KNOWLEDGE AND ATTITUDES OF MOTHERS TOWARDS PREVENTION OF MOTHER TO CHILD TRANSMISION OF HIV IN NKOZI HOSPITAL, MPIGI DISTRICT

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DCM/0051/143/DU

A DESSERTATION SUBMITTED TO THE SCHOOL OF ALLIED HEALTH SCIENCE IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DIPLOMA IN CLINICAL MEDICINE AND COMMUNITY HEALTH, KAMPALA INTERNATIONAL UNIVERSITY

JULY 2017
DECLARATION
I SSENGENDO PETER, hereby declare that this dissertation is my original work and has not been submitted to any college, university or institution of higher learning for academic award.

Sign........................................................................................................................................

Date .........................................................................................................................................
APPROVAL

This is to approve that this work has been prepared under my direct supervision and is therefore ready for submission to the school of allied health Kampala international university western campus

MR TASHOBYA DANIEL KAMUGISHA

Sign.................................................................................................................................................................

Date.....................................................................................................................................................................
ACKNOWLEDGEMENTS

First and foremost, I express my most sincere gratitude and admiration to the Almighty God by

I also appreciate the various roles played by different individuals during the various stages and final completion of this dissertation; I mostly acknowledge the role of the following individuals.

Mr. Tashobya Daniel, my supervisor for all his insightful support and patient encouragement.

All my friends for availing themselves to work with me at all stages of this work.

The staff of Nkozi hospital for their tireless efforts and encouragement.

Mr. Ocheng Victor for his support and guidance in the process of producing this work.
DEDICATION

This dissertation is dedicated to my beloved parents, Mr. and Mrs. Mpanga Henry and my siblings, Jackie, Noeline and Joseph and my uncle Mr. Ssensalire Joseph

Their collective support, encouragement and belief in my potential have greatly motivated me in all circumstances.
ABSTRACT

Introduction: The acquired immunodeficiency syndrome (AIDS) epidemic is the greatest challenge to human kind in the 21st century, over 35.5 million people are infected with human immune deficiency syndrome (HIV) worldwide and the majority of the infections are in the reproductive age group, mother to child transmission (MTCT) of HIV infection is high especially in the Sub-Saharan Africa, despite improvements in PMTCT services over the years, there were approximately 240,000 children in 2013 living with HIV through MTCT.

Objective: To assess knowledge and attitudes on prevention of mother to child transmission of HIV in pregnant women attending ANC at Nkozi hospital.

Methodology: A cross sectional descriptive study was used and a simple random sampling method was used to collect data from March to July and 100 respondents were used, data was collected by closed ended objective questionnaire, and was analyzed by calculator and simple arithmetic and, presented in tables, pie charts and graphs.

Findings. Mothers who had knowledge on how HIV is transmitted were 88%, the cause of HIV were 82%, 785 had ever had about PMTCT, 72% knew How to avoid HIV, 63% knew how MTCT occurs, 65% knew how to treat a baby of a HIV positive mother, 59% knew how to prevent unintended pregnancies, 56% knew how to prevent MTCT. Most of the participants (42%) reported getting knowledge on PMTCT from the hospital, 26% reported acquiring the information from friends while 18% and 14% from radio and VHTs respectively. Mothers who agreed that it is important to have a HIV test were 84%, followed by 56% who said HIV positive mothers should breast feed, and 38% who said that HIV positive mothers should have babies.

Conclusion. The utilization of the PMTCT services was affected by insufficient knowledge that leads to poor attitudes towards the PMTCT services, hospital was also the commonest source of knowledge on PMTCT.

Recommendations. The study recommends working in collaboration with all stakeholders to improve and increase on the sensitization and awareness on PMTCT.
DEFINITION OF TERMS.

**Acquired immune deficiency syndrome**; AIDS is a collection of diseases that are acquired from HIV infection once the immune system is no longer able to protect the body from illnesses.

**Antiretroviral therapy (ART)**; ARTS are forms of treatment used to improve the quality of life for the people living with HIV and AIDS.

**Attitudes**; opinions and feelings that one usually has about something, in this study attitudes refers to the way a person believes towards mother to child transmission of HIV infection.

**Knowledge**; information, skills and understanding that have been gained through learning or experience in this study knowledge means, information and understanding of HIV infection.

**Mothers**; adult female persons, in the study women mean female persons who are pregnant aged 15 and above.

**PMTCT** are interventions carried to reduce the risk of HIV transmission from an infected mother to her baby during pregnancy, labor, delivery, and breastfeeding.

**Utilization** referred in this study the action of making use of the available antiretroviral drugs and other PMTCT services in prevention of mother-to-child transmission of HIV.
LIST OF ACRONYMS

AIDS - Acquired Immune Deficiency Syndrome

ANC - Antenatal Care

ANECCA- African Network for Care of Children Affected by HIV/AIDS

ART - Anti-Retro viral Therapy

BMS - Breast Milk Substitutes

EMTCT - Elimination of mother to child transmission

HAART - Highly Active Anti-retro viral Therapy

HIV - Human Immune Virus

ICRW - International center for research on women

MOH - Ministry Of Health

MTCT - Mother To Child Transmission

NACA - National Action Committee on AIDS

PMTCT - Prevention of mother to child transmission

PNFP - Private Not For Profit

PFP - Private For Profit

RCT - Routine Counseling and Testing

STI - Sexually Transmitted Infections

UNAIDS - United Nations program on HIV and AIDS

UNICEF - United Nations International Children Emergency Fund

WHO - World Health Organization.
# TABLE OF CONTENTS

DECLARATION.......................................................................................................................... i
APPROVAL.................................................................................................................................. ii
ACKNOWLEDGEMENTS ............................................................................................................ iii
DEDICATION .......................................................................................................................... iv
ABSTRACT................................................................................................................................... v
DEFINITION OF TERMS.............................................................................................................. vi
LIST OF ACRONYMS ................................................................................................................ vii
TABLE OF CONTENTS ............................................................................................................... viii
LIST OF FIGURES .................................................................................................................... xi
LIST OF TABLES ........................................................................................................................ xii

## CHAPTER ONE .................................................................................................................. 1

1.0 INTRODUCTION .............................................................................................................. 1
  1.1 Background .................................................................................................................. 1
  1.2 Problem statement .................................................................................................... 4
  1.3.0 Objectives. ............................................................................................................ 4
  1.3.1 General objective. ............................................................................................... 4
  1.3.2 Specific objectives. ............................................................................................. 4
  1.4 Research questions ................................................................................................. 5
  1.5 Justification .............................................................................................................. 5
  1.6 Conceptual framework. .......................................................................................... 6
  1.7.0 Scope of the study ............................................................................................... 7
  1.7.1 Geographical scope ............................................................................................ 7
  1.7.2 Content scope .................................................................................................... 7
  1.7.3 Time scope .......................................................................................................... 7

