

**ACCEPTABILITY OF ROUTINE HIV TESTING BY PREGNANT WOMEN  
IN LUSAKA URBAN ANTENATAL CLINICS, LUSAKA DISTRICT,  
ZAMBIA**

**BY**

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**A DISSERTATION SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF  
SCIENCE IN NURSING**

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**University of Zambia**

**Lusaka**

**May, 2016**

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## **DECLARATION**

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**Signature**..... **Date**.....

**Head of Department**

**Signature**..... **Date**.....

**Department of Nursing Sciences, School of Medicine, University of Zambia**

## **CERTIFICATE OF APPROVAL**

This Dissertation of MERCY MUYEMBA on ACCEPTABILITY OF ROUTINE HIV TESTING BY PREGNANT WOMEN IN LUSAKA DISTRICT, ZAMBIA has been approved in partial fulfilment of the requirements for the award of the Degree of Master of Science in Nursing by the University of Zambia.

### **Examiner I**

**Signature**.....**Date**.....

### **Examiner II**

**Signature**.....**Date**.....

### **Examiner III**

**Signature**.....**Date**.....

## **DEDICATION**

To all the health workers involved in dissemination of information and implementation of the policies on elimination of mother to child transmission of HIV.

To women who are willing to test for HIV in pregnancy for their own and their babies' benefit.

To men who will support their female partners during pregnancy by going for couple counselling and testing for HIV.

To my late mother, Mrs Josephine Muyemba, a warm and kind parent who always stood by her family members' side when there were in trouble. She was our icon.

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Lastly but not the least, my heartfelt gratitude go to my husband DrKapembwa and children Lukundo and Taizya, for their continued support, understanding and encouragement throughout my period of study. Indeed I owe them my love.

Above all I wish to thank the almighty God for giving me such a privilege to research on such an important topic under his blessing and protection.

## ABSTRACT

The study was done to investigate the factors that influence acceptability of routine Human Immuno deficiency Virus testing by pregnant women in Lusaka District clinics. Each year around 1.5 million women living with Human Immuno deficiency Virus(HIV) become pregnant, and without antiretroviral drugs there is a chance that their child will become infected. The risk of Human Immuno deficiency Virus transmission from mother to child can be reduced if pregnant women take a regimen of Anti-Retroviral drugs. Following the introduction of Routine Human immuno deficiency Virus testing policy in Zambia, the Human immuno deficiency Virus test is offered to all pregnant women unless they decline. However, more pregnant women are declining to be tested. The aim of the study was to investigate the factors that influence acceptability of routine HIV testing by pregnant women in Lusaka urban ante natal clinics.

A cross sectional study using a quantitative approach was conducted in Lusaka Urban District clinics. The sample size comprised of 366 pregnant women selected by simple random sampling, from three (3) research settings. A pretested semi structured interview schedule was used to collect data. Data was entered and analysed with Statistical Package for Social Sciences (SPSS) version 20 program. Chi-square was used to test for associations between acceptability of routine HIV testing and other variables. Binary logistic regression modelling was carried out to predict the outcome.

Study findings revealed that 86.6% of respondents indicated non acceptability of routine HIV testing in pregnancy. Binary logistic regression revealed that maternal age, educational level and information education and communication contributed significantly to the model. The odds revealed that acceptability of routine HIV testing by older pregnant women (37- 49 years) were 8 times (OR- 7.67, p- 0.003) higher than the younger ones. The odds of acceptability by respondents with tertiary education were 141 times (OR-141.23, p-0.000), likely to accept HIV testing than those with primary or no education. The odds also revealed that acceptability by women who cited adequate information, education and communication (OR-2.6, p-0.024) were 3 times higher than those who cited inadequate IEC.

The study showed that majority of the pregnant women did not accept Routine HIV testing despite the numbers of women taking the HIV test. Therefore there is need to address some factors that are likely to affect the routine HIV testing and impede the success of implementation of the prevention of mother to child transmission (PMTCT programme in the country which goes beyond testing for HIV alone.

**Key words:** Acceptability, Routine HIV testing, pregnant women



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## ACRONYMS

AIDS	–	Acquired Immune Deficiency Syndrome
ANC	–	Antenatal Care
ANC	–	Antenatal Clinic
ART	–	Antiretroviraltherapy
ARV	–	Antiretroviral
CHAZ	–	Christian Health Associations of Zambia
CSO	–	Central Statistics Office
DHMO	–	District Health Management Office
DCHO	–	District Community Health Office
EMTCT	–	Elimination of Mother to Child transmission of HIV
ERES	–	Excellence in Research Ethics and Science
GRZ	–	Government of the Republic of Zambia
HBM	–	Health Belief Model
HCT	–	HIV Counselling and Testing
HIV	–	Human Immuno Deficiency Virus
HMIS	–	Health Management Information System
IAEA	–	International Atomic Agency Energy
IEC	–	Information, Education and Communication
LDCMO	–	Lusaka District and Community Management Office
MCH	–	Maternal and Child Health
MMR	–	Maternal Mortality Rate
MOH	–	Ministry of Health
MTCT	–	Mother to Child Transmission
NAC	–	National Aids Council
NGOs	–	Non-Governmental Organisations
PMTCT	–	Prevention of Mother to Child Transmission
RCT	–	Routine Counselling and Testing
SPSS	–	Statistical Package for Social Sciences
UNAIDS	–	Joint United Nations Programme on HIV/AIDS
UNICEF	–	United Nations Children’s Emergency Fund
UNZA	–	University of Zambia
USA	–	United States of America

UTH	–	University Teaching Hospital
VCT	–	Voluntary Counselling and Testing
WHO	–	World Health Organisation
ZDHS	–	Zambia Demographic Health Survey
ZMW	–	Zambian Kwacha



## CHAPTER ONE

### 1.0 INTRODUCTION

This study describes acceptability of routine HIV testing in pregnancy by pregnant women in Lusaka district urban antenatal clinics. Mother-to-child transmission (MTCT) is the main mode of acquisition of HIV infection in children and each day an estimated 1600 children born to HIV-infected mothers become infected, the great majority in sub-Saharan Africa (Newell 2003). With the introduction of the - opt out HIV testing policy in Zambia, the HIV test is offered routinely to all pregnant women unless they decline testing. Non acceptability of routine HIV testing by pregnant women is a major source of concern in the developing countries such as Zambia where the HIV prevalence rate (12%) among pregnant women remains high (CSO, 2015). However literature has shown that in some 'opt-out' settings women do not feel that HIV testing is their choice, but perceive testing as compulsory if they wish to access antenatal care. This was due to other factors such as stigma and discrimination faced by HIV-positive pregnant women (Avert, 2014).

### 1.1 BACKGROUND

HIV/AIDS is a global problem whose emergence has introduced new dimensions to health care delivery worldwide (Ekanem and Gbadegesin, 2004). It has been estimated that 35.3 million people worldwide are now living with HIV and some do not know that they are carrying the virus (WHO, 2013). Each year around 1.5 million women living with HIV become pregnant, and without antiretroviral drugs (ARVs), there is a chance that their unborn babies would also become infected. However, among mothers that take a regimen of ARVs for the prevention of mother-to-child transmission (PMTCT), the risk of HIV transmission can be reduced (Avert, 2014).

Mother-to-child transmission (MTCT) of HIV occur when an HIV-positive mother passes the virus to her unborn child during pregnancy, labour, delivery or breastfeeding. Without treatment, the likelihood of HIV passing from mother-to-child is 15-45% (WHO, 2015). However, antiretroviral treatment (ART) and other effective interventions for the prevention of mother-to-child transmission (PMTCT) can reduce this risk to below 5% (WHO, 2015).

Avert (2014) also emphasised that effective PMTCT programmes require women and their infants to receive a cascade of interventions including uptake of antenatal services and HIV testing during pregnancy, use of antiretroviral treatment (ART), safe childbirth practices and appropriate infant feeding, uptake of infant HIV testing and other post-natal healthcare services.

PMTCT services were scaled up to all the districts in Zambia, and 61% of all the estimated number of HIV positive pregnant women who gave birth in 2009 accessed ARVs, to reduce the risk of transmission to the baby, as well as maintain their health (MOH, 2010).

PMTCT has been practiced in several districts in Zambia, and lessons indicated that PMTCT had the potential of improving and strengthening the provision of safe motherhood. However, the programme indicate that PMTCT is constrained by several limitations such as inadequate trained safe motherhood providers and the high turnover of suitably trained and qualified manpower, poor quality of counselling services and stigma (MOH, 2008).

Although the PMTCT program is comprehensive in theory, in practice it focuses on the third component with two aspects. These aspects ensure the HIV testing of the pregnant woman as well as accessing effective ART timely. These practices ensure the health of the mother as well as preventing the mother to child transmission of the HIV during pregnancy, delivery and breastfeeding. This component of the strategy is an entry point to all the strategies of PMTCT (WHO, 2004).

The conventional form of HIV testing in antenatal clinics is called voluntary counselling and testing (VCT); this is when women are offered an HIV test (Avert, 2014). An alternative model is routine HIV testing, which is an 'opt out' approach where the HIV testing is part of the routine laboratory tests undertaken during all pregnancies. The woman has to be fully informed of the test and has the option to refuse it (MOH, 2009).

Numerous studies have found that switching from VCT to routine testing can dramatically improve uptake of testing in PMTCT Programmes (Avert, 2014; Rujumba, 2013; Creek, 2007).

Routine HIV testing has been part of the standard of care in many high income countries since the late 1980s and early 1990s.

For instance, HIV testing has been offered as part of routine antenatal care to all women in Sweden and Norway since 1987 and in France since 1993 (Rujumba, 2013). However, routine HIV testing as part of standard care is relatively new in most African countries. It was introduced following the initiation of the Joint United Nations Programme on HIV/AIDS (UNAIDS) and World Health Organisation (WHO) recommendations in 2004. In part, routine testing was a response to the low HIV testing rates under the VCT approach but also the need to increase the number of people benefiting from the increased availability of HIV treatment and prevention interventions including the PMTCT programme (Rujumba, 2013).

Rujumba (2013) also stated that Routine Counselling and Testing (RCT) has been associated with increased testing rates especially among women attending ante natal care (ANC) in many African settings. For instance, in 2010, (with RCT as a dominant approach), it was estimated that 63% of all pregnant women in Uganda tested for HIV, a dramatic increase from 18% in 2005 under VCT, however, there is limited information on how routine provision of HIV testing is perceived and experienced by women in low income countries (Rujumba, 2013).

In some countries where HIV counselling and testing services have been established, there has been a reluctance of people to attend for testing (UNAIDS, 2000). This may be because of fear of stigma and discrimination that people who test sero-positive may face, and the lack of perceived benefits of testing.

Following the introduction of routine HIV testing and counselling service for pregnant women, a number of studies have been conducted to determine the effectiveness of the program [(Deressa et al, 2014; Bajunirwe and Muzoora, 2005; Anderson J.E, (2005). Most of these studies focused on the percentages of pregnant women who undergo HIV counselling and testing. For instance, a study conducted in Botswana stated that, after routine testing started, the percentage of all HIV-infected women delivering in the regional hospital who knew their HIV status increased from 47% to 78% and the percentage receiving PMTCT interventions increased from 29% to 56%. ANC attendance and the percentage of HIV-positive women who disclosed their HIV status to others remained stable. Interviews indicated that ANC clients supported the policy (Creek, 2007).

It is evident that in some 'opt-out' settings women do not feel that HIV testing is their choice, but perceive testing as compulsory if they wish to access antenatal care.

This shows that there is a discrepancy between global targets and local realities of antenatal HIV testing. A study conducted in Burkina Faso, Kenya, Malawi and Uganda by Avert (2014), revealed that 92% of women reported being asked whether they consented to HIV testing, and 84% reported they had the right to refuse testing. In Uganda, many women also reported perceiving HIV testing as mandatory and a prerequisite for accessing antenatal care services. In a study conducted in Malawi, women described feeling unprepared for HIV testing in the context of pregnancy, which could have had a detrimental impact on their ability to cope with an HIV diagnosis (Avert, 2014).

In Zambia, more than 90% of women attending ante natal care services are tested for HIV as compared to general adult population, where only 23% have been tested (Rodreguez, 2014). Despite the high numbers of HIV testing, pregnant women in Zambia face challenges like stigma and long distance to the health centres especially those living in the rural areas (Torpey, 2010). The Government through Ministry of Health in 2013 authorized the immediate operationalization of Option B+ to provide free life-long ART to all pregnant women living with HIV, regardless of their CD4 count. Infants are being provided with ARVs from birth through to six weeks regardless of feeding method. Roughly one in every eight pregnant women in Zambia is HIV positive and an estimated 26 infants are infected with HIV every day (Rodriguez, 2014). Option B+ is to be implemented in all government, Non-Governmental Organizations (NGO), Christian Health Association of Zambia (CHAZ), private health facilities and other health facilities that are providing ART to Zambians but are supported by Cooperating partners and other International Organizations (Rodríguez, 2014).

Furthermore, a lot of policies concerning PMTCT has been researched and revised several times but very few researches have been done on pregnant women's acceptability of routine HIV testing in PMTCT to find out the opinions and views of these women. The findings from this study are important in order to formulate policies that will incorporate women's views on the strategies used in PMTCT.

## **1.2 STATEMENT OF THE PROBLEM**

Non acceptability of routine HIV testing by pregnant women is a major source of concern in the developing countries such as Zambia where the HIV prevalence rate (12%) among pregnant women remains high (CSO, 2015).

According to Lusaka District Health Management office records (2015), the number of pregnant women who opt out after being counselled is still significant. For example the number of women who were counselled for HIV in Lusaka Urban District for a period of 5 years from 2010 – 2014 who opted out rose from 6% to 10%. It is clear that from the foregoing that there are still a significant proportion of pregnant women who are opting out of HIV testing despite the introduction of routine HIV testing, with the numbers of those opting out increasing in a number of Health Centres. The reasons for refusing the testing are not clear. This study will seek to find answers to improve acceptability of HIV testing in Zambia. The above scenario is depicted in table 1 below.

**Table 1: Showing number of opt out of HIV testing in Lusaka Urban District**

<b>PMTCT YEARLY RETURNS</b>	<b>Number of women counselled</b>	<b>Number of women tested for HIV</b>	<b>Number of women who opted out</b>	<b>% of women who opted out</b>
2010	<b>65,424</b>	<b>61,680 (94%)</b>	<b>3,644</b>	<b>6%</b>
2011	<b>68,537</b>	<b>63,185 (94%)</b>	<b>4,362</b>	<b>6 %</b>
2012	<b>65,997</b>	<b>58,115 (88%)</b>	<b>7,882</b>	<b>12%</b>
2013	<b>66,876</b>	<b>58,540 (88%)</b>	<b>8,336</b>	<b>12%</b>
2014	<b>65,360</b>	<b>59,023 (90%)</b>	<b>6,337</b>	<b>10%</b>

2010 - 2014 LDHMO Yearly Returns

According to MOH (2008) some pregnant women who attend antenatal care clinics tend to avoid both HIV counselling and testing while some of the women who take the HIV test do not wait for their test results. This raises questions as whether or not all the women who take the HIV test do so voluntarily.

In Lusaka, about 86% of women attending ante natal care services are tested for HIV, 84% of HIV positive pregnant women are referred for ART services but only 71% of them are receiving a complete course of ARV prophylaxis to reduce MTCT (Lusaka DHMO ACTION PLAN, 2013). This was supported by Mwanza (2009), who revealed that there are a proportion of HIV positive women who do not utilize ART in PMTCT.

Despite the government and Lusaka DHMO offering HIV testing, counselling and treatment services for pregnant women without a cost and introduction of Lay counsellors to help in the sensitisation of routine HIV testing, some women are not willing to test for HIV.

In Lusaka Urban district for instance, where the HIV prevalence rate among women between 15 – 49 years is 19.4%, some women are still not willing to be tested (CSO, 2015). This may risk an increase in MTCT of HIV among pregnant women.

The unwillingness of some women to undergo HIV testing requires investigating to determine reasons for this trend if the PMTCT programme is to succeed or to achieve its intended objectives. The main objective of this study therefore is to investigate factors influencing acceptability of routine HIV testing by pregnant women. The study findings will help in the development of contextualised interventions to increase HIV testing which is one of the vital strategies of implementation of PMTCT.

### **1.3 CONCEPTIAL FRAME WORK**

The research theory that guided this study was the Health Belief theory (HBM). The HBM was first developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels working in the U.S. Public Health Services (Theorieënoverzicht, 2012).

According to Theorieënoverzicht (2012), the HBM is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals.

The model suggests that people's beliefs about health problems, perceived benefits of action and barriers to action and self-efficacy explain engagement (or lack of engagement) in health-promoting behaviour. A stimulus, or cue to action, must also be present in order to trigger the health-promoting behaviour.

#### **Assumptions of the Health Belief Model**

According to Campus (2005), the HBM is based on the following four assumptions:

##### **1. Perceived Severity**

Perceived severity refers to subjective assessment of the severity of a health problem and its potential consequences. The HBM proposes that individuals who perceive a given health problem as serious are more likely to engage in behaviours to prevent the health problem from occurring (or reduce its severity).

Perceived seriousness encompasses beliefs about the disease itself (whether it is life-threatening or may cause disability or pain) as well as broader impacts of the disease on functioning in work and social roles.

The assumption was that if pregnant women perceived the consequences of transmission of HIV to their unborn child as serious, they would strive to take the HIV test to prevent mother to child transmission of HIV in pregnancy.

## **2. Perceived Susceptibility**

Perceived susceptibility refers to subjective assessment of risk of developing a health problem. The model predicts that individuals who perceive that they are susceptible to a particular health problem will engage in behaviours to reduce their risk of developing the health problem. Individuals with low perceived susceptibility may deny that they are at risk of contracting a particular illness and are more likely to engage in unhealthy, or risky, behaviours. Individuals who perceive a high risk that they will be personally affected by a particular health problem are more likely to engage in behaviours to decrease their risk of developing the condition.

In line with this, if pregnant women perceived themselves and their unborn children to be at risk of complications of transmitting the HIV virus to their unborn child, they would take action because they perceived their own susceptibility. .

## **3. Perceived Benefits**

Health-related behaviours are also influenced by the perceived benefits of taking action. Perceived benefits refer to an individual's assessment of the value or efficacy of engaging in a health-promoting behaviour to decrease risk of disease.

If pregnant women as individuals strongly believe that routine HIV testing in pregnancy will reduce susceptibility to a health problem or decrease its seriousness, then they will be likely to take the HIV test so that MTCT of HIV can be prevented, the mother taken care of effectively of according to the PMTCT guidelines thus promoting their health and that of their unborn babies.

#### **4. Perceived Barriers**

Health-related behaviors are also a function of perceived barriers to taking action. Perceived barriers refer to an individual's assessment of the obstacles to behavior change.

