FIVE: DISCUSSION, CONCLUSION AND RECOMMENDATION

5.0 INTRODUCTION

This chapter discusses, conclude, recommend the results and implications to nursing practices according to the objectives to establish knowledge of the mothers, socio-economic and hospital related factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers in mother baby care clinic at Kalisizo Hospital, Rakai district.

5.1 Discussion.

5.1.1 Demographic data of the participants

According to the study findings, majority of the participants 45% were in the age range 20-29 years. This could be due to the fact that between 20-29 years this is when most women are desiring to get married and have children hence predisposed to poor sex practices leading to HIV. And the least 7% were above 40 years, this could be that at this age most women have already attained their family size that's why they are few in the clinic. Most respondents 66% were married, this could influence adherence positively since the respondents have partners to remind them. Most of them 46% had attained primary level of education and this could be due to the government introducing universal primary education this was anticipated to help them understand adherence and adhere to drugs. 62% of participants were peasants, meaning that they carry out little farming on small scale this was anticipated to affect adherence due to lack of financial supports to access option B+ services.

5.2.2 Knowledge on adherence to option B+ among HIV positive mothers

According to the study findings majority, 90% of the participants knew the meaning of adherence to option B+. This was a sign that respondents were informed about option B+ and it could have been due the fact that they had received enough education from the midwives in the clinic about option B+. This was compared with one of the earlier studies that was done by Amico *et al.* (2011), where it was cited that poor adherence to ART can occur when patients are poorly informed, not motivated to take action or lack the required behavioral skills and information to act effectively.

Despite the fact that majority of the participants knew the meaning of adherence to option B+, findings from the study revealed that majority of them 60% were not adhering to EMTCT drugs and when they were asked the reason as to why they do not adhere, majority of them 49% lacked transport, 20% were fearing people, 20% were feeling healthy state and 9% reported forgetfulness, lastly 2% could miss their drugs when they were far away from home. This was anticipated that some mothers lack enough information on benefits of adherence to an extent that whenever they could be feeling health after taking drugs for some time they could think that it was okay even if they do not adhere to their drugs and majority of them were peasants which could have affected their financial status causing them to lack transport to come to the clinic and also the fact that majority of them were married it was anticipated that they were fearing to take their drugs in view of their partners as some of them might have kept it confidential from their husbands that they were positive. This was related to the two studies of the previous researchers, a study done by Ahmed *et al.* (2015) which found

that 54% missed their daily dose due to disappearance of symptom or feeling healthy state, forgetfulness (28.3%) and far away home (7.8%) due to lack of reminder. And Nakiyemba *et al.*, (2008) who cited that Some patients failed to report on time to get their refills because they were still trying to get together the money needed to pay for transport to the clinic, this is a serious problem that is likely to affect adherence, even for those who try to be adherent.

However, for those who were adhering to option B+, when they were asked if they knew the benefits for adhering to option B+, 52% of them reported that EMTCT/Option B+ could help them to prevent HIV transmission to their babies and few of them stated that it improves their quality of life. This implied that they were informed about option B+ though much effort is still needed to scale up the number of those who were not adhering which may be achieved through laying strategies that will make HIV/AIDS positive mothers more informed about option B+. This was in agreement with a study by Amico *et al.* (2011) where it was stated that the implication of the model translate to the extent that patients on ARVs if well informed, will be motivated to take action and adopt the required behavioral knowledge and skills to act effectively when taking ARV drugs.

5.2.3 Socio-economic factors influencing adherence to option B+

According to the study findings, majority 69% spent > 2000/= to travel to the clinic for option B+ services. This seemed to be quite a large sum of money which actually respondents could not easily raise as it has already been mentioned above that majority

of the respondents were complaining of lack of transport to come to the clinic which the researcher thought that it had a relation with the peasant status of the majority of the participants. To relate this finding with one of the earlier studies by Nakiyemba *et al.* (2008), it was reported that HIV positive mothers frequently complained about the cost of transport and other treatment related costs incurred as a result of being on ARVs as seen from the study results that majority of the participants 69% spent > 2000/= to come to the health facility. The study also revealed that most of the mothers 74% used Bodaboda as transport means. This transport mean could be made worse on travelling long distance with lack of transport which is in line with the previous researcher who cited that In Tanzania, Pregnant women living in rural areas were less likely to enroll in HIV care, reflecting the greater distance, time and cost of traveling to the hospital Gourlay *et al.* (2013).