## CHAPTER TWO .................................................................................................................. 8

LITERATURE REVIEW ............................................................................................................. 8
  2.1 Knowledge of PMTCT services ................................................................................. 8
  2.2 Sources of Information Regarding PMTCT. ............................................................ 10
  2.3. Attitudes of mothers towards PMTCT................................................................. 11

## CHAPTER THREE .............................................................................................................. 13
# METHODOLOGY

1. Study design .......................................................................................................................... 13
2. Study area ............................................................................................................................... 13
3. Study population ..................................................................................................................... 13
4. Inclusion criteria ..................................................................................................................... 13
5. Exclusion criteria ................................................................................................................... 14
6. Study variables ....................................................................................................................... 14
7. Sample size determination ...................................................................................................... 14
8. Sampling method .................................................................................................................... 15
9. Data collection method ......................................................................................................... 15
10. Data analysis ......................................................................................................................... 15
11. Quality control ..................................................................................................................... 15
12. Ethical considerations ........................................................................................................... 15

# CHAPTER FOUR

## RESEARCH FINDINGS

1. Social demographic characteristics ..................................................................................... 16
2. HIV/AIDS knowledge ............................................................................................................. 17
3. Source of information ............................................................................................................ 18
4. Attitudes of mothers towards PMTCT ................................................................................... 19

# CHAPTER FIVE

## INTRODUCTION

1. Knowledge on PMTCT ............................................................................................................ 20
2. Sources of information on PMTCT ....................................................................................... 20
3. Attitudes of mothers on PMTCT ............................................................................................ 21

## STRENGTHS AND LIMITATIONS


## CONCLUSION

1. Knowledge of pregnant mothers on PMTCT ......................................................................... 23
2. Sources of knowledge on PMTCT .......................................................................................... 23
3. Attitudes of pregnant mothers towards PMTCT ................................................................. 23

## RECOMMENDATIONS


## REFERENCES


## APPENDICES
LIST OF FIGURES

Figure 1 ................................................................................................................................. 6
Figure 2 ................................................................................................................................. 18
LIST OF TABLES

Table 1 ..................................................................................................................16
Table 2 ..................................................................................................................17
Table 3 ..................................................................................................................19
Table 4 ..................................................................................................................29
Table 5 ..................................................................................................................34
Table 6 ..................................................................................................................35
CHAPTER ONE

1.0 INTRODUCTION

In this chapter there is introduction to mother to child transmission of HIV globally, in sub-Saharan Africa, Uganda and Mpigi district, the background of the study, problem statement, study objectives and justification of the study

1.1 Background

1.1.0 HIV epidemiology.

The acquired immune deficiency syndrome (AIDS) is a condition of reduced immunity as a result of infection with human immunodeficiency virus (HIV), the epidemic is the greatest challenge to human kind in the 21st century, since the beginning of the epidemic, the total number of AIDS death is estimated at 35 million worldwide of which 4.3 million were children and most of these acquired the infection as a result of mother to child transmission (MTCT), more than 70 million people have been infected with HIV globally, 36.7 million [34.0-39.8 million] people were living with HIV at the end of 2015 and around 1.1 million people died of AIDS related illness in the same year (Urban and Chersich 2010). An estimated 0.8% [0.7-0.9%] of adults aged 15-49 years worldwide are living with HIV although the burden of the epidemic continues to vary considerably between countries and regions. (WHO, 2014).

In women it is estimated that over 17.8 million women are infected with HIV (15 years and older) constituting 51% of adults living with HIV (UNAIDS, 2015), young women and adolescent girls 15-24 are particularly affected. In 2015 there was an estimated 2.3 million adolescent girls and young women which constitutes 60% of all young people (15-24) living with HIV. Of the estimated total in 2015, 1.9 million new infections among adults globally, 900,000 or 47% were among women (UNICEF, 2015), 58% of new HIV infections among young persons aged 15-24 in 2015 occurred among adolescent girls and young women. (UNAIDS, 2015)

HIV positive women who become pregnant annually are approximately 1.4 million and contribute to more than 30,000 neonatal and fetal deaths each year according to Jeffrey et al (2004), with the use of ART transmission of HIV from mother to child has decreased according to WHO (2014), in 2009 there was an estimated 400,000 children born with HIV and by 2013 there were 240,000, countries in southern Africa are worst affected by HIV pandemic in 2010, 30% of all pregnancies in the region were affected by HIV (Department of health, 2012), HIV was responsible for 50%
of the deaths of children below the age of 5, in the US fewer than 200 babies are born with HIV every year, as of year 2015 Cuba became the first country to eradicate mother to child transmission of HIV. (UNAIDS, 2016). Children newly infected with HIV worldwide were estimated at 370,000 IN 2009 despite the effectiveness of antiretroviral prophylaxis for PMTCT (WHO, 2009). An estimated 2.5 million children are infected with HIV worldwide, of which 2.3 million reside in the sub-Saharan Africa. HIV infected infants have much higher rates of disease progression and mortality than adults with a relatively a higher CD4. Without treatment an estimated 50% of HIV infected infants are likely to die before the age of two. Despite the increased mortality rate in young infants, children in resource limited settings generally initiate ART at an older age and with advanced diseases (Newell et al.; 2014)

Sub-Saharan Africa remains most severely affected, with nearly 1 in every 25 adults (4.4%) living with HIV and accounting for nearly 70% of the people living with HIV worldwide, it is also estimated that 25.6 million people were living with HIV and 66% of new HIV infections occurred in the Sub-Sahara region, the main mode of transmission contributing to the HIV epidemic in Sub-Sahara Africa is unprotected heterosexual intercourse with multiple partners, in Rwanda and Zambia , up to 95% of new infections occur in individuals who are living with their sex partners.(Levy et al 2010) . The global trends in mother to child transmission of HIV have led to disproportionate number of children living with HIV in Sub-Sahara Africa; approximately 88% of all children younger than 15 years infected with HIV live in this region. (NACA, 2011). Approximately 55% fewer children were infected with HIV in 2012 than in 2013. However, access to ART is lower in children than in adults. (Cousens et al, 2012)

Women in sub-Saharan Africa comprised 56% of new infections among adults(15 years and older) and the proportion was higher among young women aged 15-24 who made up 66% of or 31% of new infections among young people compared to other regions e.g in Caribbean, women represented 35% of newel infected adults, while young women aged 15-24 made up 46%of new infections, in Eastern Europe and central Asia women accounted for 31%of new HIV infections, however among young women aged 15-24, the numbers reached 46%of new infections.(Jeffrey et al, 2014)

In south Africa a study demonstrated a 76% reduction in mortality among infants in whom antiretroviral treatment was initiated before 12 week of age regardless of any symptoms or
immunodeficiency, based on those findings WHO guidelines currently recommend that all HIV infected children under the age of two should initiate ART, WHO estimates that only 32% of HIV infected children in East Africa requiring ART are currently treated. (Department of health, 2012).