Even if an individual perceives a health condition as threatening and believes that a particular action will effectively reduce the threat, barriers may prevent engagement in the health-promoting behavior. In other words, pregnant women who perceive barriers to acceptability of routine HIV testing in pregnancy such as stigma and fear of spouse if found positive are likely to refuse to take the HIV test in pregnancy.

#### **Modifying Variables**

Individual characteristics, including demographic, psychosocial, and structural variables, can affect perceptions (perceived seriousness, susceptibility, benefits, and barriers) of health-related behaviors. Demographic variables include age, marital status, occupation, income, and education, among others. Psychosocial variables include personality, social class, and peer and reference group pressure, among others. Structural variables include knowledge about a given disease and prior contact with the disease, among other factors.

Therefore modifying variables such as age, marital status, education, occupation and income that affect health-related behaviors indirectly by affecting perceived seriousness, susceptibility, benefits, and barriers may as well affect the acceptability of routine HIV testing in pregnancy.

#### **Cues to Action (Motivation)**

The health belief model posits that a cue, or trigger, is necessary for prompting engagement in health-promoting behaviors. Cues to action can be internal or external.

Physiological cues such as pain is an example of internal cue to action. External cues include events or information from close others, the media, or health care providers promoting engagement in health-related behaviors. The level of awareness and knowledge about the benefits of routine HIV testing in pregnancy needed to be identified. Thus the relationship between acceptability of routine HIV testing in pregnancy and knowledge was determined.



## Self-Efficacy

Self-efficacy refers to an individual's perception of his or her competence to successfully perform behaviour. Developers of the model recognized that confidence in one's ability to effect change in outcomes (self-efficacy) is a key component of health behaviour change.

Application of HBM in this study helped to recognize, the prime motivation for pregnant women to accept routine HIV testing in pregnancy and the perception that they are susceptible to transmitting the HIV virus to their child if they do not know their status. Similarly, the model established the perceived threat of MTCT of HIV that could motivate pregnant women to accept routine HIV testing in pregnancy.

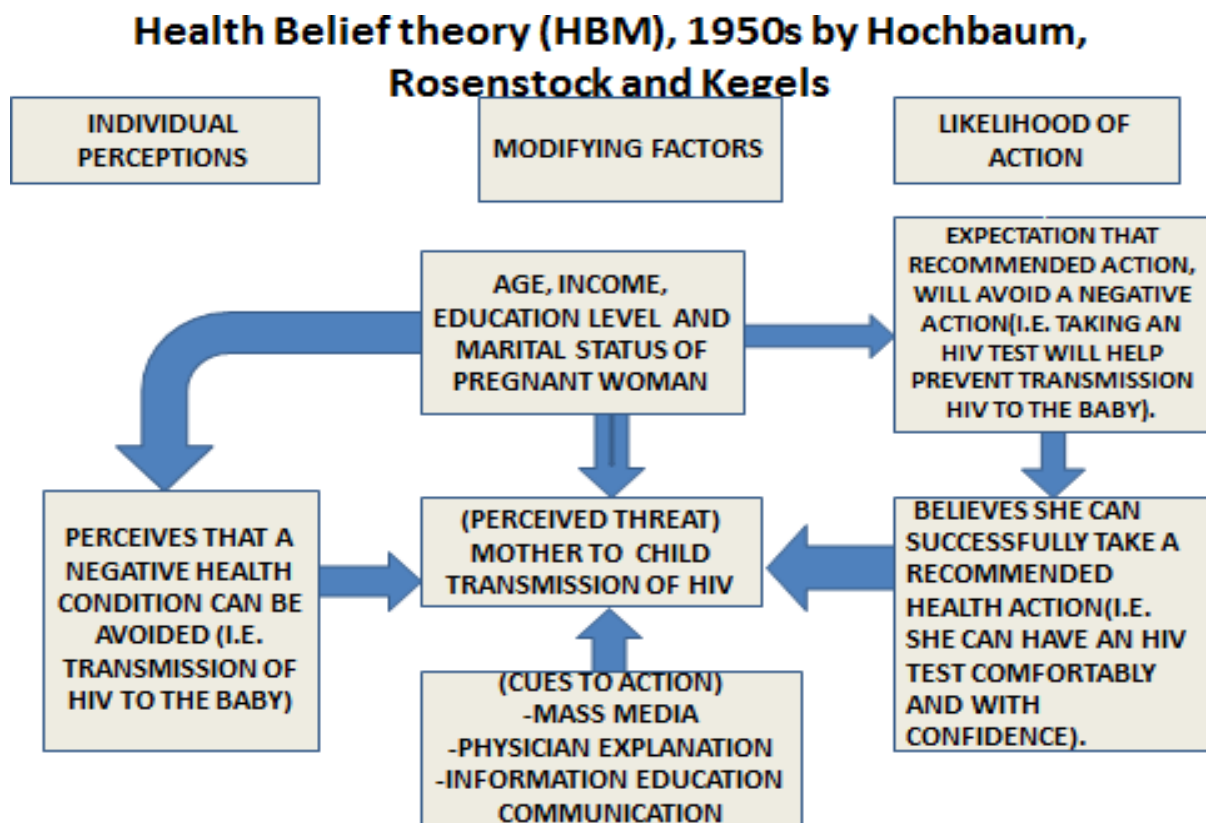


Figure 1: Health Belief Model (HBM)Source: Glanz et al, 2002

## **1.4 JUSTIFICATION OF STUDY**

In an attempt to address the high incidence of HIV among women and the high chances of Mother to Child Transmission (MTCT) of HIV, the government of Zambia, through the Ministry of Health (MOH) in 2013 opted to operationalize Option B+ strategy. This measure was taken to facilitate easy access by women to HIV testing and counselling services in addition to the usual antenatal care (UNICEF, 2014).

The main focus has been on determining the outcome of the program and not on how the recipients of this service feel about it. Mothers have not been provided with a platform from which to express their views on routine HIV testing during antenatal and share their challenges. Failure to consider this, in this aspect of care can result in major deficiencies in the provision of HIV testing services and PMTCT program as a whole.

The results of this study provided vital information on the factors that affect acceptability of routine HIV testing by pregnant women in Lusaka Urban Clinics. This information will in turn enable the health sector to fully understand the effectiveness of the service for the purpose of instituting measures aimed at improving the quality of care provided to pregnant women during HIV counselling. The research findings would be used by the government, NGOs and other private sectors to review the Health Care System and incorporate the findings into the National Health Policy on PMTCT. The findings would also help formulate effective guidelines on HIV counselling and testing, such as informing clients, obtaining consent, and providing information that are able to expand client- and provider-initiated testing while protecting the clients confidentiality.

Mathingau, (2013) in Kenya conducted a similar study but defined acceptors as pregnant women who took the HIV test as opposed to this study which is looking at how mothers perceive HIV testing in pregnancy, Perez, (2006) in Zimbabwe conducted the study in a rural area, hence the need for this research to be conducted in order to determine the acceptability of routine HIV testing by pregnant women in an urban set up like Lusaka Urban District.

Therefore the need to conduct this study to fill in these gaps identified in other studies.

## **1.5 RESEARCH QUESTION**

What are the factors that influence acceptability of routine HIV testing by pregnant women towards PMTCT?

## **1.6 OBJECTIVES OF THE STUDY**

### **1.6.1 GENERAL OBJECTIVE**

To investigate the factors that influence acceptability of routine HIV testing by pregnant women in Lusaka Urban Ante natal Clinics.

### **1.6.2 SPECIFIC OBJECTIVES**

1. To determine mothers' knowledge level of PMTCT and routine HIV testing
2. To determine socio-economic factors influencing routine HIV testing.
3. To determine whether service related factors influence routine HIV testing.

## **1.7 NULL HYPOTHESIS**

There is no association between acceptability of routine HIV testing by pregnant women and the following factors:

- Knowledge of PMTCT and HIV
- Education Level of pregnant woman
- Fear of spouse
- Stigma
- Information, education and communication

## **1.8 CONCEPTUAL DEFINITION OF TERMS**

**1.8.1 Acceptability:** The action of consenting to receive or undertake something offered (Collins dictionary, 2009).

**1.8.2 Pregnant women:** this is a condition of women or females that are going to have a baby or babies (Soanes and Stevenson, 2003).

**1.8.3 Routine HIV Testing:** Also known as an 'opt out' approach means that HIV testing is part of the routine laboratory undertaken during all pregnancies. The woman does not have to sign a consent form; however; she has to be fully informed of the test and has the option to refuse it (MOH, 2009).

**1.8.4 Routine:** usual pattern of activity: the usual sequence for a set of activities (Collin's Dictionary, 2009).

## **1.9 OPERATIONAL DEFINITION OF TERMS**

### **1.9.1 Acceptability**

Pregnant women who knew the meaning of Routine HIV Testing and agreed to take the HIV test in the current pregnancy. This variable was measured by two (2) items; “Acceptability” if they correctly understood the meaning of routine HIV Testing and voluntarily willing to take an HIV test and “non- acceptability” if did not correctly understand the meaning of routine HIV Testing and agreed or opted out of taking the HIV test.

### **1.9.2 Knowledge**

Knowledge on PMTCT and HIV was ascertained by asking the respondents “Yes” or “No” questions, and multiple response questions. A “Yes” response was assigned a score of 1 and a “No” response was assigned a score of 0. The multiple response questions carried half per option, hence scoring high marks if tick all correct options. The total number of scores assigned to knowledge level was 15. Therefore Low knowledge = 0-5, moderate = 6 – 10 and high knowledge = 11- 15.

### **1.9.3 Education level**

The educational level was ascertained by asking how far the respondents went academically. Tertiary was regarded as high, was assigned 2, Secondary was medium with 1 score and low being primary and no education carrying a 0 score.

### **1.9.4 Social economic factors influencing acceptability of routine HIV testing**

Valuables under socio economic factors were fear of spouse and stigma. Fear of spouse was assigned ‘Yes’ if afraid of disclosing positive result and perceived a negative spouse reaction to positive result and “No “if Not afraid of disclosing positive result and perceived positive spouse reaction.

Stigma was assigned “Yes” if believed they can be discriminated if found HIV positive and “No” if did not believe they can be discriminated if found HIV positive.

### **1.9.5 Service related factors influencing acceptability of routine HIV testing**

The influence of service related factors was ascertained by asking the respondents whether they received adequate IEC or not. Adequate IEC was if pregnant woman was counselled on the importance of PMTCT and HIV testing and was satisfied with information and “Inadequate” if pregnant woman was not counselled on the importance of PMTCT and HIV testing and or was not satisfied with information given.

### **1.10 VARIABLES**

The major variables for this study were the dependent and independent variables.

#### **1.10.1 Dependent Variable**

The following was the dependent variable for this study:

1.10.1.1 Acceptability of routine HIV testing in PMTCT

#### **1.10.2 Independent variables**

The independent variables for this study were:

1.10.2.1 Knowledge of importance of PMTCT and HIV testing.

1.10.2.2 Education level of the pregnant woman.

1.10.2.3 Fear of spouse

1.10.2.4 Stigma

1.10.2.5 Information, Education and Communication on the importance of PMTCT and HIV testing.

## 1.11 VARIABLES, INDICATORS AND CU OTFF POINTS

**Table 2: Variables, cut-off points and indicators**

Variables	Indicators	Cut-off points	Question/s
<b>Dependent Variable</b>  Acceptability of routine HIV testing	Acceptability	Pregnant women understood what routine HIV testing was and voluntarily agreed to take the HIV test.	Question number fifteen (15) and seventeen (17)
	Non acceptability	Pregnant women misinformed about routine HIV testing and agree/ refuse to take the HIV test.	
<b>Independent Variables</b> Level of education	High	Tertiary level	Question number four (4)
	Medium	Secondary level	
	Low	Primary level	
	None	None	
<b>Knowledge of PMTCT and benefits of HIV testing in pregnancy</b>	High	A score of eleven to fifteen (11-15) points on knowledge questions	Question number eight to fourteen (8 - 14)
	Moderate	A score of six to ten (6- 10) points on knowledge questions	
	Low	A score of zero to five point and below (0 - 5) on knowledge questions	
<b>Fear of spouse</b>	Yes	Afraid of disclosing positive result and perceive negative spouse reaction to positive HIV result	Question number nineteen (19) and twenty (20).
	No	Not afraid of disclosing positive result and perceived a positive spouse reaction to positive result	
<b>Stigma</b>	Yes	Believed they can be discriminated if found HIV positive	Question number twenty four (24).
	No	Do not believed they can be discriminated if found HIV positive	
<b>IEC</b>	Received adequate IEC	Pregnant woman was counselled on the importance of PMTCT and HIV testing and was satisfied with information given.	Question number twenty five (25), twenty seven (27) and twenty eight (28).
	Received inadequate IEC	Pregnant woman was not counselled on the importance of PMTCT and HIV testing and or was not satisfied with information given.	

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Chapter two (2) provides information on the literature review; the review focused on studies conducted on acceptance of pregnant women towards routine HIV testing in PMTCT. Sources of literature included books, articles from professional journals, newspapers, the internet and a search engine for example PubMed, was used.

The literature review included studies from other continents, parts of Africa whose cultural beliefs, traditions and educational backgrounds are different from Zambia. A few studies conducted in Zambia were also reviewed. This review assisted in establishing what had been researched or known about the topic and to identify gaps in the existing literature. The literature review was organized according to the study variables, such as, acceptability of routine HIV testing, knowledge of PMTCT and routine HIV testing, socio economic factors influencing routine HIV testing such as level of education, stigma and fear of spouse. The other factor is service related factors (IEC on PMTCT and HIV testing).

#### **2.2 STUDY VARIABLES**

##### **2.2.1 Acceptability of routine HIV testing**

Prevention of HIV for pregnant women varies greatly between regions with over 90% accessing these services in Eastern and Central Europe and the Caribbean compared to less than 20% in Asia, the Middle East and North Africa (Avert, 2014).

Globally the strategy of HIV testing in pregnancy has also been embraced, but most of the countries are against mandatory HIV testing (Deblonde et al, 2007). In Europe, all EU Member States with the exception of Cyprus and Luxembourg have opted for routine HIV testing as opposed to mandatory testing on all women attending antenatal services while only two opted for selective screening. In almost all EU countries with antenatal HIV screening policies, screening conditions are defined (Deblonde et al, 2007).

In India, approximately 49,000 women living with HIV become pregnant and deliver each year. Only about one quarter of pregnant women received an HIV test in 2010.

In-depth interviews were conducted to examine their general experiences with antenatal health care; specific experiences around HIV counselling and testing; and perceptions about their care and follow-up treatment, and about one-in-five that were found positive for HIV received interventions to prevent vertical transmission of HIV (Madhivanan, 2014), however another study by Madhivanan (2014) of India conducted on Private Health care violating pregnant women's rights, revealed that human rights violations on HIV testing occurred commonly in Private rather than Public hospitals. According to the participants, HIV testing often occurred without consent; there was little privacy and breaches of confidentiality were common place. These findings may imply that pregnant women have not really accepted the routine HIV testing but are being coerced to do so.

A study by Hardon et al. (2012) in Kenya, Malawi, Bukina Faso and Uganda on "Women's views on consent, counselling and confidentiality in PMTCT, revealed high number (92 %) of pregnant women were tested for HIV, however some of these women reported that testing was mandatory. This was supported by the qualitative part of the study where some health workers revealed that "they deal with the challenge of capturing women by telling them that the test is mandatory" (Hardon et al, 2012).

Odendal (2014) has revealed that the implications of HIV testing can have an effect on the acceptability, for example; in a qualitative conducted in Malawi on challenges faced on the implementation of Option B+, it was reported that some health care workers expressed concerns that the practice of testing a woman for HIV and providing ART on the same day was "too fast" and require the woman to deal with too much information at once, which can lead to suboptimal uptake of ART and PMTCT medicines.

### **2.2.2 Knowledge of importance of PMTCT and HIV testing**

A prospective study by YIN (2003) in Hong Kong on maternal acceptance, knowledge, attitude, perceived risks and barriers toward antenatal HIV among pregnant women demonstrated fairly good knowledge and a positive attitude toward HIV screening. The findings showed that support for mandatory and routine screening was 31% and 48%, respectively. A total of 82.6% women agreed to HIV testing. The major reason for declining the test was that 84.3% of women considered themselves to be at low risk (Yin, 2003).



Some studies have associated high levels of HIV, MTCT and PMTCT knowledge with lower acceptability of PMTCT; for example, one study by Avert (2014) from south-west Nigeria revealed that while 99.8 % of pregnant women were aware of HIV, had very high knowledge of MTCT (92 %) and PMTCT (91%), 71% had negative views towards the PMTCT of HIV. This was due to other factors such as stigma and discrimination faced by HIV-positive pregnant women.

Dereessa et al. (2014) of Ethiopia conducted an institution based cross-sectional study on Utilization of PMTCT services and associated factors among pregnant women attending antenatal clinics in Addis Ababa, revealed high knowledge on PMTCT and HIV despite low utilization. Out of 843 respondents, 94% of the pregnant women visited the health facility for ANC check-up. About 90% knew that a mother with HIV can pass the virus to her child but about 18% and 9% of respondents attended the facility for HIV counselling and testing (HCT) and receiving antiretroviral prophylaxis.

### **2.2.3 Socio- economic factors influencing routine HIV testing.**

#### **2.2.3.1 Level of Education**

A study conducted in Nigeria on HIV voluntary counselling and testing of pregnant women in Primary Health Care centres in Ilesa, Nigeria, revealed that HIV infection is more common among pregnant women who did not go to school or complete secondary school education. The study further reported that women with higher education have better knowledge of HIV transmission whereas low level of female education promotes ignorance about HIV transmission and its prevention, especially to the unborn child(Olanrewaju, 2013); Banda 2012)

A study conducted by Ekanem and Gbadegehin (2004) on VCT for HIV in Nigeria, revealed that the high educational level of respondents was significantly associated with knowledge of HIV transmission (93.3%) and modes of transmission. However, knowledge of specific aspects of MTCT such as the probability of transmission of the virus from mother to baby during pregnancy, delivery and breastfeeding were generally low (6.7%) among the respondents with low education.

A cross-sectional survey conducted in rural and urban Uganda by Bajunirwe and Muzoora (2005) on barriers to the implementation of programs for the prevention of mother-to-child transmission of HIV revealed that (83%) mothers in the rural area knew that MTCT can occur compared to (81%) mothers in the urban area. These figures demonstrate that the level of knowledge did not differ significantly between the mothers in the rural setting compared to those in the urban areas. Though rural and urban populations are perceived as differing in knowledge, readiness and ability to follow advice, this study suggests the contrary in regards to MTCT. The level of knowledge was high and the readiness to accept HIV testing was equally high in both rural and urban areas.