5.2.4 Hospital related factors influencing adherence to option B+

Furthermore, the study revealed that majority of the participants 84% were from a distance of 6KM from home to the health facility or more. Traveling from distant places to hospital was thought to influence adherence negatively since most of the respondents were peasant so could not easily raise transport for long distance. This was similar to the study findings that was done in Indian study by Cauldbeck *et al.*, (2009) and two African studies Wakibi, 2011; Markos *et al.*, 2008) which showed that travelling from distant places to ART centers was one of the barriers for adherence to ART. And in addition to that majority of them 57% could wait for services for over 4 hours. This could be due to understaffing yet the clinic serves many clients. This is in line with

(Wasti *et al.*, 2011) who cited that despite extension of ART centers in different regions, People living with HIV (PLWH) were unwilling to even seek treatments at the nearest health institution because of fear of long waiting hours at the clinic.

However, although respondents had to move long distances to the hospital, majority 59% were satisfied with the health staff assistance and most of them 85% appreciated health worker's behavior and probably this could have been the reason that could still keep them coming to access option B+ services and it actually calls for all health workers to portray the same. This was in agreement with a study by Altice *et al.* (2008), which revealed that a meaningful and supportive relationship between a client and a health care provider helps a client to overcome significant barriers to antiretroviral therapy adherence. This relationship plays an important role in improving adherence to prescribed ARV drugs. It is believed to be a motivating factor for adherence to HAART. Trust and confidence in provider has been shown to increase the levels of ART adherence.

Finally, majority of the participants 90% were contented with the EMTCT through Option B+ and majority 81% concluded that overall rate of the quality of services they receive from the hospital were good which showed that they were satisfied and had trust in the health care provider which was in agreement with a study done by Jani (2012), where it was found out that trust in the health provider, good communication, the provider's willingness to include the patient in the decision-making process together with effective relationship may affect level of adherence including the patient's overall satisfaction.

5.3 Conclusion

The study findings for the research study titled “**factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital Rakai district**” found out the following;

Majority of the respondents 45% were in the age range 20-29 years, most respondents 66% were married, and most of them 46% attained primary level of education together with 62% who were peasants.

Respondents’ knowledge towards adherence to option B+ was good as majority 90% knew the meaning of adherence to option B+. However, most of them 60% were not adhering to EMTCT drugs due to majority 49% lacking transport. For those who were adhering, 52% of them knew the benefit of Option B+ as they stated that it could help them to prevent HIV transmission to their babies.

The major socio-economic factor for majority of the respondents was transport challenge as 69% spent > 2000/= to travel to the clinic for option B+ services and most of them 74% used Bodaboda as transport means which seemed to be quite expensive for them as majority of the respondents were complaining of lack of transport to come to the clinic.

Most of the participants 84% were from a distance of 6KM from home to the health facility or more and in addition to that most of them 57% could wait for services for over 4 hours. However, although respondents had to move long distances to the hospital, majority 59% were satisfied with the health staff assistance and most of them

85% appreciated health worker's being friendly to them and most of the participants 78% were contented with the EMTCT through Option B+ where 81% finally stated that overall quality of services received from the hospital was good which is a motivating factor towards adherence though the quality of adherence was poor due to mainly lack of transport , travelling long distance, waiting for long hours at the clinic and knowledge gap in some mothers was noted.

5.4 Recommendation.

To the ministry of health:

The Uganda Ministry of Health should formulate policy that plays an important role in improving adherence to option B+ through recruitment of enough health workers which was sought to have attributed to patients' delay in the clinic waiting for drugs.

They should also consider extending EMTCT/option B+ services to village level through health outreaches to link services to mothers in their community.

The community development officers should educate HIV positive mothers on income generating activities to help them solve transport issues.

To Kalisizo Hospital:

Health workers should emphasize on intensive adherence counseling to the HIV positive pregnant and lactating mothers to help them adherer to HAART.

Health educating the community and creating awareness among community members on option B+ services with the aim of reducing stigma among HIV infected mothers to help them utilize services at the nearby health centers to solve long distance issue.

5.5 Implications to nursing

To nursing practice. More emphasis should be put on factors raised above which influence adherence to option B+ since it is the only intervention of eliminating mother to child transmission of HIV. Investigations should be considered in case of any mother not adhering to drugs in order to find out the problem and solve it if possible.

To nursing education. EMTC/option B+ services should be emphasized in training institutions to ensure that health workers are equipped with enough knowledge to help HIV positive mothers prevent HIV transmission to their babies.

To nursing research. Should endeavor to carry out more comprehensive studies on factors influencing adherence of option B+ among HIV positive mothers on option B+ and addressing interventions to eliminate mother to child transmission of HIV.

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APPENDICES

Appendix I: Consent Form

Dear Participant;

My name is Bukirwa Sylvia, a final year nursing student at Kampala International University-Western Campus from the faculty of nursing who is conducting a research survey on **“factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district”**.