In Uganda 2015, an estimated 1.5 million people were living with HIV and an estimated 28000 Ugandans died of AIDS related illness. As of 2015, the estimated HIV prevalence among adults (aged 15 to 49) stood at 7.3 %. (MOH, 2016). Women are continuously disproportionately affected, in 2014, HIV prevalence among young people aged 15-24 was estimated at 3.72% for women and 2.32% for men. 570 young women of age 15-25 acquire HIV every week according to UNAIDS (2014), UNAIDS further reports in every four new infections among women aged between 15 and 49 years one occurs in women aged between 15-24 years. The issues faced by this demography include gender based violence (including sex abuse) and lack of access to education, health services, social protection and information on how to cope up with those inequalities and injustice. In 2014, only 38.5% of young men and women aged 15-24 could correctly identify ways of preventing sexual transmission although the percentage of young men with knowledge and rose from 39.3% in 2011 to 42.3% in 2014, it falls among young women. In children it is estimated that 1.6 million children under 15 years old are living with HIV in Uganda, the number of HIV infected children on treatment rose from 5000 in 2006 to 56269 in 2014 although treatment coverage for children is still lagging at 33% compared to 70% for adults (UNICEF, 2012).

In Mpiigi district 8% of people are HIV positive compared to 7.3% national. (Nkozi AIDS project 2012). The prevalence of HIV in pregnant mothers also stand at 8%, of 172 pregnant women who were newly tested positive for HIV during the quarter (October-December 2015), 146(85%) of them were initiated on ART. This falls short of the national target of having every HIV pregnant woman being started on ART though there was an improvement from 2014 were 78.4% of HIV infected pregnant women who were initiated on ART (Nassanga,2016). In 2009 around 40,000 children below 15 years became infected with human immune deficiency syndrome (HIV), almost all of mother to child transmission of HIV occurred in sub-Saharan Africa and 90% were as a result of mother to child transmission (MTCT) during pregnancy, labor /delivery and breastfeeding. (Vaga et al, 2014). There is still fear of disclosing one’s HIV status (or of learning it) because the stigma that exists for people leaving with HIV/AIDS which hinders women from seeking EMTCT interventions, in particular safer infant –feeding decisions, being open about ones HIV status is one of the most powerful ways to reduce HIV stigma. (Asefa and Beyene, 2013). Disclosing one’s
status also has encouraged partners to be tested for HIV by allowing those infected to take appropriate prevention steps. Therefore, knowledge and awareness of EMTCT of HIV has impact on the practice of HIV testing taking medication and attitude towards EMTCT interventions among pregnant mothers (Simonsen et al, 2014).

1.2 Problem statement
Despite improvement in PMTCT services over the years, MTCT of HIV infection is high especially in sub-Saharan Africa, in 2009 alone around 40,000 children less than 15 years became infected with HIV and 1.3 million children and adults died of AIDS. In Mpigi district 8% of the pregnant women are infected with HIV which equals to 8% of babies at risk of acquiring HIV, due to high prevalence of 8% which is above the national of 7.3% in Mpigi district the government has increased the accessibility of ART in the district i.e 23(57%) health centers provide ART services of which 7(28%) are PNFP, WHILE 2(8%) ARE PFP. There is also a strong community structure comprising of 1360 VHTs, peer mothers, expert clients and Para-social workers(Nasanga, 2012) studies done in Uganda Tanzania an awareness and knowledge about HIV and PMTCT in pregnant women, in southwestern Tanzania shows a low level of knowledge on MTCT during pregnancy, knowledge on the risk of breast feeding and MTC. The risk of MTCT can be reduced up to 2% if comprehensive approach of PMTCT will be put in place, treating mothers with ART during late pregnancy and breastfeeding period has shown to result into low postnatal HIV transmission, despite PMTCT services and other measures put in place in MPIGI district there is still low uptake of the services (Nassanga, 2016) however little information is available on mothers knowledge about PMTCT services in Mpiigi district, this could be the reason for the low uptake, therefore the task of the study will be to assess knowledge and attitudes of pregnant mothers on PMTCT services as well as features contributing to non-utilization of available PMTCT services.

1.3.0 Objectives.

1.3.1 General objective.
To assess knowledge and attitudes on PMTCT of HIV among pregnant women attending antenatal care in Nkozi hospital, Mpigi district.

1.3.2 Specific objectives.
1. To assess the knowledge of mothers on prevention of mother to child transmission of HIV (PMTCT) services in Nkozi hospital.
2. To find out the sources of knowledge on prevention of mother to child transmission of HIV in pregnant women attending ANC in Nkozi hospital Mpigi district.

3. To find out the attitude of mothers towards prevention of mother to child transmission of HIV in women attending antenatal care in Nkozi hospital, Mpigi district.

1.4 Research questions
1. What is the knowledge of women regarding mother-to-child transmission of HIV in Nkozi hospital, Mpigi District?
2. Which sources provide pregnant mothers with knowledge on prevention of mother to child transmission of HIV in Nkozi hospital, Mpigi district?
3. What are the attitudes of pregnant mothers on prevention of mother to child transmission of HIV in Nkozi hospital, Mpigi district?

1.5 Justification.
The purpose of this study was to assess the knowledge and attitudes of pregnant women towards PMTCT interventions, the study will contribute to the knowledge in the health care field which will assist and add value in the review of health education strategies on PMTCT and follow up care for the benefit of all breastfeeding mothers. It will also contribute to the development of policies and guidelines for the benefit of all HIV positive mothers in the future, the development of policies and guidelines will increase the levels of knowledge and practice regarding PMTCT among these women translating into a better access and utilization of PMTCT services in Uganda, the longer term consequence are the reduction of the vertical transmission of HIV, improved maternal and child health, and support to Uganda’s effort to attaining millennium development goal four and five which relate to the reduction of child mortality and improvement of maternal health, respectively.
1.6 Conceptual framework.

Figure 1

**Socio-demographic factors**
- Age
- Marital status
- Religion
- Educational levels
- Cultural beliefs
- Occupation

**Psychological factors**
- Attitude towards PMTCT
- Knowledge on PMTCT
- Stigma
- Fear of disclosure
- Disbelief of HIV results

**Intervening factors**
- Knowledge about HIV status,
- Giving birth in hospital,
- Breast milk substitutes,
- Knowledge on Condom use
- Availability of drugs

**Social factors**
- Peer influence
- Attendance of ANC
- Cultural beliefs
- Risky behavior

Utilization of PMTCT
1.7.0 Scope of the study

1.7.1 Geographical scope
The study was carried out in Nkozi hospital a 100 bed PNFP hospital in Mpigi district, it was selected because of the available services including maternal-child and family planning with antenatal care.