Moses et al (2013) conducted a study on knowledge, attitude and practice of ante-natal attendees toward Prevention of Mother to Child Transmission (PMTCT) of HIV infection in a tertiary health facility, Northeast-Nigeria. The study revealed that the majority of the women interviewed with post-secondary education, were knowledgeable on the transmission of HIV. On HIV prevention issues, responses were varied according to the level of knowledge of HIV.

A related study conducted in Zambia by Mutale et al. (2013) on Home-based voluntary HIV counselling and testing found that acceptability was higher in rural (83.6%) as compared to urban areas (70.7%). The study further showed that test rates by educational attainment changed from being positively associated to be evenly distributed after home-based VCT.

#### **2.2.3.2 Stigma**

Despite the sensitisation throughout the world, pregnant women seem not to be ready for a HIV test during ante natal care. A study to assess the level of knowledge, attitude, practice and perception of ante-natal women toward PMTCT services in Maiduguri, Northeast Nigeria showed that 79.1% of the respondents would advise their spouse to get tested with them and 76.7% would inform only their spouses/partner of their HIV status. However, 22.1% of the respondents indicated they would conceal the result to themselves. About 1.2% of all the respondents indicated they would contemplate suicide while 0.6% would not mind spreading the virus as much as possible (Moses et al, 2013).

HIV and AIDS stigma can be a barrier to acceptance of HIV testing by pregnant women and highlights the need to develop interventions that address pregnant women's fears of HIV and AIDS stigma and violence from male partners. A cross-sectional study conducted in rural Kenya on HIV and AIDS stigma and refusal of HIV testing among pregnant women in rural Kenya on women attending antenatal clinics, revealed that there are associations of stigma measures with HIV testing refusal. The study found that rates of anticipated HIV and AIDS stigma were high, 32% of the respondents anticipated break-up of their relationship, and 45% anticipated losing their friends. In this study, women who anticipated male partner stigma were more than twice as likely to refuse HIV testing (Turan et al, 2010; Hermann, 2007).

In a study conducted in South Africa by Hardon et al. (2012) revealed that pregnant women agreed to be tested for HIV but did not want their status to be disclosed to them. Similarly, Kalembo and Zgambo (2012) in Zambia reported the rates of loss to follow up of mother-child pairs ranging from 19% - 89.4% and this was attributed to stigma and discrimination.

A cross sectional descriptive study by Olugbenga-Bello (2012), aimed to examine the perception about HIV testing among antenatal clinic clients at primary health centres (PHC) in Osogbo, Southwest, Nigeria, revealed that out of 270 consenting pregnant women that attended antenatal booking clinic in three selected PHCs in Osogbo, 193 (71.5%) were aware of HCT, however, only 26.3% knew their HIV status. The main reasons given by the respondents who were not willing to carry out the test were that they were not at risk (70.0%), were not sure of confidentiality (50.0%) while some feared stigmatisation (40.0%).

Turan et al. (2014) revealed that newly diagnosed HIV-positive pregnant women have a high risk of depression due to internalized stigma. This is supported by an article in the Post News Paper where an eighteen year old five months pregnant woman of Nankanga in Kafue district in the Southern Province of Zambia who committed suicide after allegedly testing positive for HIV at the ante natal clinic (Sichone, 2014).

A study conducted by Muyanzena (2009) of Zambia on difficulties of disclosure of HIV status to sexual partners among expectant women in selected clinics in Lusaka urban, cited that disclosing seropositivity to a sexual partner implies that that partner too might be infected. Out of 78 respondents, the majority 86.6% had fear of being stigmatized while the rest cited personal feelings of shame 79.2% and fear of rejection by partner 2.7%.

### **2.2.3.3 Fear of spouse**

A study by Kakimoto (2007) in Cambodia revealed a strong association between acceptability and partner involvement however a study done by Semrau et al. (2005) in Zambia, revealed no significant differences in reported adverse social events between couple and individual counselled women. The study revealed that couple-counselled women were more likely to accept HIV testing (96%) than women counselled alone (79%), however 28% of 324 HIV-positive women of those counselled as a couple or alone, reported at least one adverse social event (including physical violence, verbal abuse, divorce or separation).

In Ethiopia, a comparative cross sectional study on determinants for refusal of HIV testing service utilisation among ante natal attendees was conducted by Fanata and Worku (2012). The study revealed that 83 out of 249 respondents who had not sought agreement from their husbands for testing cited divorce as a perceived response of their husbands following HIV positive test result. A study by Zimbwa and Vwalika (2010) in Zambia, on the association between unplanned pregnancies and failure to disclose the HIV test results revealed varied disclosure rates. For example, the disclosure rate was found to be 72% for both sero positive and sero negative clients among urban attendees whereas it was 49% among sero positive attendees as a separate group. The barrier to disclose of a positive HIV result revealed by this study among others was fear of violence by the partner.

Another study done in Zambia on factors influencing partner notification of HIV status by pregnant women after undergoing routine HIV testing at antenatal Clinics in Kalomo District, revealed that out of 120 respondents, 56.7% of the respondents informed their partners about their HIV status while 43% were unable to disclose their status to their partner due to fear of spouse (Masumo, 2009).

## **2.2.4 Service related factors**

### **2.2.4.1 Information, Education and Communication on PMTCT and HIV testing**

A study conducted by Kwapong (2014), in Nigeria, revealed that 24% of the pregnant women had not undergone HIV Testing and Counselling, with “never been told” emerging as the most cited reason as reported by 29.5% of respondents. Decisions by pregnant women to take up High Testing and Counselling were mostly influenced by factors such as lack of information, perceptions of privacy and confidentiality, waiting time, poor relationship with health staff and fear of being positive.

A study by Kalembo and Zgambo (2012) in South Africa also found that clients had inadequate information on PMTCT services, given that they could not recall the information communicated to them during counselling. Clients only made use of counselling services once during their first visit and not on subsequent visits irrespective of HIV-1 status, suggesting limited rapport between providers and clients (Kalembo and Zgambo, 2012). The findings indicated that 68% of the participants received less than 5 minutes of post-test counselling, 21% had 5–10 minutes, and only 10.7% had more than 10 minutes of post-test counselling. Similar findings were found in a study conducted in Malawi where antenatal mothers thought that they were inadequately prepared to undergo HIV testing. Positive mothers also thought that PMTCT had no benefit for them since ART was seen as not a part of PMTCT program (Kalembo and Zgambo, 2012).

Low uptake of prevention of mother-to-child transmission of HIV (PMTCT) services in resource-limited settings requires new approaches to prevent missed opportunities. Health education is another factor that can help pregnant women’s’ acceptability towards HIV testing. An exploratory cross-sectional survey in 6 PMTCT sites in rural Zimbabwe was conducted by Perez (2006) on Acceptability of routine HIV testing in antenatal services in two rural districts of Zimbabwe. Of 520 women sampled 285 (55%) had been HIV tested during their last pregnancy but reported receiving neither group education in the ANC clinic nor individual pre-test counselling. This was supported by a study carried out by Ishmail and Ali (2011) in Ethiopia, on Pregnant women’s satisfaction and comprehension level of information given during HIV Counselling and Testing for PMTCT in public health facilities in Addis Ababa which showed that of the 422 women interviewed, 288 (68.4%) of the clients had held discussions on HIV/AIDS; and 261 (90.6%) reported that they had understood the discussions well.

However, when prompted at the exit points, 21% of the mothers did not know why they were offered HIV Counselling Testing particularly during pregnancy.

Studies conducted in Kenya and Zambia by the UNAIDS (2006) on HIV/AIDS Protocol survey indicators data base on quality of HIV counselling for pregnant women, revealed that only 61% of antenatal women received individual pre-test HIV counselling. According to the findings, HIV counselling and testing services were negatively affected by staff shortage and the organization of service delivery which influence both supply and demand for HIV testing. Staff shortage was identified as the single most important hurdle in providing pre-test counselling. Good counselling takes time; which is already in short supply at many clinics because workers already provide antenatal, well child and family planning services. The factor that was identified in this study was long waiting time and rules that required the client to return another day for results. The findings also showed that 20-50% of women who took the test did not receive their results for results were not ready on time, women changed their minds or were never sure about the benefit of testing (UNAIDS, 2006).

A study conducted by Masumo (2009) on factors influencing partner Notification of HIV status by pregnant women after undergoing routine HIV testing at antenatal Clinics in Kalomo District, Southern province of Zambia revealed that Out of 120 respondents, 86.7% (104) of the respondents reported that the duration of counselling was not enough to ask questions. The inadequate counselling was attributed to staff shortages and heavy work load.

### **2.3.0 Conclusion of literature review**

Most studies conducted on acceptability of routine testing focused on the need for routine HIV testing with a chance to opt out as compared to mandatory or compulsory testing which is looked at as an infringement on the pregnant women's right. Globally, studies showed that most women accept routine HIV testing in pregnancy and had high knowledge on PMTCT. Regionally however, there were still a lot of factors that influenced acceptability to routine HIV testing, such as stigma, fear of spouse and staff attitude.

Literature also revealed that most pregnant women failed to disclose the HIV status after testing to the spouse due to fear of divorce and violence. The researcher did not find a study that had been conducted on acceptability of routine HIV testing particularly in Lusaka Urban district. This study was conducted with the view of improving PMTCT strategies.

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter outlined the general research strategy in which research was to be undertaken. It is essentially all procedures that researchers apply to describe, explain and predict phenomena and give the work plan of the research. Chapter three (3) presented the methodology as used in this study and is organized under the following sections: the research design, research setting, and study population, sample selection, inclusion and exclusion criteria, sample size, data collection tools, data collection technique, validity and reliability, pre-test and ethical consideration.

#### **3.2 RESEARCH DESIGN**

A research design is a physical location and conditions in which data collection takes place in a study (Polit and Hungler, 2001). In this study, cross sectional, quantitative descriptive study design was conducted to determine acceptability of routine HIV testing among pregnant women in Lusaka Urban District. This study was descriptive because it described what exists and helped to uncover new facts and meaning (Polit and Hungler, 2001). The study was cross sectional because it enabled the investigator to collect data at a specific point in time (Polit and Hungler, 2001).

The study employed a quantitative approach. Quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world (Burns and Grove, 2005). The quantitative approach was used to describe variables, examine relationships among variables and to determine cause-effect interactions between variables (Burns and Grove 2005).

The study was exploratory in nature because the researcher wanted to gain an insight into factors that influence acceptability of routine HIV testing among pregnant women in PMTCT.

### **3.3 RESEARCH SETTING**

The Lusaka District Health Management Office (DHMO) has twenty seven (27) urban clinics offering both preventive and curative services with MCH services; these urban clinics are divided into big, medium and small urban clinics depending on the catchment population and the services being offered (Lusaka DHMO, 2014). There are seven (7) big, five (5) medium and fifteen (15) small urban clinics. The study sites were chosen as study settings on the basis that they all offer PMTCT services in the Maternal Child Health (MCH) department on a daily basis. The study sites were Chilenje, Mtendere, and Kabwata urban clinics. The participants were seen at Maternal Child Health department in the selected urban clinics as they came for their antenatal booking visits.

### **3.4 STUDY POPULATION**

Dempsey and Dempsey (2000) define a study population as a pool on whom information can be obtained from. In this study, the study population was all pregnant women between fifteen (15) and forty-nine (49) years of age attending ante natal clinics in Lusaka urban district. The study included both prime gravidas and multigravidas who were attending initial ANC services.

#### **3.4.1 Accessible Population**

The accessible population in this study were the pregnant women between fifteen (15) and forty-nine (49) years of age attending ante natal clinics in Lusaka urban district and had not been tested for HIV yet.

### **3.5 SAMPLING METHOD**

The sampling methods used in this study are described below.

#### **3.5.1 Type of sampling**

The researcher used a stratified random sampling method to select study units. All the 27 sites providing Maternal and Child services in Lusaka District were included. The sites were stratified into separate strata according to the category of the facility whether Big, Medium and small and then the researcher applied simple random sampling to select one (1) site from each stratum making a total of three (3) facilities. These were Chilenje, Mtendere, and Kabwata urban clinics. This gave chance to every facility in the stratum to have equal chance of being selected.



Simple random sampling technique was used to select the study participants. Simple random sampling was the simplest form of probability method of sample selection which gave each item in the entire population to have a chance of being included in the sample (Kothari, 2004 and Goyal, 2013). The advantage of this method was that each element of the frame thus had an equal probability of selection, however the disadvantage was, and it could be used in a large sampling frame (Polit and Beck, 2003). The pregnant women were selected from the listed sampling frame in such a way to give equal chance of being selected.

The selection was entirely objective and free from personal prejudice. The rotary method was used by giving numbers written on the slips of papers and put in a box. Then the slips were mixed carefully by shaking the box and the desired number for a particular day was being drawn. The samplings were being conducted on any days of the visit at the study sites.

According to CSO (2000), Lusaka District Health has a population of 2,155,596 and of these, 108,657 is the total expected pregnancy population in the district. The population of women in Lusaka is a mixture of the educated, uneducated, in formal employment and house wives. These therefore, gave the researcher an opportunity to interview groups of women from different backgrounds. The selected communities were also densely populated and it was easy for the researcher to locate eligible study units.

### **3.5.1.1 Inclusion criteria**

The inclusion criteria for this study was as indicated below:

- (a) Pregnant women, who were fifteen (15) years to 49 years old and consented, were included in the study because participation was by consent.
- (b) Pregnant women attending first visit antenatal services and had not yet been tested for HIV.

### **3.5.1.2 Exclusion criteria**

The following pregnant women were excluded from the study because they did not meet the inclusion criteria;

- (a) Pregnant women who were below fifteen (15) years, which is below the legal counselling age.
- (b) Pregnant women attending follow up antenatal visit and have been tested for HIV in this pregnancy.

### 3.6 SAMPLE SIZE

A sample size is the total number of subjects or objects to represent the population under study (Polit and Hungler, 2001). According to Lusaka District Health Management Office (DHMO), average baseline coverage for initial utilisation of antenatal services by pregnant women is 61% (Lusaka DHMO, 2013). The sample size was calculated using the prevalence formula.

$$N = \frac{z^2 p (1 - p)}{d^2}$$

P = Proportion of average baseline coverage for initial utilisation of antenatal services by pregnant women in Lusaka Urban Health facilities, which is 61%

Z = 1.96 = standard normal variate at 95% confidence interval level

Confidence interval = 95%

d = ± 5% = precision

$$n = \frac{1.96^2 \times 61 \times 0.39}{0.05^2} = 366$$

**n = 366**

#### 3.6.1 Number of participants per facility

According to Lusaka DHMO, (2013), Expected number of pregnant women is 5.4% of the expected total population of the facility. Number of Participants per Facility = Expected pregnant women per Facility/Total number of expected pregnant women in the three sites for the year 2014 X Sample size.

**Table 3: Expected population of pregnant women per facility for the year 2014 (Lusaka DHMO, 2014)**

No.	Health Facility	Total Population	Expected pregnancies at 5.4% of total population
1.	Chilenje First level Hospital	104,785	5,658
2.	Mtendere Urban clinic	99,234	5,359
3.	Kabwata Urban Clinic	97,371	5,258
Total Expected Population of Pregnant Women In Three Facilities			16,275

### **3.6.1.1 Chilenje First Level Hospital**

5,658/16,275 X 366 = **127** Participants

### **3.6.1.2 Mtendere Urban clinic**

5, 359/16,275 X 366 = **121** Participants

### **3.6.1.3 Kabwata Urban Clinic**

5,258/16,275 X 366 = **118** Participants

## **3.7 DATA COLLECTION TOOL**

The semi structured interview schedule was used for data collection (see appendix V). It solicited information from pregnant women on demographic profile, Knowledge on PMTCT, socio-economic factors and service related factors. In this study, a pre tested interview schedule, one in English and another translated into Nyanja was used to collect data. This was because some of the respondents might have not gone far in education while others might not be very comfortable with the local language. Data was collected over a period of two months. The tool comprised questions that were both open and closed ended. Closed ended questions allowed quick recording of responses and saved on time, however the set of answers may not have been exhaustive (Goyal, 2013). Open ended questions are type of questions that give respondents freedom to answer and the responses were recorded in the respondent's own words (Goyal, 2013). This allowed free responses and therefore information was more and valid (Polit and Hungler, 2001). The semi structured interview schedule comprised of four (4) sections: Section A consisted of questions on the respondents' socio- demographic data. Section B comprised of questions on knowledge on PMTCT and HIV, Section C comprised questions on acceptability of routine HIV testing, Section D elicited information on socio-economic factors and Section E had questions concerning service related factors.

Basavanthappa (2007) states that the shortcomings of using an interview schedule are that the presence of the interviewer may prevent the interviewee from giving precise and accurate responses if the interviewee is not verbally expressive. The advantages are that non response is generally low because the schedules are filled in by the enumerators who are able to get answers to all the questions and information can be gathered even when the respondents are illiterate (Kothari, 2004). This challenge was minimized by creating rapport with the participants, ensured uniform understanding and recording of responses.

### **3.7.1 Validity of the data collection tool**

Validity constitutes the external and internal validity. Internal validity concerns with the extent to which conclusions can be drawn about the effects of one variable on another and external validity is concerned with the extent to which research findings can be wide spread beyond the sample of research tested (Polit and Hungler, 2001). In this study, the validity of the instrument that was used is guaranteed by making questions simple, concise, to the point and brief in order to give respondents a chance to give clear and precise answers which brought out pregnant women's acceptability of routine HIV testing. To ensure validity, extensive literature review was conducted on recent literature on acceptability towards routine HIV testing among pregnant women in PMTCT. The research supervisor and a statistician were involved in the formulation of the research instrument.

### **3.7.2 Reliability of the data collection tool**

To ensure reliability, a variety of open ended questions were used in the interview schedule to allow for spontaneous responses that gave more valid answers. All questions were asked to each participant in the same sequence, with probes and prompted at the same points. A pilot study was carried out to check whether the instruments were able to bring out consistent information about pregnant women's acceptability on routine HIV testing and to identify vagueness of the questions and problems with understanding of the questions. Adjustment to the data collection tool was then made after identifying the need to edit the phrasing of the questions and adding some questions to the tool after the result of the pilot study.

### **3.8 DATA COLLECTION TECHNIQUES**

The data collection technique that was used in this study was individual face to face interviews using an interview schedule, translated verbally into Nyanja and another one in English. Privacy was provided by use of the Clinic in-charge's office and confidentiality was observed by making sure that information was not released to anyone not involved in the research. Each study participant was interviewed in a private place for 20 to 30 minutes. Six (6) or eight (8) interviews were conducted per day to leave time for sorting out and checking for completeness of questionnaires before participants left the MCH. Self-introduction was made by the researcher to each participant before starting each interview to create rapport and make participants relax. The objectives of the study were carefully and truthfully explained to each participant and reassuring them of confidentiality. The interviewer was expected to follow instructions on interview schedule to standardize the interview technique. Questions were expected to be asked the way they were written, without influencing the answers. Questions not understood were merely repeated without paraphrasing them or indicating the direction of the answer. The researcher ensured respondents' comfort at all times by considering their priorities, or where not possible, explaining to them. Patience was exercised and respondents were given adequate time to think through the question and respond. Respondents were politely asked to repeat answers not understood by the interviewers. All responses were recorded right away to avoid missing any of them. At the end of each interview, respondents were given time to ask questions, which were answered accordingly. Respondents were thanked at the end of each interview.