All the information that will be collected will be kept in private and will be used only for this study. The form will not bear your name but only identification number.

If you agree to participate in this study, you will be required to answer a series of question that have been prepared for the study through interview where necessary in order to obtain the intended information. You will take/ or be interviewed for 20-30 minutes.

Participation/acceptance is done by signing this form.

Thank

Participant's Signature or Thumb print_____Date_____

Researcher's signature_____Date_____

Appendix II: Questionnaire

TOPIC: Factors influencing adherence to option B+ among HIV positive pregnant and lactating mothers at Kalisizo hospital, Rakai district.

Number _____

Date _____

NB: Tick or write correctly in the provided box or space respectively

DEMOGRAPHIC DATA

	QUESTION AND FILTERS	CODING CATEGORY
1	Age range (in years)	a) Less than 19 _____ b) 20-29 _____ c) 30-39 _____ d) Above 40 _____
2	Marital status	a) Married _____ b) Separated _____ c) Widowed _____ d) Cohabiting _____
3	Educational level	a) None _____ b) Primary _____ c) Secondary _____ d) Tertiary _____

4	Occupation	a) Peasant _____ b) Business _____ c) Employed _____
A KNOWLEDGE		
5	Do you know what adherence to option B+ means?	a) Yes _____ b) No _____
6	If yes to number 5, Do you usually adhere to your drugs?	a) Yes b) No
7	If No to question 9, What could be the reasons why you do not adhere to your drugs?	a) Feeling healthy state _____ b) Far away from home _____ c) Forgotten _____ d) Fearing people _____ a) Others specify _____
8	If yes to number 5, What could be the benefit(s) of EMTCT/option B+ adherence?	a) To improve her quality of life _____ b) To prevent HIV transmission to her baby _____ c) ALLthe above _____
B SOCIO-ECONOMIC FACTORS		

12	How much does it cost you to come to the health facility?	a) Nothing _____ b) < 1000/= _____ c) 1000-2000/= _____ d) > 2000/= _____
13	What transport means do you use to come for your ARV at the hospital?	a) On foot _____ b) By bicycle _____ c) Motorcycle Bodaboda _____ d) Taxi _____ e) Own means _____
C HOSPITAL RELATED FACTORS		
14	How far is the nearest health facility from your home?	a) Less than 1km _____ b) 1-2km _____ c) 4-5km _____ d) 6km or more _____
15	How much time do you spend waiting whenever you visit the clinic for your drugs?	a) In < 1 hour _____ b) 2 hours _____ c) 3 hours _____ d) Over 4 hours _____
16	Are you satisfied with the manner which the health staff assists you?	a) Yes _____ b) No _____ If disagreed or strongly disagreed, why so? _____

17	How would you rate the doctor's/nurses behavior in the hospital?	a) Friendly _____ b) Rude _____ c) Other specify _____
19	Are you contented with elimination of mother-to-child transmission through ARV initiation services?	a) Yes _____ b) No _____ c) Partly _____
20	Over all, how do you rate the quality of services you receive from this hospital?	a) Excellent _____ b) Good _____ c) Poor _____
<i>“THANK YOU FOR GIVING ME YOUR TIME”</i>		

Appendix III: Approved Letter

KIU KAMPALA INTERNATIONAL UNIVERSITY
WESTERN CAMPUS
EXPLORING THE HEIGHTS

School of Nursing Sciences,
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Tel: +256 (0) 701 975572
E-mail: akabanyoro@gmail.com
Website: <http://www.kiu.ac.ug>

Office of the Dean - School of Nursing Sciences

TO WHOM IT MAY CONCERN

Dear Sir/Madam

RE: BUKIRWA SYLVIA - DNS/E/3881/153/DU

The above mentioned is a student of Kampala International University - School of Nursing Sciences undertaking Diploma in Nursing Science and she is in her final academic year.

She is recommended to carry out her data collection as a partial fulfillment for the award of the Diploma in Nursing Science.

Her topic is **FACTORS INFLUENCING ADHERENCE TO OPTION B+ AMONG HIV POSITIVE MOTHERS AT KALISIZO HOSPITAL**

Any assistance rendered to her will be highly appreciated.

Thank you for the positive response.


DEAN, SCH. OF NURSING
WESTERN CAMPUS

Assist her carry out her research at the hospital

**HOSPITAL ADMINISTRATOR
KALISIZO HOSPITAL**
★ 13 MAR 2017 ★
Sign: *[Signature]*
P.O. BOX 40 KALISIZO
Bambalany Richard

“Exploring the Heights”

Appendix IV: Map of Uganda showing location of Rakai district



Appendix V: Map of Rakaidistrict showing location of Kalisizo hospital