1.7.2 Content scope
The study was investigating the knowledge of women people have on PMTCT and their attitude as well as utilization of the services, the study was targeting the mothers who attend ANC in Nkozi hospital.

1.7.3 Time scope
Information about the study was collected during the time of antenatal visits in Nkozi hospital from 1st may to 15th may.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

In this chapter there is review of the available literature on the prevention of mother to child transmission of HIV as was done by various scholars.

2.1 Knowledge of PMTCT services.

In 1999, an estimated 570,000 children aged 14 or younger became infected with HIV. Over 90% were babies born to HIV positive women, who acquired the virus at birth or through their mother’s breast milk. The vast majority of these cases occurred in Sub-Saharan Africa and other low-income countries (UNAIDS, 1999). This is because many women in low-income countries give birth at home or in the care of traditional birth attendants who do not have access to the MTCT interventions and most of them do not know their HIV status as well as PMTCT services. Dr. Chris Baryomunsi working on HIV/AIDS program under UNFPA concurs with the above where he highlighted that although PMTCT has kicked off, a lot has to be done. The majority of the mothers in Uganda do not deliver in the health facilities. Supervised delivery in this country is only about 39%. The program has failed to reach most of the women and the impact of MTCT of HIV has not been significant so far. There is need to use resources available to mobilize women to attend antenatal clinics and also deliver at health facilities (The New Vision July 1st 2003). According to the HIV/AIDS Resource for Journalists, (2002), many South African women only learn that they are HIV- positive when they are tested during antenatal checkup. Apart from implications for herself and her partner the women face the possibility of transmitting a fatal disease to her unborn baby. This places an additional burden on Women, as men are not routinely tested. Careful counselling is necessary to help and support pregnant women to explore their options in these circumstances. The National picture remains very sobering. In a keynote address at the recent African Great Lakes Conference, an access to HIV/AIDS care and support leading HIV researcher Peter Mugenyi noted that the current HIV rates is unacceptably high and appalling and would constitute a state of emergency in developing countries. One million Ugandans are infected by HIV and they have limited access to antiretroviral medicines. Mugenyi predicted, that includes a large number of women who are passing HIV on their offspring (New Vision 1st July 2003). In addition, according to AMFAR 2001, the Uganda Government has found that the rate of mother-to-child HIV transmission is 30% and out of a million live births per year 100, 000 children
test HIV positive. For PMTCT to be successful, every individual woman of child-bearing age needs to be empowered with knowledge regarding HIV infection, the risks of transmission to her child (MTCT), and services available to reduce the risk. A number of studies have been carried out to find out the levels of knowledge regarding MTCT and PMTCT among women.

In a study conducted in India on PPTCT (Prevention of Parent-to-Child Transmission) services, interventions, coverage and utilization, it was concluded that an infected woman is at risk of transmitting the virus both horizontally and vertically throughout her reproductive age; and that the cornerstone of preventing vertical transmission is early ante-natal care registration with immediate HIV testing in the first trimester (Urvish, Patel, Shah, Oza & Modi 2011). The study found such early registered HIV + ANCs to be even less than 10%. The late detection of the sero-positive status eventually makes every step of PMTCT services difficult, including CD4 testing, ART initiation, nutrition advices, care, follow-up, and timely institutional admission for delivery. These PMTCT-related challenges require special attention from the authorities in terms of developing specific behavioral change communication (BCC) tools and implementation.

A study conducted by Mazia et al (2009:265) on the integration of post-natal care into PMTCT in Swaziland revealed that there was a significant increase in the proportion of both HIV negative or positive mothers’ knowledge and practices within one hour of birth. The study further revealed that there was also a statistically significant increase (from 49 to 65%) in the proportion of mothers practicing exclusive breast-feeding. The study results also revealed that there was a reduction (from 17 to 6%) in the proportion of HIV-positive women that were practised mixed feeding. A significant increase from 1 to 37% was found among the women who attested that the health care provider in the ante-natal clinic advised them to return for an early post-natal visit. Interestingly, even though there was an observed increase in counselling by providers, the mothers who attested to health care providers’ advice on exclusive breast-feeding on demand showed no significant improvement (69% at baseline and 70% at end line).

A study on PMTCT knowledge and practices of women provided evidence that 19% of participants knew about MTCT, and 72% knew that MTCT could be prevented (Atwiine 2012:24). Similarly, another study cited by Atwiine (2012:16) conducted in 2008 in the rural areas of Moshi district in the Kilimanjaro region of Tanzania found that most mothers were aware of the possibility of MTCT during labour and delivery, and about 40% were not aware MTCT could occur during
pregnancy. Mothers thought that children were fully protected from HIV and other infections while in the uterus.

Katushabe (2006), also reported high and low levels of MTCT and PMTCT awareness. It was noted that 80.8% of women attending ante-natal care in Mbale Regional Referral Hospital, Uganda, knew about MTCT prevalence, and only 51.6% knew that it could be prevented. The author also found that the increase in the level of knowledge was closely associated with age, as well as marital and educational status.

In another study conducted in Nigeria found that about two thirds of the population (69%) knew that HIV can be transmitted from mother-to-unborn child. A high proportion of adult respondents knew about the three routes of MTCT; 72% knew about transmission during pregnancy; 64% through breast-feeding; and 63% during delivery. In addition, about half of the adult respondents knew that HIV can be transmitted through breast-feeding (Oyewale 2008:21).

In a study on knowledge and practices of women regarding PMTCT, 91% knew that MTCT could occur, while only 72% were aware of PMTCT (Atwiine 2012:8). However, only 7% had adequate knowledge on HIV prevention and HIV transmission from mother-to-child. While 82% knew that MTCT can occur during labour and delivery, 54% knew about breast-feeding risks, and only 23% knew that HIV could be transmitted to the fetus during pregnancy. In addition, 68% of the respondents knew that delivery at a health facility could reduce the risk of MTCT as additional preventive measures would be taken. (Atwiine 2012:8) illuminates further that 70% of the respondents in the afore-mentioned study recalled hearing MTCT and PMTCT messages from a health worker, their major source of PMTCT information. Consequently, several women had practiced PMTCT interventions themselves or advised their friends to do

2.2 Sources of Information Regarding PMTCT.
The uptake of prevention of mother-to-child transmission (PMTCT) interventions is likely to be dependent on the beliefs and educational needs of those requiring PMTCT services. PMTCT requires behavioral change on part of women of child-bearing age, which starts with knowledge empowerment. It is important to find out where the mothers access the information on PMTCT so that more efforts could be placed into those channels to inform them of the availability and benefits of PMTCT services. Very little has been written about the sources of information for women about PMTCT. Igumbor, et al (2006) found high rates of ANC attendances in the catchment areas of
Tshilidzini Hospital in South Africa, but the frequency of ANC attendance had no correlation with the level of exposure to health education and information (HEI) regarding PMTCT. Two-thirds of the participants received PMTCT information most frequently from radios. Katushabe (2005) in the Mbale study referred to above found out that hospital health education was the most frequently (53%) stated channel through which women got information regarding MTCT and PMTCT. Other channels included friends, radios, seminars and newspapers at 20, 13, 7.4 and 7.2 percent mention respectively.