### **3.9 PILOT STUDY**

The purpose of the pilot study was to detect errors and flaws in the instrument for gathering information such as ambiguity and illogically sequenced questions and make revisions to strengthen the methodology (Basavanthappa, 2007). The pilot study was also used to assess how valid and reliable the data collection tool was to be. This was to help determine how possible it could be to analyse the data collected and enabled necessary adjustments to the data collecting instrument before the main study was carried out (Polit and Hungler, 2001). Pre testing of the data collection tools was conducted on a sample of people that have similar characteristics as the actual study sample.

A pilot study was conducted at Ngombe Urban Clinic located 30km south-east of Lusaka. It is a government run Medium urban clinic with a catchment population of 50,733 (Lusaka DHMO, 2013). The health centre provides both curative and preventive services, including MCH services. The sites were stratified into separate strata according to the category of the facility whether Big, Medium and small and then the researcher applied simple random sampling to select one (1) site from the medium category stratum. The medium category was selected for conducting the pilot study because it has similar characteristics to the study populations in both small and big categories that will be included in the main study. For example, the medium category has a lesser population as in small categories but offers services that can be found in big categories like 24 hour maternal health delivery service, therefore representing both small and big category urban clinics. The sample for the pilot study comprised of 10% of the study sample, which was 37 respondents. The pilot study helped to identify weaknesses in the data collection tools. After the pilot study, adjustments were made to the data collection tool such as editing of the phrasing of questions.

### **3.10 ETHICAL CONSIDERATION**

When humans are used as research participants, great care is exercised to ensure that their rights are protected. Ethical approval to conduct the study was sought from the Excellence in Research Ethics and Science Coverage (ERESC). Written permission to conduct the study was obtained from the Provincial Medical Office, Lusaka District Health Management Office and sisters in Charges of the various health centres where the study was conducted (see appendix IX).

Permission was sought from participants and the purpose of the study was explained and written consent was obtained from each respondent before the interview. The researcher reassured the respondents of confidentiality that this information was not to be shared with anyone including their spouses or family members since participants were pregnant women and the subject matter included HIV which is a sensitive subject. Hence participants could provide less detailed information. The respondents' opinions were respected and no one was forced to be part of the study. Those that did not consent to participate in the study were reassured that they would suffer no consequences as a result of not participating. Those who consented were asked to put their right thumb print or sign the consent form, which was explained fully to them. The respondents were not be remunerated in any way.

Study participants were told that they were free to withdraw from the study at any time without suffering any consequences. Interviews and discussions were conducted in privacy that was offered by the participants and staff at Maternal and Child Health department. The anonymity and serial numbers were used on the interview schedules instead of writing their names. After data collection, the interview schedules were kept under lock and key. No one, apart from the principal researcher was allowed access to the collected data. Participants were not subjected to any physical harm, as the study was not involved in invasive procedures.

## **CHAPTER FOUR**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 INTRODUCTION**

This chapter provides information on data processing and analysis. It presents a summary of the analysed data from the study. Data was collected using a semi structured interview schedule. A total of 366 respondents were interviewed and there was a 100% response rate.

#### **4.2 DATA PROCESSING AND ANALYSIS**

Following data collection, categorization was done where the semi structured interview schedules were sorted out and edited for internal consistency, completeness, legibility and accuracy. Closed ended questions were assigned numerical codes for easy entry and analysis using the computer. Open ended questions were analysed by reading through the data in its entirety to identify and group answers that belong together.

Following data categorization, the investigator assigned numerical codes (1, 2, 3, 4 and others). The codes were then entered and analysed using SPSS software computer package. Chi-square was used to test association between variables and the outcome, (Acceptability of routine HIV testing by ante natal women). The variables were knowledge of HIV and PMTCT, educational level, fear of spouse, information, education and communication, and stigma. The cut off point for statistical significance was set at 5%, P-values of 0.05 or less were considered statistically significant thereby rejecting the null hypothesis.

#### **4.3 DATA PRESENTATION**

The findings have been presented according to the layout of questions and sections of the interview scheduled. Some were grouped together to give an overall picture. The findings have been presented in different forms such as tables, pie charts, bar graphs and cross tabulations. The tables are suitable because they summarize findings in meaningful way thus giving easy understanding. The pie and bar charts provide a variety of ways in which to present data which helps to avoid monotony of narrative presentations. Cross tabulations are helpful in showing relationships between variables.



Section A consist of table 4, representing the demographic characteristic of the respondents, the tables, pie charts and bar charts in section B represent respondents' knowledge on HIV and PMTCT, section C Acceptability of routine HIV testing, Section D socio cultural factors and E service related factors. The cross tabulations in section F represent the relationship between variables.

#### **4.3.1 SECTION A: DEMOGRAPHIC DATA OF THE RESPONDENTS**

Section A presents the respondents' socio-demographic data which includes age, marital status, and religious denomination, level of education, occupation and monthly income.

**Table 4: Demographic data (n=366)**

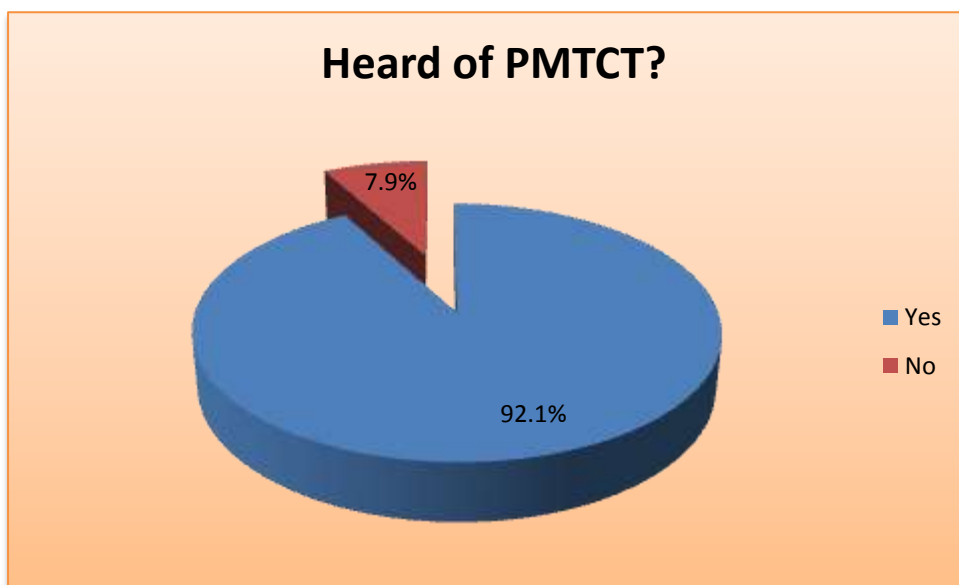
Variable		Frequency	Percent
Age	15 - 25 years	143	39.1
	26 - 36 years	178	48.6
	37 - 49 years	45	12.3
	Total	366	100.0
Marital Status	Single	88	24.0
	Married	257	70.2
	Separated	11	3.0
	Divorced	4	1.1
	Widowed	6	1.6
	Total	366	100.0
Religious Denomination	Pentecostal	142	38.8
	Seventh Day Adventist	59	16.1
	Catholic	82	22.4
	Jehovah's Witness	21	5.7
	U.C.Z	24	6.6
	OTHER	38	10.4
	Total	366	100.0
Level of Education	None	7	1.9
	Primary School	121	33.1
	Secondary School	176	48.1
	College	45	12.3
	University	17	4.6
	Total	366	100.0
Occupation	House Wife	94	25.7
	Self Employed	116	31.7
	Formal Employment	64	17.5
	Unemployed	92	25.1
	Total	366	100.0
Monthly Income	None	179	48.9
	Below K500	57	15.6
	K500 - K1000	49	13.4
	K1,001 - K1,500	25	6.8
	Above K1,500	56	15.3
	Total	366	100.0

Table 4, shows the social demographic characteristics of respondents which included age, marital status, and religious denomination, level of education, occupation and monthly income. The majority 178(48.6%) of respondents interviewed were between 26 and 36 years, 143 (39.1%) were in the 15 – 25 years category while 145 (12.3%) were in the 37 – 49 years age category. The mean age of the respondents being  $\bar{x} = 28.18$  and SD was 7.55. On marital status, the majority of the respondents 257 (70.2%) were married, the single were 88 (24%) while the least 6 (1.1%) were divorced.

Most 176 (48.1%) of these respondents had secondary education, with 121 (33.1) having primary education, while college had 45(12.3%) and the least 17 (4.6%) having acquired university education. In terms of occupation, the majority 116 (31.7%) were self-employed, 94 (25.7%) were house wives, 92 (25.1%) unemployed and 64 (17.5%) having a formal employment. Most 179 (48.9%) of the respondents had no income of their own, followed by 57 (15.6%) with an income of below K500 and only 15.4% reported to have an income of above K1, 500.00. The majority 362 (98%) of the respondents were Christians with 2 (0.55%) being Moslems and the Pentecost group made up the majority 142 (38.8%) of the respondents as compared to other denominations.

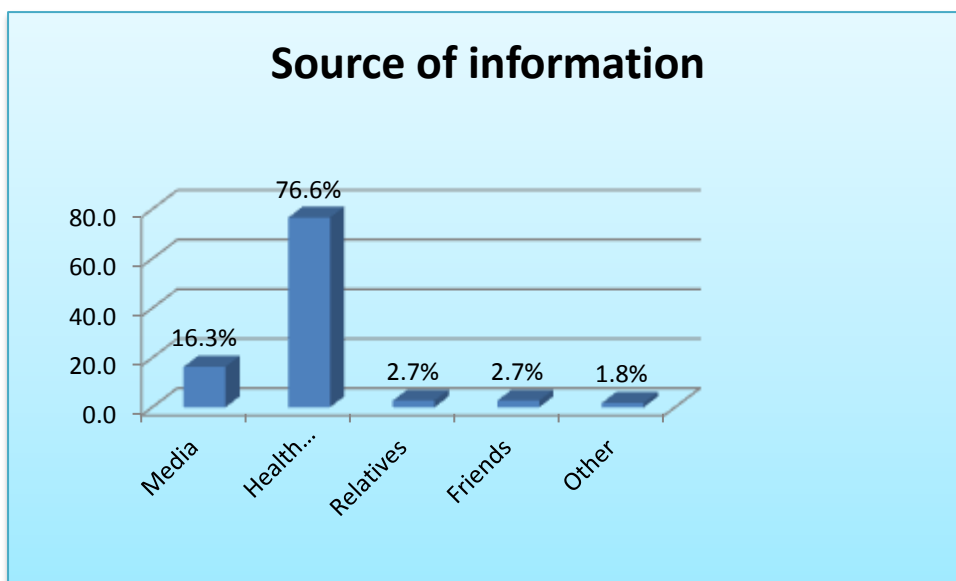
#### 4.3.2 SECTION B: KNOWLEDGE OF PMTCT

This section presents data on the respondents' knowledge levels on PMTCT. the information presented include whether the respondents have heard of PMTCT, source of information on PMTCT, possibility of MTCT of HIV, methods of mother to child transmission of HIV and importance of testing for HIV in pregnancy.



**Figure 2: Those who have heard of PMTCT (n=366)**

Majority 337 (92.1%) of the respondents reported having heard of PMTCT while 29 (7.9%) reported not having heard of it.



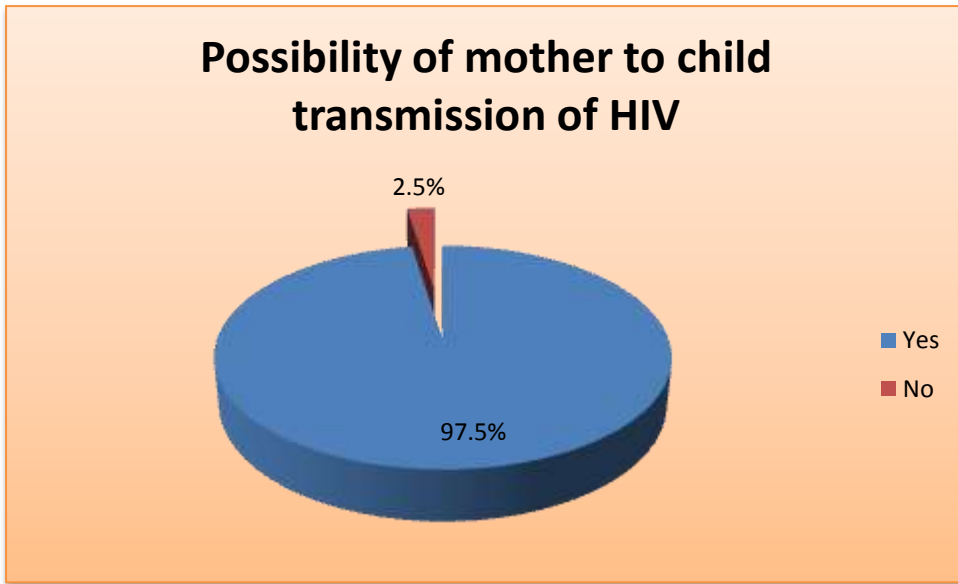
**Figure 3: Source of information on PMTCT (n=337)**

Of those who reported having heard of PMTCT, 258 (76.6%) of the respondents said they had heard of it from health personnel. 55 (16.3%) reported Media as their source of information; while an equal number of respondents 9 (2.7%) reported Relatives and Friends as their source of information respectively. The other sources of information on PMTCT cited by respondents were Church, Community, NGOs and School.

**Table 5: Definition of HIV (n= 366)**

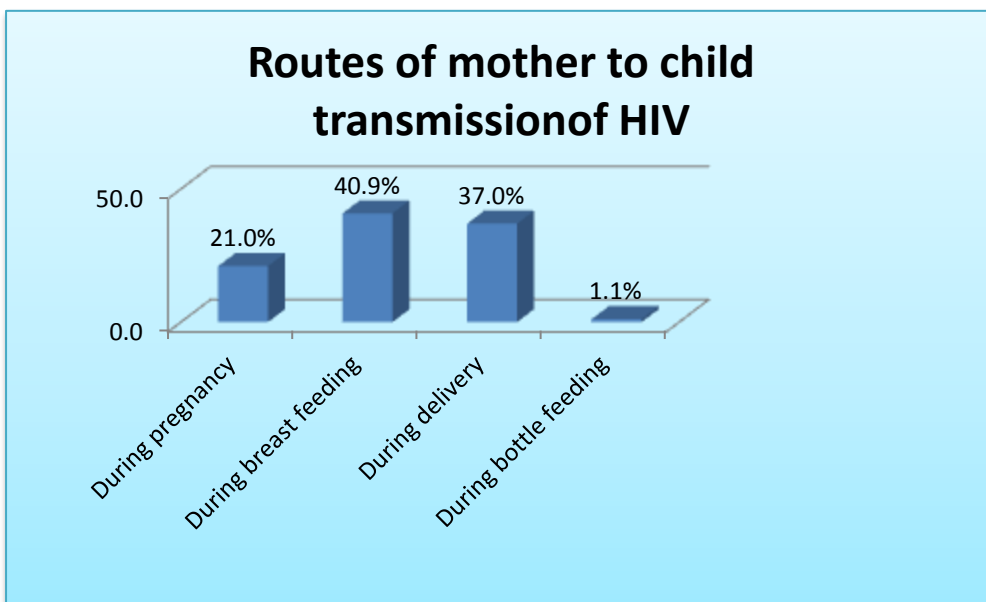
DEFINITION OF HIV	FREQUENCY	PER CENT
It is a disease	85	23.2
It is a virus that causes AIDS	272	74.3
I don't know	9	2.5
TOTAL	366	100

Table 5 shows respondents definition of HIV according to their own understanding. The majority (74.3%) of the respondents said it was a virus 23.2% said it was a disease and 2.5% did not know the correct definition.



**Figure4: Possibility of mother to child transmission of HIV (n= 366)**

Figure 4 shows respondents responses on the possibility of an HIV infected woman to transmit the virus to her baby, 357 (97.5%) thought it was possible while 9(2.5%) thought it was not.



**Figure 5:Routes of mother to child transmission of HIV (n= 357)**

Of the respondents who thought it was possible for an HIV infected woman to transmit the virus to the baby, 146 (40.9%) said the HIV virus can be transmitted during breastfeeding. 132 (37%) of the respondents said the transmission could occur during delivery while 75 (21%) said it could happen during pregnancy and 4 (1.1%) of the respondents said the transmission could occur during bottle feeding (Figure 5).

**Table 6: Knowledge Level (n=366)**

KNOWLEDGE LEVEL	FREQUENCY	PER CENT
HIGH	357	97.5
MODERATE	9	2.9
LOW	0	0
TOTAL	366	100

With regard to knowledge level, 357 (97.5%) of the respondents, had high knowledge levels as compared to only, 9(2.5%) who displayed moderate knowledge. There were none under low knowledge level (Table 6).

#### **4.3.3 SECTION C: ACCEPTABILITY OF ROUTINE HIV TESTING IN PREGNANCY**

In section C data on acceptability of routine HIV testing is presented. The questions presented included, Meaning of routine HIV testing, the importance of routine HIV testing in pregnancy, knowledge of one’s HIV status, willingness to be tested for HIV and acceptability of routine HIV testing.



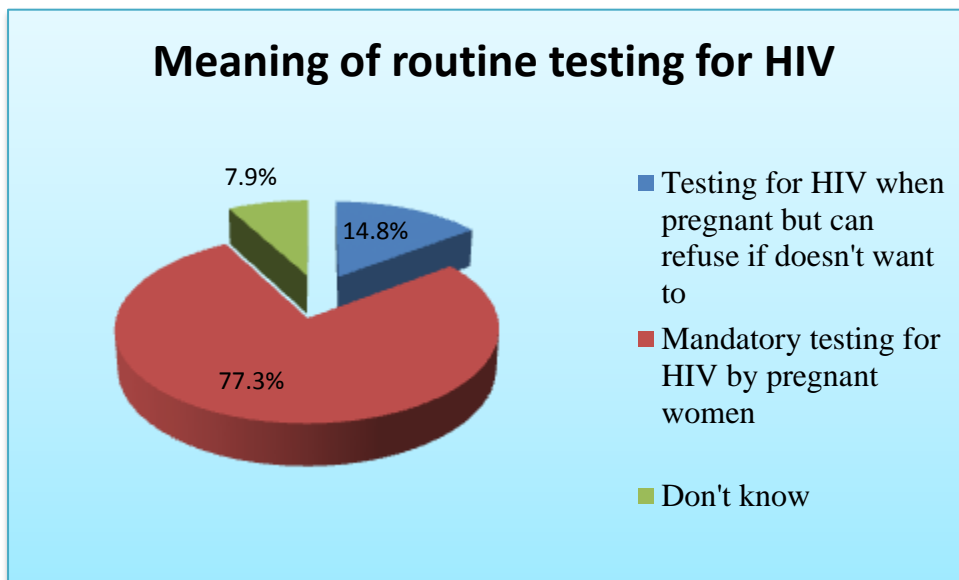
**Figure 6: Important to test for HIV in pregnancy (n=366)**

Figure 6 shows the respondents responses on the importance of testing for HIV in pregnancy, 363 (99.2%) thought it was important to test while 3 (0.8%) did not think it was important.

**Table 7: On benefits of HIV testing in pregnant women (n = 366)**

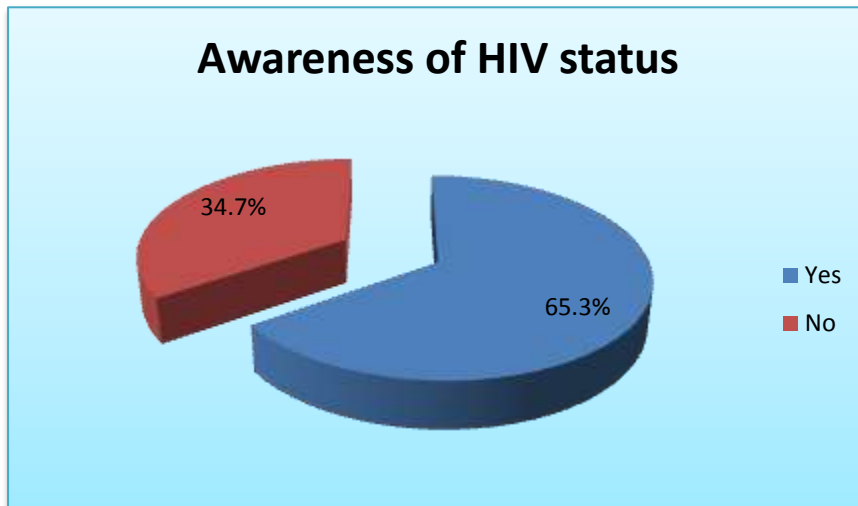
BENEFITS	FREQUENCY	PER CENT
Medication is given to those that are HIV positive to prevent transmission of the virus	41	9.9%
Women who are HIV negative are educated on how they can reduce the risk of acquiring the virus.	43	10.3%
I don't know	3	0.7%
To protect the baby from acquiring the virus	329	79.1%
<b>Total</b>	<b>366</b>	<b>100%</b>

In the table 7, 329 (79.1%) of the total respondents mentioned protecting the baby from acquiring the virus as a benefit of HIV testing in pregnant women, 41 (9.9%) mentioned medication being given to positive women to prevent virus transmission, 43 (10.3%) mentioned education of negative women on how to reduce the risk of acquiring the virus as a benefit, while 3 (0.7%) of the total responses, said they did not know the benefits of HIV testing in pregnant women.



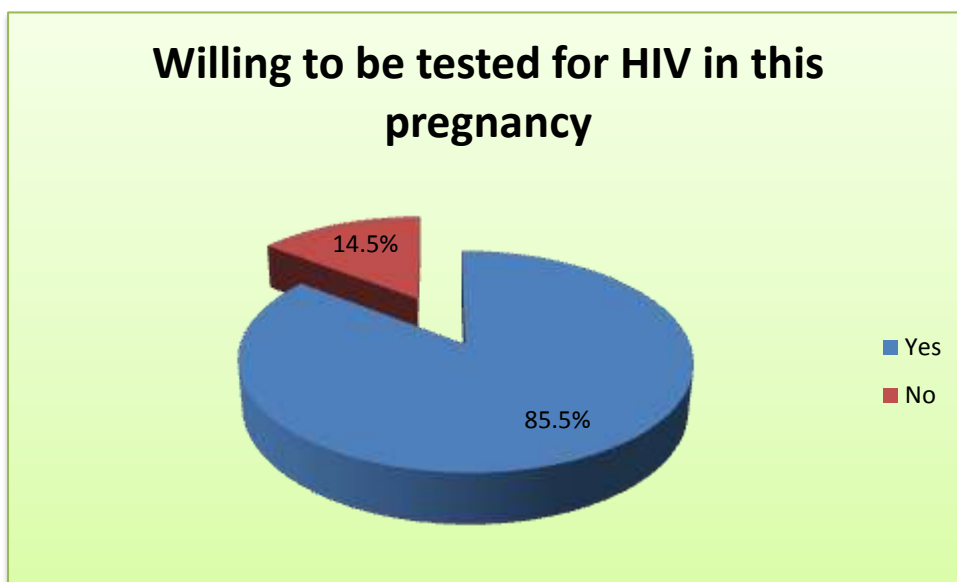
**Figure 7: Meaning of routine testing for HIV (n=366)**

With regards to meaning of routine HIV testing, most 283(77.3%) respondents said it means mandatory testing for HIV by pregnant women, while 54 (14.8%) said it means testing for HIV when pregnant but one can refuse if one doesn't want to. The rest 29 (7.9%) of the respondents did not know the meaning (Figure 7).



**Figure 8: Awareness of HIV status (n=366)**

Most 239(65.3%) of the respondents reported knowing their HIV status while 3 (34.7%) reported not knowing their status.



**Figure 9: Willing to be tested for HIV in this pregnancy (n = 366)**

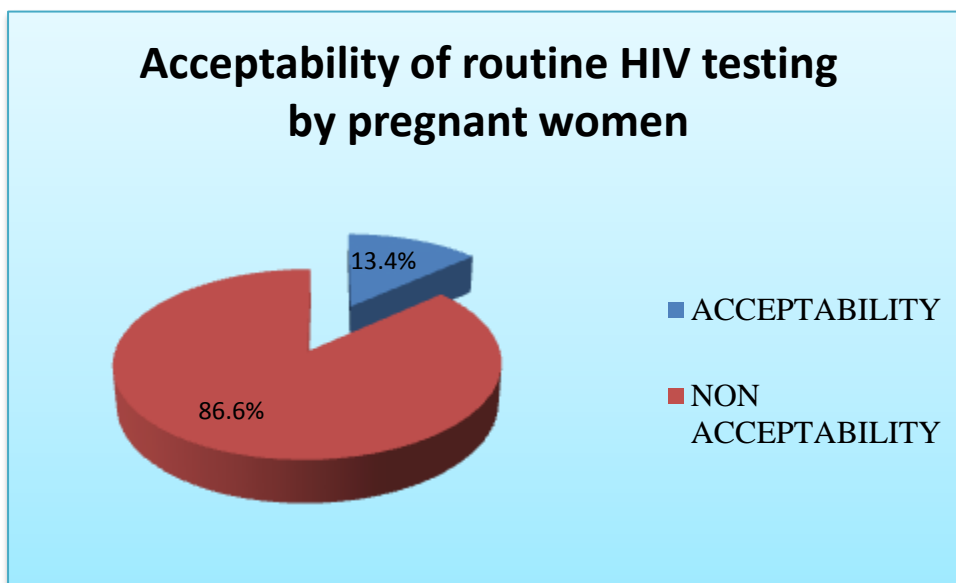


As indicated in figure 9 the respondents were asked on whether they would like to be tested for HIV in their pregnancy, 313 (85.5%) responded in the affirmative while 53 (14.5%) said they wouldn't like to be tested.

**Table 8: Reasons for declining to do the HIV test in current pregnancy (n = 53)**

REASONS FOR DECLINING	FREQUENCY	PERCENT
Want To Come and test with husband	13	24.5
Not ready to do the test	32	60.4
Already HIV positive	8	15.1
<b>TOTAL</b>	<b>53</b>	<b>100</b>

In this study, the respondents were asked to state the reasons for declining the HIV test, 24.5% of the women said they wanted to test together with their husbands, 60.4% said they were not ready to do the test, and 15.1% said they were already positive and on ART.



**Figure10: showing acceptability of routine HIV testing (n=366)**

Figure 10 shows the overall picture of acceptability of routine HIV testing. Of the total number of respondents, 317 (86.6%) of the respondents indicated non acceptability of routine HIV testing in pregnancy and 13.4% (49) indicated acceptability.

#### **4.3.4 SECTION D: SOCIO ECONOMIC FACTORS LIKELY TO INFLUENCE ACCEPTABILITY FOR ROUTINE HIV TESTING**

In section D data on socio economic factors is presented. The variables presented included stigma and fear of spouse. The following questions were asked; whether important to go with spouse for HIV testing, whether they would disclose a positive HIV test result to the spouses, Perceived reaction of spouse to positive HIV test, whether would receive social support after testing HIV positive, sources of social support if found HIV positive, experience discrimination after testing positive for HIV.

**TABLE 9: Socio economic factors likely to influence acceptability of routine HIV testing (n=366)**

SOCIAL ECONOMIC FACTORS	FREQUENCY	PER CENT
Important to go with spouse		
<b>YES</b>	361	98.6
<b>NO</b>	5	1.4
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Disclosure of positive result to spouse		
<b>YES</b>	229	62.6
<b>NO</b>	137	37.4
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Perceived reaction to positive result		
<b>Accepted and understanding</b>	137	37.4
<b>Angry at wife</b>	168	45.9
<b>Physical violence towards wife</b>	14	3.8
<b>Threatened divorce</b>	47	12.8
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Fear of spouse		
<b>YES</b>	233	63.7
<b>NO</b>	133	36.3
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Receive socio support after testing positive		
<b>YES</b>	329	89.9
<b>NO</b>	37	11.1
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Sources of socio support if HIV positive		
<b>Family</b>	212	64.4
<b>Friends</b>	19	5.8
<b>Church</b>	57	17.3
<b>Spouse</b>	41	12.5
<b>TOTAL</b>	<b>329</b>	<b>100</b>
Experience stigma if HIV positive		
<b>YES</b>	232	63.4
<b>NO</b>	134	36.6
<b>TOTAL</b>	<b>366</b>	<b>100</b>
Forms of discriminations HIV positive women face		
<b>Face marital problems</b>	63	27.2
<b>Regarded as a burden by family especially if not financially independent</b>	54	23.3
<b>Discriminated by community</b>	115	49.6
<b>TOTAL</b>	<b>232</b>	<b>100</b>

The respondents were asked to state whether it was important to go for HIV testing with a spouse, 361 (98.6%) thought it was important and 5 (1.4%) did not think it was important (Table 9).

On the issue of disclosure of HIV status to the spouse if tested positive, most respondents 229 (62.6%) said they would disclose the status and 137 (37.4%) said they would not disclose (Table 9).

With regards to the reaction of the spouse to HIV positive results, 168 (45.9%) of the respondents said their spouses would be angry at them. 137 (37.4%) said they would be accepted and understood while 47 (12.8%) said they would be threatened with divorce. 14 (3.8%) of the respondents said they would suffer physical violence from their spouses (Table 9)

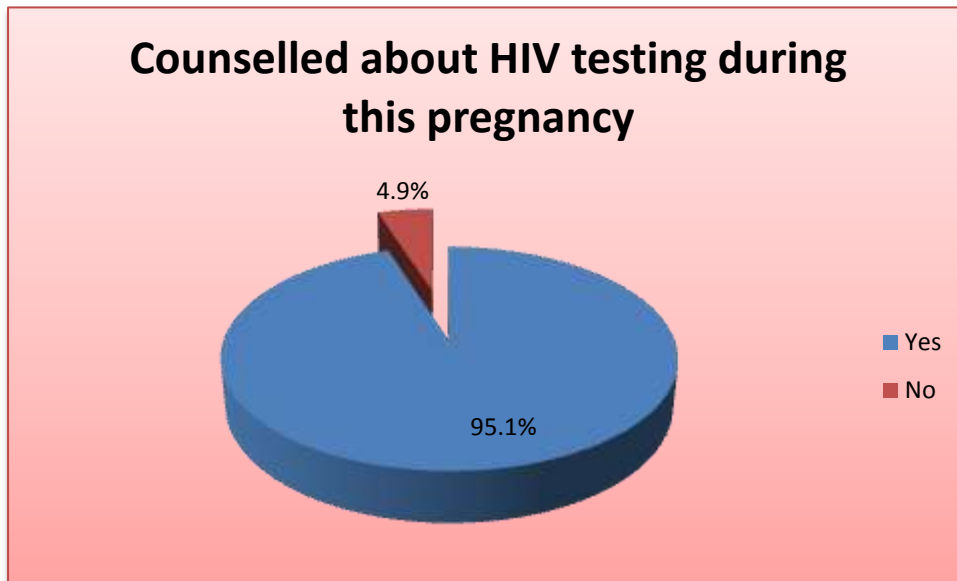
Concerning fear of spouse, out of the total respondents, 233 (63.7%) of respondents cited fear of spouse to disclose a positive result as compared to 133(36.3%) of those had no fear of spouse.

On whether they would receive any social support after testing positive for HIV during pregnancy, 329 (89.9%) said they would receive social support while 10.1(11.1%) said they wouldn't receive any support. Of the respondents who said they would receive social support if they tested positive to HIV during pregnancy, 64.4% (212) said they would receive the support from their families, 5.8% (19) said they would receive it from friends, 57 (17.3%) from Church and 41 (12.5%) from their spouses.

On whether they would experience any form of discrimination after testing positive for HIV, most respondents 232 (63.4%) thought women do experience discrimination while 134 (36.6%) did not think so.

The respondents were asked to state the type of discrimination HIV positive women faced after testing positive, 63 (27.2%) said women face marital problems, 54 (23.3%) said positive women are regarded as burdens by their families especially if they are not financially independent, and 115 (49.6%) said positive women are discriminated by the community.

**4.3.5 SECTION E: SERVICE RELATED FACTORS LIKELY TO INFLUENCE ACCEPTABILITY FOR ROUTINE HIV TESTING**



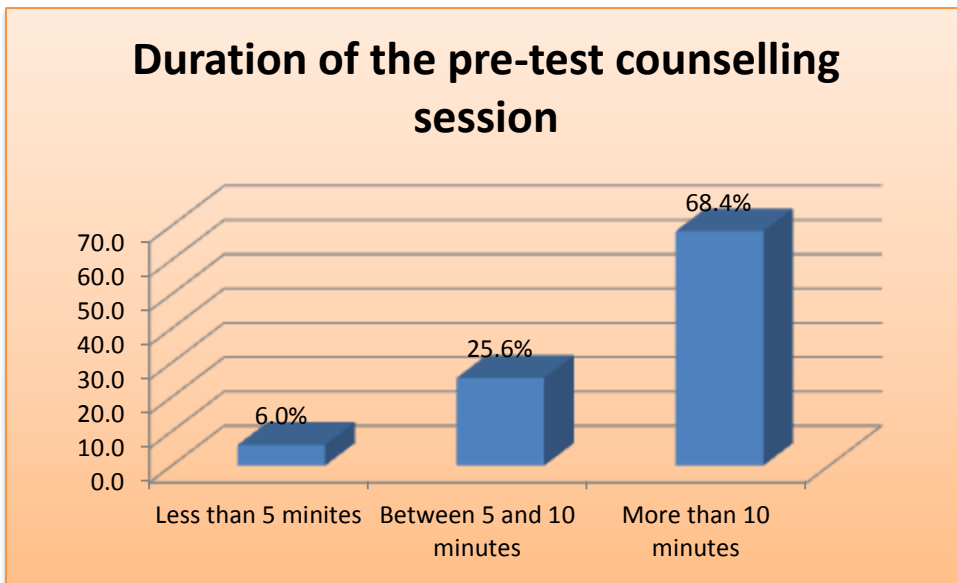
**Figure 11: Counselled about HIV in this pregnancy (n=366)**

As indicated in figure 15, 348 (95.1%) of the respondents reported having been counselled on HIV during the current pregnancy while 18 (4.9%) reported not having been counselled.

**Table 10: Number of times counselled (n=348)**

<b>COUNSELLED</b>	<b>FREQUENCY</b>	<b>PER CENT</b>
ONCE	230	66.1
TWICE	74	21.3
MORE THAN TWICE	44	12.6
<b>TOTAL</b>	<b>348</b>	<b>100</b>

Table 10 shows the number of times the respondents were counselled during the current pregnancy, 66.1 % said they were counselled once, 21.3% said they were counselled twice while 12.6% said they were counselled more than two times.



**Figure 12: Duration of the counselling session (n=348)**

On the duration of the pre-test counselling for respondents who reported having been counselled, 238 (68.4%) reported having been counselled for more than 10 minutes. 89 (25.6%) reported being counselled for between 5 and 10 minutes and 21(6%) of the respondents reported receiving counselling for less than 5 minutes (Figure 12).



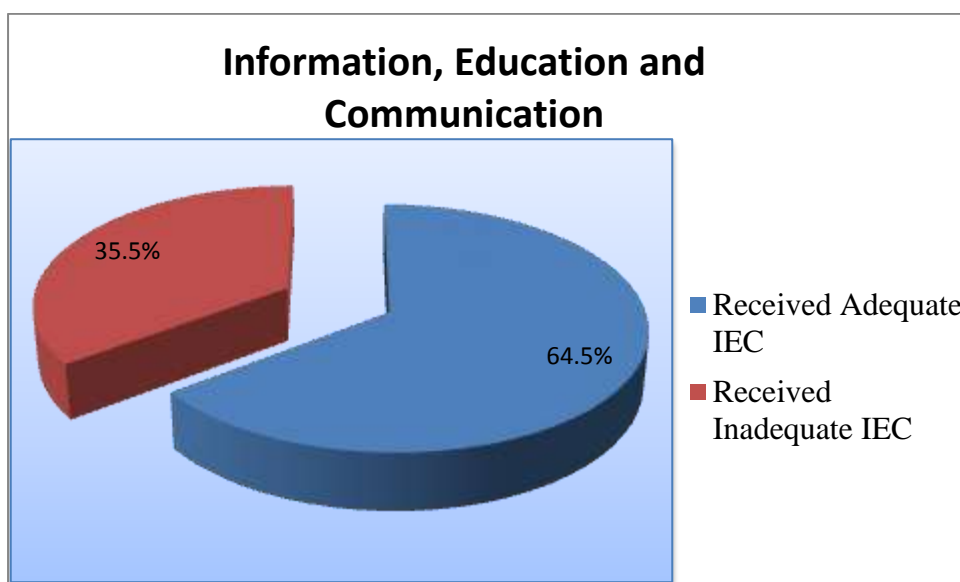
**Figure 13: Satisfaction with type of counselling (n=348)**

As shown in figure 11, the majority 236 (67.8%) said they were satisfied and 112 (32.2%) reported not having been satisfied.