In Masaka and Sembabule districts in Uganda, an evaluation of a community-based Information Education and Communication (IEC) HIV/AIDS program found that videos and dramas were the most preferred channels of information, followed by leaflets and community educators among rural respondents. (Mitchell et al., 2001). In aggregate, mass media and health workers seem central to the provision of knowledge regarding MTCT and PMTCT to women.

2.3. Attitudes of mothers towards PMTCT

According to Ojera, (MoH 2002), there are a few setbacks to the program. Being anew Intervention, communities are not well sensitized and mobilized for the program; hence on the side of the clients there is stigma and discrimination. Women fear to come and test and very few disclose their HIV status to their partners. However, in Uganda the women’s HIV networks are moving quickly on the front to fight mother-to-child transmission. Anew coalition called the Women’s Treatment Action Group (W-TAG), led by HIV positive women, and plans to push not only for access to PMTCT but for more input into the national agenda. It was noted that there is need to fight hard for the children and the communities (PMTCT annual report 2003). In a study done in Zambia, the findings show that there is a high level of stigma against HIV/AIDS patients. The community tends to shun persons who are known to be HIV infected or have symptoms of AIDS (UNAIDS, 2001). In Kenya PMTCT in Nairobi and Mara Masai areas, still have little experience with ARVs, stigma and misconceptions about the drugs have emerged as important obstacles to acceptance and effective use. With limited access, PMTCT programs have made special efforts to help women adhere to the often difficult-to-follow ARV treatment regimens. Because they do not provide mothers with ongoing ARV treatment, PMTCT programs are often criticized (Rutenberg: 2002 Moth, Ayayo and Kaseje (2005), cited in Hampanda (2013:3), found that the utilization of PMTCT services has been stagnated by factors such as pregnant women in Swaziland, high levels of stigmatization and discrimination driven by community norms, myths
and misconceptions that do not support HIV prevention efforts – including uptake of practices such as HIV testing and counselling, male involvement or treatment adherence – adversely affect the women’s attitude towards utilizing PMTCT services (Swaziland Government 2011-2015:16). Hampanda (2013:3) states that constructs of attitude, perceived norms, and personal agency are appropriate to an understanding of PMTCT utilization. Several studies in Sub-Saharan Africa have used qualitative methods to explore HIV positive mothers’ attitudes regarding PMTCT. These constructs have been utilized to analyze pregnant women’s acceptance of HIV testing during ANC. Various authors have found that the intention to be tested has been hampered due to, amongst other factors, the aversion to knowing one’s status; fear of stigma and discrimination; as well as the cost of the service and confidentiality. Furthermore, the fear of a partner’s reaction, or fears of violence/conflict with the woman’s partner may also prevent women from utilizing these PMTCT services.
CHAPTER THREE
METHODOLOGY

1.0 INTRODUCTION

This chapter describes the research design and method that was used to explore and describe the knowledge and attitudes of women regarding mother to child transmission of HIV infection in Nkozi hospital, Mpigi district.

3.1 Study design
In this study, a descriptive cross sectional study design was used.

3.2 Study area.

The study was carried out in Nkozi hospital in Nkozi town which is located on coordinates 00 00 36 N 22 00 00 E in central Uganda, Mpigi district Mawokota county, it is bordered by Wakiso to the North, Kalungu to the Southwest, Mityana to the Northwest, Butambala to the West, It is primarily a rural district with only 8.4% of people living in urban, the major economic activity is agriculture. The district is approximately 1,207.8 km² (466.3 sqmi), the population stands at 215,512 (census 2014) with an annual growth rate of 1.4, there are 7 lower local Governments, 56 parishes and 339 villages. There are are two health sub districts, 40 health facilities, of which 23 (57%) offer PMTCT services, while 21 (52.5%) offer ART services. Of those that offer the ART services, 7 (28%) are PNFP, while 2 (8%) are PFPs, there is a strong community structure comprising of 1,360 members of VHTs. (Nassanga, 2014)

3.3 Study population

The study population consisted of all pregnant women who attended ANC at Nkozi hospital, Mpigi district during the time of data collection; Nkozi hospital ANC clinic receives approximately 20 clients per day for 5 days a week, equivalent to an average of 420 pregnant mothers per month.

3.3.1 Inclusion criteria

Pregnant mothers who attended antenatal care at Nkozi hospital at the time of data collection
3.3.2 Exclusion criteria

All pregnant mothers who were mentally unwell and those whose were ill or had emergencies were not included in the study.

3.4 Study variables.

3.4.1 Dependent variable.

Utilization of PMTCT services.

3.4.2 Independent variable.

Age, marital status, education level, occupation, cultural beliefs, religion.

3.5 Sample size determination

This was determined using formula:

\[ n = \frac{z^2pq}{d^2} \]

\[ = \frac{1.96^2 \times 0.7 \times 0.3}{0.09^2} \]

\[ = \frac{3.8416 \times 0.21}{0.0081} \]

=100 pregnant women

n=sample size (100 pregnant women attending ANC)

z=score at 2 standard deviations of a normal standard distribution curve (1.96)

p=estimated population size (70% or 0.7)

q= 1-p (30% or 0.3)

d= margin of error (0.09)
3.6 Sampling method

In this study, a systematic random sampling method was used to select participants, a sampling interval of 4 was used as calculated from total number of clients received in a month (420) divided by the total required sample size (100) and mothers were recruited starting with the first mother to arrive at the clinic.

3.7 Data collection method

A questionnaire was developed and administered to pregnant women who attended the antenatal clinic. The questionnaire was used to obtain information on the social and demographic characteristics of women personal circumstances, view and expectations. Knowledge on HIV/AIDS; need for empowerment and recommendations on improving the performance of PMTCT services in health institutions, questions were also properly interpreted into local language where necessary.

3.8 Data analysis.

Data was collected, complied and analyzed manually using simple arithmetic, this was done with help of scientific calculator, pen and pencils and data was presented in tables, pie and charts.