**Table 11: Reasons for not being satisfied with counselling provided by Health Providers (n = 112)**

REASONS	FREQUENCY	PER CENT
Being disturbed to do other routine exams during the group counselling	55	49.6
Too much information given within a short time	57	50.4
<b>TOTAL</b>	<b>112</b>	<b>100</b>

Of the respondents who were not satisfied with the counselling services offered at the health centre, 55 (49.6%) gave a reason that they were disturbed by other routine examinations carried out during group counselling and 57 (50.4%) said there was too much information given within a short time (Table 11).



**Figure14: Information, Education and Communication (IEC) (n=348)**

Figure14 shows the respondents responses on whether they received adequate information, education and communication. Most 236 (64.5%) of the respondents reported to have had adequate IEC and 130 (35.5%) reported not having received adequate IEC.

#### **4.4 ASSOCIATION BETWEEN ACCEPTABILITY OF ROUTINE HIV TESTING AND INDEPENDENT VARIABLES**

This section provides information on the influence of the different variables on acceptability of routine HIV testing. The variables included educational level, Knowledge of HIV and PMTCT, Fear of spouse, stigma and information education and communication. Chi-square test was employed to determine factors influencing acceptability of routine testing for HIV in antenatal women. The variables that were found to be significantly influencing acceptability of routine testing for HIV included the level of education, income, occupation, fear of spouse, stigma and information education and communication. Knowledge on HIV and PMTCT, marital status and age did not show any statistical significant relationship with acceptability of routine HIV testing.



**TABLE 12: Showing associations between acceptability of routine HIV testing and Social Demographics (n=366)**

Variable		Acceptability	Non- Acceptability	Total	P value
Age	15 - 25 years	16 (11.2%)	127 (88%)	143	<b>0.61</b>
	26 - 36 years	22 (12.4%)	156 (87.6%)	178	
	37 - 49 years	11 (24.4%)	34 (75.6%)	45	
	<b>TOTAL</b>	<b>49</b>	<b>317</b>	<b>366</b>	
Marital Status	Single	11 (12.5%)	77 (87.5%)	88	<b>0.674</b>
	Married	35 (13.6%)	222 (86.4%)	257	
	Separated	1 (9.1%)	10 (90.9%)	11	
	Divorced	1 (25%)	3 (75%)	4	
	Widowed	1 (16.7%)	5 (83.3%)	6	
	<b>TOTAL</b>	<b>49</b>	<b>317</b>	<b>366</b>	
Level of Education	None	0 (0.0%)	7 (2.2%)	7	<b>0.00</b>
	Primary	2 (4.1%)	119 (37.5%)	121	
	Secondary	22 (44.9%)	154 (48.6%)	176	
	Tertiary	25 (51%)	37 (11.7%)	62	
	<b>TOTAL</b>	<b>49</b>	<b>317</b>	<b>366</b>	
Occupation	House Wife	5 (5.3%)	89 (94.7%)	94	<b>0.036</b>
	Self Employed	13 (11.2%)	103 (88.8%)	116	
	Formal Employment	21 (32.8%)	43 (67.2%)	64	
	Unemployed	10 (10.9%)	82 (89.1%)	92	
	<b>TOTAL</b>	<b>49</b>	<b>317</b>	<b>366</b>	
Monthly Income	None	14 (7.8%)	165 (92.2%)		<b>0.002</b>
	Below K500	10 (17.5%)	47 (82.5%)		
	K500 - K1000	5 (10.2%)	44 (89.8%)		
	K1,001 - K1,500	9 (36%)	16 (64%)		
	Above K1,500	11 (19.6%)	45 (80.4%)		
	<b>TOTAL</b>	<b>49</b>	<b>317</b>	<b>366</b>	

From table 12, it was observed that acceptability of HIV routine testing increased with age and consequently, non-acceptability decreased with age. In those between 15 and 25 years of age, Non acceptability stood at 88.8% and acceptability at 11.2%. In respondents aged between 26 and 36 years, non- acceptability decreased to 87.6%, while acceptability increased to 12.4%. In those between 37 and 49 years, non- acceptability decreased to 75.6% while acceptability increased to 24.4%. However, the chi-square results revealed that there was no significant relationship between the age of the women and their acceptability of routine HIV testing ( $X^2 = 5.503$ ,  $N=366$ ,  $p = 0.61$ ).

Concerning marital status of the respondents and acceptability of routine HIV testing, there were high levels of non-acceptability of routine HIV testing among all the segments, the majority being separated (90%) and the fewest (75%) being divorced. Chi-square results did not show any statistical significant relationship between Marital status and acceptability ( $X^2 = 0.768$ ,  $N=366$ ,  $p = 0.674$ ).

Regarding, the respondents' education levels (table 22), it was observed that 51% of the respondents had tertiary education levels, 44.9% had secondary, 4.1% had primary and 0% had none in the group that indicated acceptability,. Of the respondents that indicated non acceptability of routine HIV testing, 11.7% had tertiary education, 48.6% had secondary, 37.5% had primary education, and 2.2% had none. The chi-square test result shows a significant relationship with the p-value of 0.000 ( $X^2 = 54.362$ ,  $N=366$ ,  $p < 0.000$ ).

In table 12, the findings showed that acceptability of routine HIV testing increased as we move from house wives going to the unemployed, self- employed and finally the formally employed. In house wives, acceptability was recorded at 5.3% and non- acceptability at 94.7%. In the unemployed, acceptability increased to 10.9% while non- acceptability dropped to 89.1%. In respondents who were self- employed, acceptability increased to 11.2% while non- acceptability dropped to 88.8%. In the Formally Employed group, acceptability increased to 32.8% while non- acceptability of routine HIV testing decreased to 67.2%. The chi-square test showed a significant relationship between the dependant variable and occupation ( $X^2 = 27.082$ ,  $N=366$ ,  $p = 0.036$ ).

Concerning the relationship between the respondents' monthly income and acceptability of routine HIV testing (Table 12); it was observed that acceptability of routine HIV testing levels fluctuated with changes in monthly income.

In those whose monthly income was none, acceptability stood at 7.8%. In those earning below K500, acceptability of routine HIV testing increased to 17.5%.

This pattern reversed in those earning between K500 and K1, 000 where acceptability of routine HIV testing dropped to 10.2%. In respondents earning between K1, 001 and K1, 500, acceptability of routine HIV testing shot up to 36.0%. Again the pattern was reversed in those earning above K1, 500 where acceptability of routine HIV testing dropped to 19.6%. Hence it was concluded that there is an association between the women’s monthly income and their acceptability of routine HIV testing ( $X^2 = 18.974$ ,  $N=366$ ,  $p = 0.02$ ).

**Table 13: Associations between acceptability of routine HIV Testing and Knowledge Levels (n=366)**

Acceptability	Knowledge Level			Total	P - Value
	High	Moderate	Low		
<b>Acceptability</b>	(98%) 48	1 (2%)	0	49	<b>0.765</b>
<b>Non Acceptability</b>	(97.5%) 309	8 (2.5%)	0	317	
<b>Total</b>	357		9	366	

Table 13 shows that among the respondents that indicated acceptability of routine HIV testing, 98% had high knowledge levels while 2% had moderate knowledge with no one falling under low knowledge levels. In the group that indicated non acceptability of routine HIV testing, 97.5% had high knowledge levels while 2.5% had moderate knowledge. The pattern that emerges is that in both groups, knowledge levels were very high.

Hence the researcher fail to reject the null hypothesis and conclude that there was no sufficient evidence to prove that there is an association between acceptability of routine HIV testing and knowledge levels on PMTCT and benefits of HIV testing in pregnancy ( $X^2 = 0.041$ ,  $N=366$ ,  $p > 0.765$ )

**Table 14: Associations between acceptability of routine HIV testing and Fear of Spouse (n =366)**

Acceptability	Fear of Spouse		Total	P- Value
	YES	NO		
<b>Acceptability</b>	(40.8%) 20	(59.2%) 29	49	<b>0.000</b>
<b>Non Acceptability</b>	(67.2%) 217	(32.8%) 104	317	
<b>Total</b>	237	133	366	

Table 14 shows associations between acceptability of routine HIV testing and fear of spouse. Of the respondents who indicated acceptability of routine HIV testing, 40.8% reported having fear of spouse while 59.2% had no fear of spouse. This trend is reversed in the respondents who indicated non acceptability, where 67.2% had fear of spouse while 32.8% had not.

A significant correlation between acceptability of routine HIV testing and fear of spouse was observed and a p value of less than 0.05. Hence the researcher reject the null hypothesis and conclude that there is a relationship between acceptability and fear of spouse ( $X^2 = 12.763$ ,  $N=366$ ,  $p < 0.00$ ),

**Table 15: Associations between acceptability of routine HIV testing and Stigma (n=366)**

Acceptability	Stigma		Total	P- Value
	Yes	No		
<b>Acceptability</b>	(49%) 24	(51%) 25	49	<b>0.025</b>
<b>Non Acceptability</b>	65.6% (208)	(34.4%) 109	317	
<b>Total</b>	232	134	366	

Table 15 shows the association between acceptability of routine HIV testing and Stigma. Of the respondents that indicated acceptability of routine HIV testing 49% thought pregnant women experience stigma if HIV positive while 51% did not think so whereas in those that indicated non acceptability of routine HIV testing, 65.6% thought women experienced stigma while 34.4% did not think so. Therefore it is concluded that there is a significant relationship with a p value of 0.025. ( $X^2 = 5.061$ ,  $n=366$ ,  $p < 0.025$ ).

**Table 16: Associations between acceptability of routine HIV testing and Information, Education and Communication (IEC) (n=366)**

Acceptability	IEC		Total	P- Value
	Have Adequate IEC	Have Inadequate IEC		
<b>Acceptability</b>	(81.6%) 40	(18.4%) 9	49	<b>0.007</b>
<b>Non Acceptability</b>	(61.8%) 196	(38.2%) 121	317	
<b>Total</b>	236	130	366	

In table 16, it was observed that in the respondents that indicated acceptability of routine HIV testing, 81.6% had adequate IEC while 18.4% had inadequate IEC.

In the respondents that indicated non acceptability of routine HIV testing, 61.8% had adequate IEC while 38.2% had inadequate IEC. Hence the researcher reject the null hypothesis and conclude that there is an association between acceptability of routine HIV testing and IEC ( $X^2 = 7.267$ ,  $n=366$ ,  $p < 0.007$ ).

#### 4.5 BINARY LOGISTIC REGRESSION DETERMINING THE DEMOGRAPHIC, SOCIO ECONOMIC AND SERVICE RELATED FACTORS ASSOCIATED WITH ACCEPTABILITY OF ROUTINE HIV TESTING

Binary logistic regression analysis was used to determine the true predictors of acceptability of Routine HIV testing as well as to control for confounding factors. All the variables that were significant after being tested with chi-square were entered and analysed. The results of the univariate logistic regression revealed that occupation, income, maternal education fear of spouse, stigma and IEC were associated with acceptability of routine HIV testing as shown in table 17.

**Table 17: Binary Logistic Regression Analysis model determining acceptability of routine HIV testing by pregnant women**

Independent variable	Odds Ratio	Confidence interval (95%)	P-value
<b>Occupation</b>			
<b>House wife</b>	0.461	0.151 -1.404	0.173
<b>Self employed</b>	1.035	0.432 – 2.480	0.939
<b>Formally employed</b>	4.005	1.731 – 9.263	<b>0.001</b>
<b>Income</b>			
<b>Below K500</b>	2.508	1.047 – 6.008	<b>0.039</b>
<b>K500 - K1000</b>	1.339	0.458- 3.920	0.594
<b>K1001 – K1500</b>	6.629	2.483 - 17.702	<b>0.000</b>
<b>Over K1500</b>	2.881	1.224 - 6.779	<b>0.015</b>
<b>Fear of spouse</b>			
<b>Fear of spouse</b>	2.970	1.604 – 5.499	<b>0.001</b>
<b>Stigma</b>			
<b>Stigma</b>	1.988	1.084 – 3.644	<b>0.026</b>
<b>Educational level</b>			
<b>Secondary Educational level</b>	9.000	2.076 – 39.008	<b>0.003</b>
<b>Tertiary Educational level</b>	42.568	9.630 - 188.154	<b>0.000</b>
<b>IEC</b>			
<b>IEC (1)</b>	2.744	1.286 – 5.854	<b>0.009</b>

#### **4.6 MULTIVARIATE BINARY LOGISTIC REGRESSION MODEL OF ACCEPTABILITY OF ROUTINE HIV TESTING BY PREGNANT WOMEN**

The Multivariate binary logistic regression model was the final analysis done in order to examine the effect each independent variable had on the acceptability of routine HIV testing by pregnant women while controlling for the other variable as confounders. Logistic regression analysis was used because the outcome (dependent) variable (acceptability) was a binary or dichotomous variable. Odds ratio measures of effect were obtained as described in table 28. All the variables were considered for entry into the binary logistic regression model.

The results of the binary logistic regression analysis was to predict whether the eight variable factors; that is age, marital status, occupation, income, education, fear of spouse, stigma and IEC. The level of significance was set at  $p$  value=0.05.

**Table 18: Multivariate Binary Logistic Regression Model determining acceptability of HIV Testing among pregnant women**

<b>Independent variables</b>		<b>Odds Ratio</b>	<b>95% Confidence interval</b>	<b>p- value (0.05)</b>
<b>Age</b>	Mother's Age (ref: 15-25)			
	2=26-36	0.994	0.386- 2.557	0.990
	3=37-49	7.668	1.973 – 29.797	<b>0.003</b>
<b>Marital status</b>	Mother's Marital Status (ref: 1 =Married)			
	2 =Single	0.993	0.338 – 2.920	0.990
	3= Separated	0.719	0.054 – 9.516	0.803
	4= Divorced	0.970	0.046 – 20.392	0.984
	5= Widowed	2.337	0.088 – 61.737	0.611
<b>Occupation</b>	Mother's occupation status (1 = Employed)			
	2= House wife	0.622	0.144–2.688	0.525
	3= Self employed	0.506	0.040 – 6.351	0.598
	4= Unemployed	2.071	0.138 – 2.557	0.990
<b>Education</b>	Mother's highest education level (1 =None and primary)			
	2 = Secondary	21.826	4.188–113.736	<b>0.000</b>
	3 =Tertiary	141.232	21.653–921.653	<b>0.000</b>
<b>Knowledge</b>	Knowledge (1 = Moderate)			
	2=High knowledge	0.664	0.46 – 9.682	0.765
<b>Income</b>	Highest income (0 = None)			
	1= Below K500	8.856	0.685–114.432	0.095
	2= K500 – K1000	1.59	0.06 - 40.44	0.916
	3= K1001 – K1500	2.34	0.149 – 36.839	0.545
	4= Over K1,500	0.182	0.011 – 2.964	0.231
<b>Fear of Spouse</b>	Fear of spouse (0=No)			
	1=Yes	2.035	0.784 – 5.281	0.144
<b>Stigma</b>	Stigma (ref: 0=No)			
	1=Yes	1.145	0.443 - 2.963	0.779
<b>IEC</b>	Adequate information, education and communication (0=No)			
	1=Yes	2.998	1.189–7.556	<b>0.020</b>

Table 18 shows all the factors that were entered into the logistic regression model to identify the odds of acceptability of routine HIV testing, these include: age, education, marital status, occupation, income, fear of spouse, stigma and IEC.

The following factors were found to be significant: **age, education and information, education and communication (IEC)**. After adjusting for the confounding effects of the rest of the independent variables, mothers in the age categories 15-25 (39%) and 26-36 (48.6%), respectively, were less likely to accept Routine HIV testing compared to pregnant women (12.3%) in the age range 37- 49 [OR, (95% CI) = 7.668 (1.973-29.797)]. This age effect was statistically significant ( $p= 0.003$ ).

As shown in table 18, IEC (OR-2.998, P-0.020) and education levels (OR- 141.232, P- 0.000) contributed significantly to the model. Changes in marital status, occupation, income, fear of spouse, knowledge levels and stigma did not add any significant contributions to the model. The odds of acceptability for those with secondary levels of education were 22 times higher than those of below primary education levels. Similarly, those with tertiary education levels were 141 times more likely to exhibit acceptability than those with whose levels of education were below primary. A change in IEC levels from inadequate to adequate increases the odds of acceptability 3 times.



## CHAPTER FIVE

### 5.0 DISCUSSION OF FINDINGS

#### 5.1 INTRODUCTION

Chapter five (5) focuses on this study's interpretations and discusses the findings as well as the implications to the health care system. The discussion of findings is based on data collected from a sample of 366 pregnant women who were selected using random sampling from three selected urban clinics of Lusaka in Zambia. The general objective of the study was to determine the acceptability of routine HIV Testing by pregnant women in Lusaka Urban Clinics.

The dependant variable was acceptability of routine HIV testing among pregnant women. Acceptability in the current study was defined as “pregnant women who knew the meaning of routine HIV Testing and agreed that routine HIV testing can be done in PMTCT”. Independent variables included; maternal age, marital status, income, occupation, education level, Knowledge levels on importance of PMTCT and HIV, fear of spouse, stigma and information, education and communication.

#### 5.2 SOCIO DEMOGRAPHIC DATA

The socio demographic characteristics of the respondents who participated in this study included age, marital status, and religious denomination, level of education, occupation and monthly income. Of the respondents interviewed, 48.6% were between 26 and 36 years (Table 4) and the mean age was  $\bar{x} = 28.18$  with a Standard Deviation (SD) of 7.55. This shows that the study sample consisted of youth who are at the peak of child bearing (CSO, 2015).

In the current study, the findings showed that acceptability of HIV testing decreased with age (Table 9). The chi-square results, showed no significant association between acceptability of routine HIV testing and the respondents age ( $p = 0.61$ ). However, the multivariate analysis revealed that mothers in the age categories 15-25 (39%) and 26-36 (48.6%), respectively, were less likely to accept routine HIV testing as compared to pregnant women (12.3%) in the age range 37- 49 [OR, (95% CI) = 7.668 (1.973-29.797)]. This age effect was statistically significant ( $p = 0.003$ ). Therefore compared to older pregnant women, the younger pregnant women appear to be at risk of non- acceptability of routine HIV testing.

These results are supported by the CSO (2015) which reported that older pregnant women were taking the HIV test than the young women; however, the CSO figures were higher (85.9%) compared to the current study. This finding could be attributed to the fact that teenage mothers lack information about PMTCT. This assumption is contradicted by a study conducted in Bukina Fasso and Uganda by Obermeyer and Osborn (2007) which showed that older pregnant women (78%) of more than 30 years were less likely to accept voluntary HIV testing as compared to the younger ones aged less than 19 years. On the other hand, Mathingau (2013) study conducted in Kenya revealed that acceptability levels between the young and the old were near equal.