3.9 Quality control.

The data was collected was kept in safe custody and treated with confidentiality, analysis was done at the end of working hours to ensure adequacy and correctness of information gathered.

3.10 Ethical considerations

An introductory letter was obtained from the school of allied health and presented to the administrative committee of Nkozi hospital for ethical approval and clearance, all selected respondents were communicated about the objective of the study in order to obtain informed consent before administering questionnaire. Participants were also informed their full right to refuse to participate in the study, serial numbers were used to eliminate names and other personal identification of respondents throughout the study for utmost confidentiality of the information.
CHAPTER FOUR
RESEARCH FINDINGS

4.1.0 Results
In this chapter, results were presented regarding knowledge, attitudes and barriers on PMTCT among pregnant women, data is presented and analyzed, in forms of tables, graphs and pie charts illustrating the data background, characteristics of respondents as well as association between social demographics and variables. A total of 100 respondents were interviewed in the study.

4.1.1 Social demographic characteristics.
The table shows the social demographics of pregnant women who were attending antenatal care at Nkozi hospital (N=100)

Table 1: Social demographic variable (N %)

<table>
<thead>
<tr>
<th>Age of respondents</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>36</td>
<td>(36%)</td>
</tr>
<tr>
<td>25-34</td>
<td>46</td>
<td>(46%)</td>
</tr>
<tr>
<td>35-44</td>
<td>14</td>
<td>(14%)</td>
</tr>
<tr>
<td>&gt;45</td>
<td>4</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marital status</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>76</td>
<td>(76%)</td>
</tr>
<tr>
<td>Single</td>
<td>16</td>
<td>(16%)</td>
</tr>
<tr>
<td>Widowed</td>
<td>2</td>
<td>(2%)</td>
</tr>
<tr>
<td>Divorced</td>
<td>6</td>
<td>(6%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Religion</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
<td>42</td>
<td>(42%)</td>
</tr>
<tr>
<td>Anglican</td>
<td>18</td>
<td>(18%)</td>
</tr>
<tr>
<td>Moslem</td>
<td>26</td>
<td>(26%)</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>no formal education</td>
<td>6</td>
<td>(6%)</td>
</tr>
<tr>
<td>Primary</td>
<td>10</td>
<td>(10%)</td>
</tr>
<tr>
<td>Secondary</td>
<td>50</td>
<td>(50%)</td>
</tr>
<tr>
<td>Tertiary</td>
<td>34</td>
<td>(34%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>32</td>
<td>(32%)</td>
</tr>
<tr>
<td>Business woman</td>
<td>14</td>
<td>(14%)</td>
</tr>
<tr>
<td>house wife</td>
<td>30</td>
<td>(30%)</td>
</tr>
<tr>
<td>Farmer</td>
<td>24</td>
<td>(24%)</td>
</tr>
</tbody>
</table>
4.1.2 HIV/ AIDS knowledge.

Mothers who had knowledge on how HIV is transmitted were 88%, the cause of HIV were 82%, 785 had ever had about PMTCT, 72% knew How to avoid HIV, 63% knew how MTCT occurs, 65% knew how to treat a baby of a HIV positive mother, 59% knew how to prevent unintended pregnancies, 56% knew how to prevent MTCT.

Table 2

<table>
<thead>
<tr>
<th>Have knowledge</th>
<th>Don’t have knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have u ever heard of PMTCT?</td>
<td>78%</td>
</tr>
<tr>
<td>What is the cause of HIV/AIDS</td>
<td>82%</td>
</tr>
<tr>
<td>How is HIV transmitted?</td>
<td>88%</td>
</tr>
<tr>
<td>How to avoid HIV.</td>
<td>72%</td>
</tr>
<tr>
<td>How does HIV positive mother spreads HIV to the baby</td>
<td>63%</td>
</tr>
<tr>
<td>How to prevent unintended pregnancies.</td>
<td>59%</td>
</tr>
<tr>
<td>Prevention of spreading of HIV from mother to baby.</td>
<td>56%</td>
</tr>
<tr>
<td>Treatment to the mother with HIV.</td>
<td>66%</td>
</tr>
<tr>
<td>Treatment of baby born by HIV positive mother</td>
<td>65%</td>
</tr>
</tbody>
</table>
4.3.1 Source of information
Most of the participants (42%) reported getting knowledge on PMTCT from the hospital, 26% reported acquiring the information from friends while 18% and 14% from radio and VHTs respectively.

Figure 2
A graph showing the source of PMTCT information to pregnant women.
4.3.1 Attitudes of mothers towards PMTCT.

Mothers who agreed that it is important to have a HIV test were 84%, followed by 56% who said HIV positive mothers should breast feed, and 38% who said that HIV positive mothers should have babies.

Table 3

<table>
<thead>
<tr>
<th>Mothers who said it is important to have an HIV test</th>
<th>Response</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>84(84%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>16(16%)</td>
</tr>
<tr>
<td>Mothers who said HIV positive women should breastfeed their babies</td>
<td>Yes</td>
<td>56(56%)</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>44(44%)</td>
</tr>
<tr>
<td>Should HIV positive women have a baby?</td>
<td>Yes</td>
<td>38(38%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>62(62%)</td>
</tr>
</tbody>
</table>
CHAPTER FIVE
DISCUSSION, RECOMMENDATIONS, LIMITATIONS AND CONCLUSIONS.

5.0 INTRODUCTION
In this chapter, results are discussed regarding knowledge, attitudes, and barriers on PMTCT among pregnant women.

5.1 Knowledge on PMTCT.
From the study, majority (69%) of the mothers had knowledge on prevention of mother to child transmission of HIV. From the study findings, most mothers (88%) knew how HIV is transmitted, 82% knew the cause of HIV, 78% had ever had about PMTCT and the least knowledge was on how the mother spreads HIV to the baby (56%). This revealed that most mothers knew about prevention of mother to child transmission but had less knowledge on how mother-to-child transmission of HIV occurs, there was also less knowledge on the third prolong of PMTCT of prevention of unintended pregnancies by HIV infected mothers which shows need of integration of family planning with PMTCT and antenatal care, these results were in line with those of study conducted in Nigeria which found that about two thirds of the population (69%) knew that HIV can be transmitted from mother-to-unborn child. A high proportion of adult respondents knew about the three routes of MTCT; 72% knew about transmission during pregnancy; 64% through breast-feeding; and 63% during delivery. In addition, about half of the adult respondents knew that HIV can be transmitted through breast-feeding (Oyewale 2008:21). In another study on knowledge and practices of women regarding PMTCT, 91% knew that MTCT could occur, while only 72% were aware of PMTCT. However, only 7% had adequate knowledge on HIV prevention and HIV transmission from mother-to-child. While 82% knew that MTCT can occur during labour and delivery, 54% knew about breast-feeding risks, and only 23% knew that HIV could be transmitted to the fetus during pregnancy. In addition, 68% of the respondents knew that delivery at a health facility could reduce the risk of MTCT as additional preventive measures would be taken (Atwiine 2012:8).

5.2 Sources of information on PMCT.
Findings revealed varying degrees of popularity of the different sources of information on PMTCT services, for instance, most of the people 42% reported getting information from the hospital and may be due to continuous health education given by midwives on ANC visit, this was followed by
friends (26%) who probably also interact during ANC visits or on other gatherings radio 18%, VHT (14%) which proves that there is need to strengthen community based health structure and also improve other forms of communications. In a similar study by katushabe (2007), she also found that hospital was the major source of PMTCT knowledge (52.94%), followed by friends (20%) and radio with 12.94%. in another study on the sources of knowledge on PMTCT by kei et al (2015) at kiisi level five hospital in kiisi county Kenya, he also found that the commonest source of PMTCT knowledge was hospital (52.9%), friends (32%), radios (20%), seminars (11%) and newspapers 11%.

5.3 Attitudes of mothers on PMTCT.
5.3.1 Mothers who said it is important to have an HIV test

Most pregnant mothers (84%) felt it is important to have an HIV test and know the sero-status while few (16%) did not see the importance of knowing the HIV status as indicated in though the entry point of PMTCT is voluntary counselling and testing, some pregnant women still had a negative attitude towards HIV testing. This demonstrates fear and stigma people have towards HIV and AIDS and the way People living with HIV/AIDS (PLWA’s) are stigmatized. However, this is not only in Uganda but was reported in Zambia in a study on PMTCT conducted by UNAIDS in 2001 (Ref. Pg 15) whereby the findings indicated that there is a high level of stigma against HIV/AIDS patients. The community tends to shun persons who are known to be HIV infected or have symptoms of AIDS. The same study also reveals that there is limited knowledge about Mother-To-Child-Transmission of HIV among the persons interviewed. Similarly, in Zimbabwe, the Joint United Nations Aids Program also conducted a study in 2001 about PMTCT and it was reported that there was low uptake of counselling for PMTCT services. However, the reasons given for low uptake included stigma associated with providing the PMTCT services. There was social stigma with the service providers in the health setting and outside the clinic. In some communities, women are not involved in decision making and cannot therefore make decisions on their own, even when some decisions concern them as individuals. In serious situations like HIV testing therefore, some women are forced not to disclose their status fearing the husband’s reactions. Women are therefore not only stigmatized by AIDS as a killer disease but also are scared of the husbands and communities’ reaction in case they are found out to be sick. Given such situations it’s likely that some women may not be able to utilize PMTCT services. This concurs with the findings from Myanmar (as indicated by UNICEF) whereby the PMTCT program had a constraint
of low acceptance of VCT by pregnant women throughout all the three pilot sites. Around 72% of pregnant women coming for antenatal services had access to HCT, however only 18% chose to take the HIV test.

5.3.2 Responses on whether an HIV positive woman should have baby.

According to the information in the table some respondents (38%) reported that it is okay for an HIV positive woman to have a baby while the majority (62%) of the respondents reported that an HIV infected woman should not have a baby at all. The other reason was that some respondents think it’s obvious an HIV positive woman will infect the baby therefore are not convinced there is need for the baby. This indicates that there is a gap in knowledge as far as PMTCT is concerned. This knowledge gap is reflected in the previous discussions. Lack of knowledge is however not only reflected in the community members but even among the pregnant women who were interviewed at the antenatal clinic despite the efforts put in by midwives to have a big number of pregnant women test for HIV in order to reduce MTCT of HIV. On the other hand, respondents who reported that an HIV positive woman should have a baby recommended it because few of them are aware the baby can be born free of HIV because of PMTCT services if the woman attends antenatal regularly and delivers from the hospital.

5.3.3 Responses on whether an HIV positive woman should breastfeed

Many respondents for example (56%) were of the view that an HIV positive mother should not breastfeed the baby because the breast milk is also infected with HIV with the virus, hence the baby can be infected too. Some respondents are not convinced that a sick mother can give birth to an HIV free child. The respondents who reported that the HIV positive mother can breastfeed, at least know that the baby born of an infected mother can still be safe if she is enrolled for PMTCT and also breastfeeding may not be dangerous when done exclusively. It was therefore found out during the study that it is not known by some people that an HIV positive mother if she decides to breastfeed exclusively, the baby can still be safe. It was again found that among those who reported that the baby should be breastfed thought it was every mother’s obligation to breastfeed her baby. Others reported that there were mothers who cannot afford to buy other types of milk so breast milk is their only option. Among these however there are those who know about exclusive breastfeeding due to counselling got when they went for PMTCT program at the antenatal clinic. On the issue of the husbands’ and community’s reaction when a wife/mother does not breastfeed her child, it was found out that if the husband knows the wife is sick and was therefore advised by
the health workers not to breastfeed at all if she cannot do it exclusively, then he will support her, but if he does not know, then this can cause problems, these research findings were similar to those that were found by Kei et al, (2015), where 77% reported that its good to take PMTCT services if reactive.

**STRENGTHS AND LIMITATIONS**

A large sample was used which was selected randomly on first come first serve basis was used so findings can be generalized since the sample was representative of the study population. The study also limited to only Nkozi hospital and the findings may not be generalized to all health facilities in Mpigi district.

**CONCLUSION**

**Knowledge of pregnant mothers on PMTCT**

According to the study, it can be concluded that in general, majority (69%) of the pregnant mothers attending ANC at Nkozi Hospital, Mpigi District had knowledge on PMTCT and this was in line with findings from a similar study by Oyewale (2008) in Nigeria, and Atwiine (2012).

**Sources of knowledge on PMTCT.**

In this study it can be concluded that the most common sources of knowledge on PMTCT identified were hospital (42%), friends (26%), radio 18% and 14% for VHTs, these results were similar to those found by Katushabe (2007) were she found that the most common source of PMTCT knowledge was hospital (52.94%), friends (20%) and radio12.94%.

**Attitudes of pregnant mothers towards PMTCT.**

According to this study, it can also be concluded that majority of the pregnant mothers (59%) had good attitudes on PMTCT and this was similar to findings by Moth et al (2015) and kei et al (2015).
RECOMMENDATIONS

- Formal health education programs with regard to MTCT should be emphasized to enhance knowledge and understanding of the subject to all patients who visit health care facilities irrespective of gender.

- All women should be encouraged to have early confirmation of pregnancy in order to allow sufficient time to implement ART to prevent MTCT of HIV.