Concerning education levels of the respondents, the current study revealed that 48.1% had attained secondary school education (Table 4). This result could be attributed to the fact the study was conducted in an urban setting where according to CSO (2015), reported that women in urban areas are more likely to have a secondary education or higher than their rural counterparts. This implies that almost all the respondents were able to read and write. The findings show that 51% of the respondents who indicated acceptability of HIV routine testing had tertiary education levels as compared with the group 11.7% (37) that indicated non acceptability of HIV routine testing (Table 9). However, the trend reversed with those in the category of none, primary and secondary education where higher percentages indicated non acceptability. As indicated in table 18 the odds of acceptability for those with secondary levels of education were 22 times higher than those of primary or none education levels (OR- 21.826, p- 0.00). Similarly, those with tertiary education levels were 141 times more likely to exhibit acceptability than those whose levels of education were primary or none (OR- 141.232, p-0.00). This could be due to the fact that literacy enhances the ability of the patient to know their expectations from the health care and help make informed decisions concerning their health (CSO, 2015).

This finding is supported by studies done by Olanrewaju (2013) in Nigeria and Banda (2012) in Zambia; it was revealed that women with higher education in their study had better knowledge of HIV transmission. This is important because educational attainment is one of the most influential factors affecting people's knowledge, attitudes and behaviours in various facets of life and has been shown to be an important determinant of health (CSO, 2015).

Contrary to the above findings, Ekanem and Gbadegesin (2004) in their study on Voluntary Counselling and Testing (VCT) for HIV in Nigeria showed higher levels of willingness to test for HIV than women without formal or only primary level education (94.1%) and those with tertiary education (88.8%).

In this study, 70.2% of the mothers were married (Table 4). This finding is not surprising as most women in Zambia marry by the age of 20 years (CSO, 2015). This finding indicates that like other African societies and culture, participants in this study valued the institution of marriage because marriage offer some form of social and moral support from the significant other which is an important aspect of maternal child health especially now when male involvement is being encouraged in decision-making like in couple counselling and HIV testing. However, the current study revealed high levels of non-acceptability of HIV routine testing among all the segments under marital status (Table 9) the highest being separated (90%), single (87.5%), married (86%), widow (83%) and divorce (75%). Chi-square results and modelling with multivariate showed no significant association between marital status and acceptability of HIV routine testing ( $X^2 = 0.768$ ,  $p = 0.674$ ). According to the findings by manthingau (2013)'s study carried out in Kenya, married women are more likely to accept routine HIV testing (92.6%) as compared to unmarried pregnant women (80.2%).

In terms of occupation, only 31.7% of the respondents were self - employed (Table 4). The current study sought associations between acceptability of routine HIV testing and the respondents' occupation. The findings showed that 5.3% of the house wives accepted routine HIV testing whereas in the unemployed category, acceptability of routine HIV testing increased to 10.9%. In the respondents who were self- employed, acceptability increased to 11.2% and in the formally employed group, acceptability increased further to 32.8% (Table 22). The chi-square test showed significance of this observed pattern ( $X^2 = 27.082$ ,  $N=366$ ,  $p = 0.036$ ). The multivariate analysis showed no association between acceptability of routine HIV testing and occupation of the respondents ( $p= 0.990$ ).

The increased acceptability of routine HIV testing among the formally employed respondents could be attributed to the fact that those who are in formal employment could also be better educated and may have access to literature on HIV. This result is supported by CSO (2015), whose findings revealed that more pregnant women in the highest wealth quartile (employed) were tested for HIV and got their results as compared to those in the lowest quartile (unemployed).

The findings showed that 48.9% of the respondents who participated in this study had no source of income (Table 9). This could be attributed to the fact that most of the respondents only went up to secondary education and according to CSO (2015), 70% of women with more than a secondary education are most likely to be currently employed as compared to 38% of those with a secondary education who are least likely.

The current study observed that acceptability of routine HIV testing fluctuated with changes in monthly income (Table 9). Among the respondents who had no monthly income, acceptability of routine HIV testing stood at 7.8%, with those earning below K500 acceptability of routine HIV testing increased to 17.5%. This pattern reversed in those earning between K500 and K1, 000 where acceptability of routine HIV testing dropped to 10.2%. In the respondents who earned between K1, 001 and K1, 500, acceptability of routine HIV testing shot up to 36.0%. Again the pattern was reversed in those earning above K1, 500 where acceptability of routine HIV testing dropped to 19.6%. A chi-square test was used to test associations between acceptability of routine HIV testing and income levels. It was noted that the observed pattern was statistically significant. Hence it was concluded that there is an association between the women's monthly income and their acceptability ( $X^2 = 18.974$ ,  $N=366$ ,  $p = 0.02$ ). However, multivariate analysis results did not show any positive association between income and acceptability of routine HIV testing. The odds revealed that the change of low or no income to high income can increase acceptability of routine HIV testing 9 times [OR, (95% CI) = 8.856 (0.685-114.432)]. This finding is supported by Medley (2008) study that was conducted in Uganda where it was reported that lack of resources often make women economically dependent on their male partners and fail to negotiate discussions related to HIV.

About 39% of the respondents belonged to the Pentecost church (Table 4). This could be attributed to the fact that Zambia is a Christian nation and most of the citizens are practicing Christianity.

### **5.3 ACCEPTABILITY OF ROUTINE HIV TESTING**

One of the objectives of the study was to determine the acceptability of Routine HIV testing by pregnant women.

Figure 10 showed that 86.6% of the respondents did not accept routine HIV testing in pregnancy as compared to 13.4% of those who indicated acceptability.

This non acceptability of routine HIV testing by pregnant women could be the underlying cause for the increased fall out in PMTCT follow up care after delivery and increased maternal mortality which is still high in Zambia (398/100,000). The following are findings of studies done by different researchers on acceptability of routine HIV testing by pregnant women; Perez, (2006) of rural Zimbabwe – 21% non-acceptability and Nyuzaghl, (2011) of Ghana – 38% non-acceptability. The findings of this study do not support the findings by CSO (2015) which indicated that 89.6% of the pregnant women in Lusaka urban accepted routine HIV testing.

A high percentage (99%) of women in this study cited that it was important to test for HIV in pregnancy (Figure 6) however, more than three quarters (77.3%) of the respondents did not understand the meaning of routine HIV testing (Figure 7). This finding is supported by a study done in India by Mardivanan (2014) who reported human rights violations concerning HIV testing in Private Health institutions where HIV testing often occurred without consent. Hardon et al. (2012) in Kenya, Malawi, Bukina Fasso and Uganda on “Women's views on consent, counselling and confidentiality in PMTCT, revealed high number (92 %) of pregnant women being tested for HIV, however some of these women reported that testing was mandatory. Another study done in Malawi by Massaquoi et al. (2005) whose results revealed 96% acceptability to HIV testing but suffered a cumulative loss to follow up on clients with only 19% of HIV positive mothers remaining in the PMTCT programme after 6 months of delivery. Therefore it is important to investigate further to determine what could be causing this non acceptability among the pregnant women. Contrary to the above findings, a study conducted among ANC clients in urban Zimbabwe reported that almost (90%) of the respondents considered routine HIV testing for pregnant women to be useful (Chandisarewa et al., 2007), it might be because they appreciated the benefits of testing for HIV in pregnancy. In this study, more than three quarters(79%) cited protecting the baby from contracting the HIV virus as a benefit of routine HIV testing in Pregnancy. This is supported by Manthingau (2013) in a study conducted in Kenya, who reported that 90% of pregnant women would accept subsequent routine HIV testing with a main intention to protect their baby.

Meanwhile in this study, of the respondents that were not willing to do the test, 60% reported that they were not ready to do the test, and 25% wanted to test with the husband.

This is supported by a study done in Zimbabwe by Perez, (2006) that revealed that 16% declined routine HIV testing, mainly because of their fear of knowing their HIV status and the need to have their partner's consent.

#### **5.4 KNOWLEDGE OF PREGNANT WOMEN ON PMTCT AND HIV TESTING**

To determine pregnant women's level of knowledge on PMTCT and HIV, 7item questions were included on the data collecting instrument. The findings in table 6 show that in the group that indicated acceptability of routine HIV testing, 98% had high knowledge levels while 2% had moderate knowledge, with none found under low knowledge levels. In the group that indicated non acceptability, 97.5% had high knowledge levels while 2.5% had moderate knowledge. The pattern that emerges is that in both groups, knowledge levels were high. Hence no difference was observed between the groups and with the p value of 0.765, no significant correlation was observed between Acceptability of routine HIV testing and knowledge levels on PMTCT and HIV testing in pregnancy. This could have been due to the result of having most (92%) of the respondents having heard of PMTCT (Figure 2) and 76.6% reported health personnel as a source of information of the respondents (Figure 3), 97.5% of the respondents thought it was possible to transmit the virus to the baby (Figure 4). These results are similar to findings by Dereessa et al. (2014) of Ethiopia who reported that 94% of the pregnant women visited the health facility for ANC check-up, about 90% knew that a mother with HIV can pass the virus to her unborn child but only about 18% and 9% of respondents attended the facility for HIV counselling and testing.

In this study, the results indicated that the odds of acceptability of routine HIV testing with high knowledge levels were approximately 0.7 [OR, (95% CI) = 0.664, (0.46 - 9.682) higher than those with low knowledge levels on PMTCT. However a study by Avert (2014) from south-west Nigeria revealed that while 99.8 % of pregnant women were aware of HIV, had very high knowledge of MTCT (92 %) and PMTCT (91%) but 71% had negative views towards the PMTCT of HIV.

## **5.5: SOCIAL FACTORS LIKELY TO INFLUENCE ACCEPTABILITY FOR ROUTINE HIV TESTING**

### **5.5.1 Fear of spouse**

To determine pregnant women's association between acceptability of Routine HIV testing and social factors like fear of spouse and stigma. To determine fear of spouse 3 item questions were included on the data collecting instrument.

Chi-square results showed that there was a significant relationship between acceptability and fear of spouse, observed with a p value of 0.000. Table 14 shows that in the group that indicated acceptability, 40.8% had fear of spouse while 59.2% had no fear of spouse. This trend is reversed in the group that indicated non acceptability, where 67.2% had fear of spouse while 32.8% had no fear of spouse. But after modelling with the multivariate model revealed that fear of spouse did not have any significance on acceptability (OR – 2.035, p-0.144) though the odds were showing that a change in fear of spouse from 'fear' to 'no fear of spouse' increases the odds of acceptability to approximately 2 times [OR, (95% CI) = 2.035 (0.784 -5.281)] (Table 18).

These odds findings are in line with the results in the current study where 98.6% of the respondents thought it was important to go with their spouses for routine HIV testing (Table 9). This is supported by Kakimoto (2007) in Cambodia, who revealed that there was a strong association observed between acceptance and partner involvement but this was contradicted by Semrau et al.(2005) in Zambia, who reported that according to his findings 28% of 324 HIV positive women of those counselled as a couple or alone, reported at least one adverse social event including physical violence, verbal abuse, divorce or separation. On the issue of disclosure of HIV status to the spouse if tested positive, the current study revealed that 62.6% of the respondents reported that they would disclose the status while 37.4% revealed that they would not disclose (Table 9). This is supported by Masumo, (2009) who reported that 43% of respondents were unable to disclose their status to their partner due to fear of spouse. Zimba and Vwalika (2010) in Zambia reported that in Zambia the disclosure rate is varied in different studies and was found to be at 72% for both seropositive and sero negative patients among urban attendees in his study. This is echoed by CSO (2015) that reported that 97% of women who were tested during ANC and knew their test results disclosed them to someone, of these, 69% disclosed to their husbands.

On the perceived reaction of the spouse to HIV positive results, 45.9% of the respondents in this study reported that their spouses would be angry at them, 12.8% would be threatened with divorce, and 3.8% would suffer physical violence from their spouses. Only 37.4% reported that their spouses would accept and understand (Table 9). In support of these findings, Fanata and Worku (2012) revealed that 83 out of 249 pregnant women in their study who refused HIV testing cited divorce as a perceived response of their husband following HIV positive test results.

### **5.5.2 Stigma**

To determine the association between the acceptability of routine HIV testing by pregnant women and stigma, 4 item questions were included on the data collecting instrument.

Table 15 of acceptability and stigma shows that in the group that indicated acceptability 49% thought women experienced stigma while 51% did not think so. In the group that indicated non acceptability 65.6% thought women experienced stigma while 34.4% did not think so. Hence it was observed that a higher percentage of those who indicated non acceptability thought women experienced stigma in comparison with those who indicated acceptability where a higher percentage did not think that women experience stigma. Chi-square results showed that there was a statistical significant relationship between acceptability and stigma with a p value of 0.025. After modelling with the multivariate model, it revealed that fear of spouse did not have any statistical significance on acceptability (OR- 0.973, p-0.950), the odds were showing that a change in stigma from no stigma to having stigma reduces the odds of acceptability to approximately 1 time [OR, (95% CI) = 0.973 (0.418-2.266)] (Table 18). These findings are supported by Turan et al. (2010) who revealed that there are associations of stigma measures with HIV testing refusal.

The current study revealed that 89.9% of respondents would receive social support after testing positive for HIV during pregnancy (Table 9) and only 12% named their spouses as a source of social support (Table 9). Turan et al. (2010) of Kenya and Hermann (2007) of Ivory Coast reported similar findings that Women who anticipated male partner stigma were more than twice as likely to refuse HIV testing. This can be attributed to why in the current study, 63.4% of respondents thought that women do experience stigma after testing HIV positive (Table 9) and of these, 27.2% reported that women face marital problems while 49.6% said that HIV positive women are discriminated by the community (Table 9).



## **5.6: SERVICE RELATED FACTORS LIKELY TO INFLUENCE ACCEPTABILITY FOR ROUTINE HIV TESTING**

The current study results revealed that among the respondents that indicated acceptability, 81.6% had adequate while 18.4% had inadequate IEC with the p value of 0.020. In the respondents that indicated non acceptability, 61.8% had adequate IEC while 38.2% had inadequate IEC (Table 16). The pattern coming out is that a higher percentage of those that indicated acceptability had adequate IEC and a lower percentage had inadequate IEC in comparison with the group that indicated non acceptability. A change in IEC levels from inadequate to adequate increases the odds of acceptability by approximately 3 times [OR, (95% CI) = 2.998 (1.189 - 7.556)] (Table 18). A study done by Fanata and Worku (2012) in Ethiopia showed that the pre-test counselling service being fair were 6 times more likely to refuse HIV testing than those who stated their impression on the pre-test counselling service being very good. This was also supported by a study by Kwabong (2014), in Nigeria that revealed that 29.5% of the 24% of the pregnant women, who had not undergone HIV Testing, did not undergo counselling. This is supported by similar findings by Kalembo and Zgambo (2012) in a study conducted in Malawi where antenatal mothers thought that they were inadequately prepared to undergo HIV testing. Contrary to the above studies, the current study findings revealed that 95.1% of the respondents reported having been counselled during this pregnancy while 4.9% reported not being counselled. This is supported by ZDHS (2015) findings which revealed that 95.5% of pregnant women in Lusaka were counselled for HIV testing.

On reasons for not being satisfied with the type of counselling services offered at the health centre, the current study revealed that 49.6% of those who were not satisfied cited being disturbed to go and do other routine exams during group counselling as the reason while 50.4% said during counselling, too much information was given within a short time. This is supported by Odendal (2014) in Malawi who reported that some health care workers expressed concerns that the practice requires the woman to deal with too much information at once. Kalembo and Zgambo (2012) in South Africa who reported that clients had inadequate information on PMTCT services, given that they could not recall the information communicated to them during counselling.

On the duration of the pre-test counselling, the majority 68.4% reported having been counselled for more than 10 minutes. While only 6% of the respondents reported receiving counselling for less than 5 minutes.

The recommended minimum duration for giving IEC to clients at the health institution is 10 minutes (LDHO, 2015). This is contrary to the study results by Kalembo and Zgambo (2012) that indicated that 68% of the participants received less than 5 minutes of post-test counselling, 21% had 5–10 minutes, and only 10.7% had more than 10 minutes of post-test counselling. This finding is supported by a study conducted by Masumo (2009) of Zambia, which revealed that out of 120 respondents, 86.7% of the respondents reported that the duration of counselling was not enough to ask questions. The recommended duration reported to have been followed during counselling in the current study could have explained the high percentage of satisfaction with the type of counselling that was being offered.

## **5.7 ASSOCIATION BETWEEN DEPENDENT AND INDEPENDENT VARIABLES**

Acceptability of routine HIV testing by pregnant women has been associated with many factors by various studies. In this study, age in the range 37- 49 years (OR= 7.668, p=0.003), maternal education (OR=38.6, p=0.000) and information education and communication (OR= 2.6, p=0.024) (Table 18) were significantly associated with acceptability of routine HIV testing. This implies that age, education level and IEC plays a critical role in acceptability of routine HIV testing by pregnant women. Pregnant women who are older, with higher educational level and given adequate IEC by the health personnel were more likely to accept the routine HIV testing as compared to those who were younger, with low education level and not provided with adequate IEC. Therefore we reject the null hypothesis that there is no association between acceptability of routine HIV testing by pregnant women and education level and IEC.

The knowledge levels, stigma and fear of spouse did not have any significant association (p value > 0.05). In this study it means that knowledge levels (p=0.839), stigma (p=0.779), and fear of spouse (p=0.144) did not have any influence on acceptability of routine HIV testing by pregnant women. Therefore, the researcher accepts the null hypothesis that states that there is no relationship between acceptability of routine HIV testing and knowledge of PMTCT and HIV.

The odds were showing that a change in stigma from stigma to having no stigma increases the odds of acceptability to approximately 1 time [OR, (95% CI) = 1.145 (0.445-2.963)]. A change in fear of spouse from 'no fear' to 'fear of spouse' reduces the odds of acceptability to approximately 2 [OR, (95% CI) = 2.035 (0.784-5.281)]. The odds of acceptability of routine HIV testing with high knowledge levels were approximately 0.7 [OR, (95% CI) = 0.664, (0.46 - 0.962)] higher than those with low knowledge levels.

## **5.8 APPLICATION OF THE HEALTH BELIEF MODEL TO THE CURRENT STUDY**

This study used the Health Belief Model (HBM). The HBM suggests that people's beliefs about health problems, perceived benefits of action and barriers to action, explain engagement or lack of engagement in health-promoting behaviour.

This study established a high perceived risk of pregnancy outcome or consequences of non-acceptability of routine HIV testing in pregnancy. According to this study finding, majority of the participants (97.5%), had high knowledge of PMTCT and 99.2% of the respondents reported that it was important to test for HIV in pregnancy. However, the response most (77.3%) pregnant women gave was based on the perception that Routine HIV testing was a mandatory test which every pregnant woman was supposed to take.