- Encourage the involvement of male sexual partners to reduce risky behaviors, increase familiarity with condoms and encourage males to support and participate in PMTCT programs.

- Encourage formation of HIV and AIDS committee in the community and regular meetings and discussions on issues related to the virus and the syndrome as this will assist community members to familiarize themselves with the subject and develop positive attitudes towards HIV and AIDS programs.

- Strengthen ongoing counseling and monitoring and supervision of community counselors by facilitating personal, parishes, HIV/AIDS coordinators and social workers.
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WHO. Mother-to-child transmission of HIV. 2012.

APPENDICES

APPENDIX I
CONSENT FORM AND INTRODUCTION

I am SSENGENDO PETER a student of Kampala international university pursuing a Diploma in clinical medicine and community Health, doing a research to assess the knowledge and practices of mothers towards elimination of mother to child transmission of HIV in Nkozi hospital Mpigi district. I am inviting you to reflect on whether you accept to participate in the study. In case you do not understand some words I will explain them to you, and fell free to ask me any questions as we go along.

I have read the foregoing information. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate in this research.

Serial number of participant………………………………………………………………………………

Signature /thumb print………………………………………………………………………………………

Name of researcher…………………………………………………………………………………………

Signature ……………………………………………………………………………………………………...
QUESTIONNAIRE

Respondents’ social demographic data.

Serial no……………

SECTION A
1. Write your answer in box provided.

Table 4

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
</tr>
<tr>
<td>2. Education level</td>
<td></td>
</tr>
<tr>
<td>3. Profession</td>
<td></td>
</tr>
<tr>
<td>4. Religion</td>
<td></td>
</tr>
<tr>
<td>5. Marital status</td>
<td></td>
</tr>
</tbody>
</table>

SECTION B

Knowledge on PMTCT of HIV
2. Have you ever heard of PMTCT?
A. Yes ⬜ B. No ⬜

3. Do you know the cause of HIV/AIDS?
A. witchcraft ⬜ C. punishment from God ⬜
B. virus ⬜ D. HIV had long existed ⬜

4. How is HIV transmitted?
A. Heterosexual ⬜ D. Handshake with infected person ⬜
B. Blood transfusion ⬜ E. Breast milk ⬜
C. Mosquito bite ⬜ F. Towels and clothes ⬜

5. How to avoid HIV/AIDS
A. Abstaining ⬜ B. Wash genitals after sex ⬜
C. By vaccination

6. How should HIV positive mothers prevent unintended pregnancies?
A. Use of condoms. ☐ C. Sleeping under mosquito nets. ☐
B. Use of family planning.

7. How does a HIV positive mother transmits HIV to her baby?
A. Towels and clothes. ☐ C. Breast feeding. ☐
B. Not sleeping under mosquito nets. ☐

8. How should a HIV positive mother be treated?
A. ARVS ☐ C. Septrin. ☐
C. Traditional healer. ☐

9. How should a baby born to a HIV positive mother be treated.
A. Immunization. ☐ C. Breast feeding. ☐
B. Nevirapine syrup. ☐

Source of PMTCT knowledge.

10. From which source did u get the knowledge on PMTCT?
A. Hospital ☐ C. Friends ☐
B. Radio ☐ D. VHT ☐

Attitudes towards PMTCT.
11. Breast feeding by HIV positive nursing mothers
A. Encouraged ☐ B. Discourage ☐
12. Use of breast milk substitutes (BMS) by HIV positive mothers
A. Encourage
B. Discourage

13. Use of condoms with spouse
A. Encouraged if advised
B. Discourage

14. Do you think it is important to have a HIV test?
A. Yes
B. Yes

15. Would u take ARVS if recommended?
A. Yes
B. No

16. Should a HIV positive woman have a baby?
A. Yes.
B. No
APPENDIX II: Letter of Authorization

OFFICE OF THE ADMINISTRATOR—SAHS

To: Nakodi Hospital

Date: 28th July 2017

Subject: Data Collection

Academic research project is an academic requirement of every student pursuing a 3-year Diploma in Clinical Medicine & Community Health (DCM) of Kampala International University-Western Campus (KIU-WC). DCM program is housed in the School of Allied Health Sciences (SAHS).

The students have so far obtained skills in Proposal writing especially chapter one, Three & Questionnaire design. The student’s topic has been approved by SAHS Research Unit and is therefore permitted to go for data collection alongside full proposal & dissertation writing. As you may discover the student is in the process of full proposal development. However, the student MUST present to you his/her questionnaire and his/her research specific objectives that he/she wishes to address. We as academic staff of Allied Health Sciences are extremely grateful for your support in training the young generation of Health Professionals. I therefore humbly request you to receive and allow the student name: Peter Reg. No: 13610051/143/14 to carry out his/her research. His/her topic is hereby attached. Again we are very grateful for your unfailing support and cooperation.

Topic: Knowledge and Attitudes of Pregnant Women towards Prevention of Mother to Child Transmission of HIV in Nakodi Hospital

Sincerely yours,

Chironge Kyobuhare, Administrator- SAHS

CC: Dean S&H Department
CC: Academic Dean SAHS
CC: Dean Research Unit- SAHS
CC: HOD Nursing Health
LI: H.I.W.L Laboratory Services
CC: Coordinators: TLC & DOCC
APPENDIX III WORK PLAN

Table 5

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
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<tbody>
<tr>
<td>Proposal writing correction and submission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data collection</td>
<td></td>
<td></td>
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<tr>
<td>Data analysis</td>
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</table>
## APPENDIX IV
### BUDGET

**Table 6**

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<th>QUANTITY</th>
<th>COST PER UNIT</th>
<th>TOTAL COST</th>
</tr>
</thead>
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<td>Airtime</td>
<td>10 weeks</td>
<td>500 per week</td>
<td>5,000</td>
</tr>
<tr>
<td>Meals</td>
<td>5 days</td>
<td>5000 per day</td>
<td>25,000</td>
</tr>
<tr>
<td>Photocopying</td>
<td>50 questionnaires and 3 report copies</td>
<td>100 per page</td>
<td>20,000</td>
</tr>
<tr>
<td>Typing and printing</td>
<td>55 pages</td>
<td>1000 per page</td>
<td>55,000</td>
</tr>
<tr>
<td>Binding</td>
<td>3 copies</td>
<td>1500 per copy</td>
<td>4,500</td>
</tr>
<tr>
<td>Transport</td>
<td>5 days</td>
<td>500 per day</td>
<td>25,000</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>-</td>
<td>-</td>
<td>30,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>-</td>
<td>-</td>
<td><strong>104500/=</strong></td>
</tr>
</tbody>
</table>
APPENDIX V: MAPS

A MAP OF NKOZI SHOWING NKOZI HOSPITAL