On perceived severity, this study established that pregnant women had a high perceived severity of the outcomes of non-acceptability of routine HIV testing as the majority (79.2%) of the pregnant women in the study reported that the benefit of routine HIV testing was protecting the baby from acquiring the HIV virus from the mother. The Perceived barrier however was stigma, where the findings revealed that in the group that indicated acceptability 49% thought women experienced stigma while in the group that indicated non acceptability 65.6% thought women experienced stigma. Fear of spouse was another barrier noted, the study revealed that in the group that indicated acceptability, 40.8% had fear of spouse and in the group that indicated non acceptability, and 67.2% had fear of spouse. On cue of Action, there was evidence of increased publicity of PMTCT and Routine HIV testing as most of the respondents acknowledged having heard about it and cited the health personnel as the main source of information. This means that every pregnant woman who came for ante natal services had a chance of being motivated to take positive action after being given the correct information about PMTCT and routine HIV testing.

On self-efficacy, there is need to emphasize the benefits of routine HIV testing at the clinics in simple and clear and accurate terms minding the various education levels of pregnant women so that mothers can outweigh the perceived barriers in order for behaviour change in terms of decision making to occur. In addition the study found that most of the pregnant women were knowledgeable about PMTCT, this denotes that health personnel do not emphasise that routine HIV testing is not a mandatory test so the women do not have the right information and take the test whether they are ready or not.

## **5.9.0 IMPLICATIONS OF THE STUDY FINDINGS TO NURSING**

### **5.9.1 Nursing education**

The study found that 97.5% of the pregnant women had high knowledge levels of PMTCT and HIV as compared to only 2.5% who displayed moderate knowledge. This could be because 92.1% of the respondents reported having heard of PMTCT and 76.6% cited the health personnel as the source of information. Despite this high knowledge levels, there was a high levels of non – acceptability among the pregnant women. Therefore it is important that Health personnel should be given refresher courses on the latest guidelines of EMTCT in order to give effective and accurate information to the population. The component of EMTCT should be emphasised in the curriculum of nursing schools to educate the student nurses and midwives on the latest guidelines of HIV testing in pregnancy.

### **5.9.2 Nursing administration**

MOH, (2008) reports that PMTCT is constrained by several limitations such as inadequate trained safe motherhood providers, high turnover of suitably trained and qualified manpower and poor quality of counselling services. This study shows that there is non- acceptability of routine HIV testing (86.5%) among pregnant women who regard the service as a mandatory test. It is important that policy makers and the health providers hold meetings to review the policies and strategies of counselling which is the most important part of PMTCT. The policy makers should consider holding refresher courses for health personnel on how to conduct counselling sessions on routine HIV testing.

### **5.9.3 Nursing research**

Literature review has shown that a lot of researches on acceptability of routine HIV testing have been done in other countries but there is limited research done in Zambia to determine acceptability of routine HIV testing. Most of these studies focused on the percentages of pregnant women who undergo HIV counselling and testing (Creek, 2007).

There is need for future research on perception and experiences of pregnant women towards Routine HIV testing. This will help to correct misconceptions and avoid coercion during counselling and testing of pregnant women.

### **5.5.4 Nursing practice**

The findings of this study showed that 77.3% of the respondents perceived routine HIV testing as a mandatory testing with no right to refuse if not ready. At the initial antenatal booking, health personnel should strive to offer accurate and consistent information on routine HIV testing and give clear explanations while creating an opportunity for pregnant women to discuss issues and ask questions in order to avoid misconceptions. Then the health personnel should hold a one to one counselling session just before being tested to emphasise on the earlier learnt information and ensure that they understood what they were being taught during group counselling. This will promote informed decision making among pregnant women.

## **5.10: CONCLUSION AND RECOMMENDATION**

### **5.10.1 Conclusion**

Acceptability of routine HIV testing still remains a major problem for pregnant women. The current study determined the acceptability of routine HIV testing among pregnant women in Lusaka urban clinics in Lusaka Zambia. The results of this study suggest that non-acceptability remains significantly high (86.6%) despite the uptake of HIV tests, because most (77.3%) of the women perceive routine HIV testing as a mandatory test. Maternal age, education and information education and communication were found to be significant factors that affect acceptability. Pregnant women with higher knowledge levels, has no fear of disclosure of positive results and no internalized stigma are likely to accept routine HIV testing.

There is need to orient health personnel especially nurses and midwives to pay special attention to factors such as maternal age, education levels and IEC as these are the significant factors associated with acceptability of routine HIV testing. This study has provided important information and the possible factors associated with acceptability of routine HIV testing among pregnant women in Lusaka urban clinics.

### **5.10.2 Recommendations**

The following recommendations should be considered as a measure to improve acceptability of routine HIV testing among pregnant women in Lusaka urban and promote the success of PMTCT programme:

- Ministry of Health needs to provide health education messages in different tribes so as to capture even those with low education level so that they are not neglected due to language barrier.
- MOH should also intensify male involvement in counselling and HIV testing as this has a major bearing on acceptability of routine HIV testing to eliminate fear of disclosure of results and partner related stigma.
- Lusaka District Health Office should consider training more community health care givers as VCT providers to increase awareness in the community and give adequate information on Routine HIV testing in pregnancy.
- The District must also organize regular refresher courses and presentations that will enable health personnel to refresh their knowledge and communication skills to ensure efficient service delivery to the pregnant women.
- MOH to consider conducting a country wide study to get the results that would be generalised and give a clear picture of the severity of the problem in the country.

### **5.11 FUTURE RESEARCH**

Future research should focus on identifying pregnant women's perception and experiences towards routine HIV testing in pregnancy, investigating the past experiences and the relationship between IEC, education level and acceptability.

## **5.12 STRENGTH AND LIMITATIONS OF THE STUDY**

The strength of the study is that it provides findings on the topic which has not been sufficiently researched on. The finding confirmed results of previous studies done in the field in other geographical areas.

Another strength is that the sample size of 366 was big enough to get adequate information and able to generalise to the larger population.

One limitation of this study was that it was conducted in Lusaka Urban Health facilities therefore it limits the generalization of findings. Future studies should enrol respondents from different areas of the country.

Use of cross sectional study designed its own limitations since the design does not provide definite information about cause-and-effect relationships. This is because in this design data is collected at one point in time and does not consider what happens before or after the data is collected. The study was a quantitative approach while a qualitative approach could further explore pregnant women's acceptability of routine HIV testing and factors influencing acceptability.

The study included only urban participants who have more access to services and information hence the views of pregnant women in Lusaka rural were not considered in this study.

## **5.13 DISSEMINATION AND UTILIZATION OF FINDINGS**

The researcher intends to disseminate the findings of this study at UNZA postgraduate seminar week from 27<sup>th</sup> of June to 1<sup>st</sup> of July, 2016. Then bound approved copies of the study document will be sent to the following;

- Department of Nursing Sciences,
- School of Medicine,
- The University Medical Library and
- In the Peer reviewed Journal.

The abstract of this study will be distributed to MOH, Lusaka provincial Health Office, and the Lusaka District Health Office.

The researcher also intends to disseminate the findings in meetings and presenting at nursing and medical workshop sand seminars that will be taking place in Lusaka district especially concerning Maternal and Child Health (MCH) issues.



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## ***APPENDIX I: PARTICIPANT INFORMATION SHEET***

### **TITLE OF THE STUDY**

**ACCEPTABILITY OF ROUTINE HIV TESTING AMONG PREGNANT WOMEN IN LUSAKA URBAN CLINICS, LUSAKA PROVINCE**

### **PRINCIPAL INVESTIGATOR: MERCY MUYEMBA**

I am a second year student pursuing a master's of Science Nursing Degree at the University of Zambia.

I am humbly requesting for your participation in the research study mentioned above. This study aims at assessing the acceptability of routine HIV testing among pregnant women in Lusaka urban clinics, in Lusaka district.

The participation in this study is voluntary. If you are not willing to participate in this study, you are free to say so. If you change your mind after you have joined the study, you are free to withdraw at any time, as you wish. However, your withdrawal from the study will not have any punitive measures such as denying your health services in the district.

If you are interested in participating in the study, you will be asked to sign a consent form and agreement to participate in this study but this will not result in any immediate benefits. Please feel free to ask questions where you are not clear.

### **PURPOSE OF THE STUDY**

As part of the academic requirements, I am conducting the study to assess the acceptability of routine HIV testing among pregnant women in Lusaka urban clinics. I will conduct semi structured interviews to collect data from respondents on acceptability of routine HIV testing among the pregnant women.

The information obtained from the study will help the policy makers and stakeholders in Prevention of Mother to Child transmission of HIV (PMTCT), now Elimination of Mother to Child transmission of HIV virus (EMTCT) services in the district to redirect and scale up their efforts on improving the programme implementation.

### **PROCEDURE**

Face to face interviews will be conducted to collect data from respondents. The researcher with the help of research assistants will ask you a number of questions using a semi structured interview schedule after signing the consent form. Your responses will be recorded on the questionnaire and not your names.

There is no direct risk involved in this research. However, part of your valued time will be used to answer some questions. However, HIV issues are sensitive and some of the questions may seem personal and make you uncomfortable. If you need further discussion, it will be offered to you to make you understand the topic more.

## **BENEFITS**

There is no direct benefit for you for participating in the study but the information that will be collected from you will help policy makers and implementers of EMTCT services to formulate effective guidelines on HIV counselling and testing, such as informing clients, obtaining consent, and providing information that is able to expand client- and provider-initiated testing while protecting your confidentiality.

## **CONFIDENTIALITY**

The data collected from you will be kept confidential to the effect permitted by law. Your personal details such as names will not be recorded anywhere but you will be identified by numbers. Personal records will not be released without your written consent except when required by law. The Ministry of Health, **Excellence in Research Ethics and Science Coverage (ERESC) committee** / School of Medicine may review your records but this will be done with confidentiality.



**APPENDIX II: ENGLISH INFORMED CONSENT FORM**

***TITTLE OF THE STUDY***

***ACCEPTABILITY OF ROUTINE HIV TESTING AMONG PREGNANT WOMEN IN LUSAKA URBAN CLINICS, LUSAKA PROVINCE***

The purpose of this study has been explained to me and I understand the purpose, the benefits, risks and discomforts and confidentiality of the study. I further under that:

If I agree to take part in this study, I can with draw at any time without having to give an explanation and that taking part in this study is purely voluntary.

I agree to take part in this study.

Signed ..... Date .....  
(Participant’s signature or thumb print)

**Signed ..... Date .....**  
**(Witness’s signature)**

**Signed ..... Date .....**  
**(Researcher’s signature)**

**PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS:**

1. The Head of Department, University of Zambia, Department of Nursing Sciences, P.O. Box 50110, Lusaka. Telephone number 252453.
2. The Chairperson, ERES Converge IRB, 33 Joseph Mwilwa Road, Rhodes Park, Lusaka. Telephone number +260 955 155633

## **APPENDIX III: NYANJA INFORMATION SHEET**

### **ZOLENGEZEDWA PA PEPALA**

#### **MUTU WA PHUNZIRO**

**COBVOMEREZEKA CIZOLOWEZI PAKUMITSA KALOMBO KA HIV PA AMAI OYEMBEKEZERA M'MAKILINIKI A M'TAWUNI YA LUSAKA, LUSAKA PROVINCE.**

#### **WOTSOGOLERA WOFUFUZA: MERCY MUYEMBA**

Ndine m'phunzi m'caka ca ciwiri kuyimba maphunziro a digiri ya ukacenjede a sayansi aunamwino pa univesiti ya Zambia.

Ndine odzicepetsa pa kukupemphani kuti mtengeko mbali mu kafufuku wa maphunziro achulidwa pamwamba apa. Phunziro iyi ndiyofunika kufufuza chibvomerezo ca cizolowezi pakumitsa kalombo ka HIV pakati pa amai oyembekezera m'makililiki a m'tawuni ya Lusaka, mu boma ya Lusaka.

Kutengako mbali ku maphunziro awa ndi kudzipereka. Ngati mufuna kusatengeko mbali ku maphunziro awa, muli ndi danga kulankhula. Ngati mwasintha maganizo anu pambuyo poyamba maphunziro, muli ndi danga kuleka nthawi iliyonse, pomwe mufuna. Komabe, pokusatengako mbali kwanu ku maphunziro sikudzalengetsa kuninkhidwa cilango monga kusakuthandizani pa nkhani ya zaumoyo m'boma lino.

Ngati muli ndi cidwi kutengako mbali ku maphunziro, mudzafunsidwa kusayina fomu ya cilolezo ndi ya cibvomerezo pakutengako mbali m'maphunziro ngakhale kuti ici sicidzakhala ndi zotuluka za phindu la pafupi. Khalani ndi danga lofunsa mafunso pamene simunamvetsetse.

## **COLINGA CA PHUNZIRO**

Kucotsako mbali yokhudza maphunziro, ndiri kucita maphunziro pofuna kudziwa cibvomerezo ca cizolowezi pakupimitsa kalombo ka HIV pakati pa amai oyembekezera m'makililiki mtawuni ya Lusaka. Ndidzafunsa mafunso kuti nditenge mfundo ku ofunsidwa pa cibvomerezo ca cizolowezi pakumitsa kalombo ka HIV pakati pa amai oyembekezera.

Uthenga udzatengedwa kucokera ku maphunziro udzathandiza opanga ndondomeko ndi amabungwe pa kuteteza mai kupatsira mwana (PMTCT) tsono akuti EMTCT m'boma lino ndi kuona kathandizidwe pakukometsa ndondomeko ya kukwaniritsa zolinga.

## **DONGOSOLO**

Mopenyana mafunso adzfunsidwa kuti utthenga utengedwe kucokera kwa ofunsidwa. Wofunsa mothandizidwa ofufuza ena adzakufunsani mafunso angapo pakusewenzetsa mafunso oikika pambuyo pakusaina fomu ya cilolezo. Mayankho anu adzalembedwa pa pepala la mafunso kucotsako maina anu.

Kulibe bvuto lolozera mu kafukufukuwu. Komabe, nthawi yanu yofunika idzasewenzetsedwa kuyankha mafunso ena. Komabe nkhani ya kalombo ka HIV ndiyobvuta ndiponso mafunso ena aoneka akhudza munthu ndi kupanga iye osamasuka. Ngati mufuna zokambirana zina, idzapelekedwa danaga kuti mumvetsetse kwambiri mutu uwu.

## **COPHINDULA**

Kulibe phindu lolozera pakutengako kwanu mbali m'maphunziro koma kuti uthenga omwe udzatengedwa udzathandiza opanga ndondomeko ndi okwaniritsa zolinga za EMTCT ndi kukopa mtima amai oyembekezera pofuna kusankha kupimitsa kalombo ka HIV kupitira mukupunzitsa bwino ndi cisinsi ca maphunziro awa.

## **CISINSI**

Zotengedwa zidasungidwa mwacisinsi kutsatira cololedwa ndi lamulo. Zokhudza inu monga maina sadzalembedwa kulikonse koma mudzaziwika ndi manambala. Uthenga wokhudza munthu sudzaninkhidwa kopanda cilolezo colemba canu pokhapokhapo cafunika kupyolele pa lamulo. Azaumoyo, a Excellence in Research Ethics and Science Coverage (ERESC) committee, abungwe la kafukufuku a kakhaliidwe/ asukulu ya zaumoyo angawonenso zolembedwa zanu koma izi zidzaciditika mwacisinsi.

**COBVOMEREZEKA CIZOLOWEZI PAKUMITSA KALOMBO KA HIV PA AMAI  
OYEMBEKEZERA M'MAKILINIKI A M'TAWUNI YA LUSAKA, LUSAKA  
PROVINCE.**

**APPENDIX IV: NYANJA CONSENT FORM**

**ZOLENGEZEDWA NDI CILOLEZO**

Colinga ca maphunziro awa afotokozedwa kwa ine ndipo ndamvetsa colinga, phindu, mabvuto, kusakhalitsidwa bwino ndi cisinsi ca maphunziro awa.

Ndibvomekeza ndi izi:

Ine, Ngati Ine ndabvomera kutengako mbali kumaphunziro awa, ndingaleke nthawi ili yonse kupanda kufotokoza ndiponso kutengako mbali m'maphunziro awa pa kudzipereka

Siginecala..... Tsiku .....

(Siginecala ya otengako mbali kapena cidindo ca cala ca cikulu)

**Siginecala ..... Tsiku .....**

**(Siginecala ya mboni)**

**Siginecala ..... Tsiku .....**

**(Siginecala ya wofufuza)**

**ANTHU OFUNSA NGATI MULI NDI MABVUTO KAPENA MAFUNSO:**

1. Wamukulu kumupando  
Univesiti ya Zambia  
Mbali ya manesi  
P.O Box 50110  
Lusaka  
Tel: +260 211 252453
2. Wamukulu kumupando,  
Kabungwe Kowona za kafukufuku  
Excellence in Research Ethics and Science Coverage (ERESC) committee  
33 Joseph Mwilwa Road  
Rhodes Park  
Lusaka  
E-mail: [eresconverge@yahoo.co.uk](mailto:eresconverge@yahoo.co.uk)  
Phone Number: +260 955 155633, +260 955 155634

**APPENDIX V**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SCIENCES**

SEMI STRUCTURED INTERVIEW SCHEDULE ON ACCEPTABILITY OF ROUTINE  
HIV TESTING BY PREGNANT WOMEN IN LUSAKA URBAN CLINICS, LUSAKA  
DISTRICT

**DATE OF INTERVIEW** .....

**PLACE OF INTERVIEW** .....

**SERIAL NUMBER** .....

**INSTRUCTIONS TO THE INTERVIEWER**

1. Introduce yourself to the respondent
2. Ensure that the respondent is eligible for the interview and can be included in the study.
3. Explain the purpose of the study and assure respondent of confidentiality
4. Request respondent for a written consent before you start the interview.
5. Do not write name of respondent on interview schedule.
6. Ensure that you get a response for each question.
7. Circle the most appropriate response, or write answer on space provided.
8. Provide time for respondent to ask questions at the end of the interview.
9. Thank the respondent at the end of the interview.

**SECTION A: DEMOGRAPHIC DATA**

1. What was your age at your last birthday?

a. 15-25 years


b. 26 – 36 years

c. 37 - 49 years

2. What is your marital status?

a. Single

b. Married

c. Separated

d. Divorced

e. Widowed


3. Which church do you belong to?

a. Pentecost

b. Seventh Day Adventist

c. Catholic

d. Jehovah's Witness

e. Other (specify) .....


4. What is your educational level?

- a. None
- b. Primary School
- c. Secondary School
- d. College
- e. University


5. What do you do for your living?

- a. House Wife
- b. Self employed
- c. Formal employment
- d. Unemployed


6. What is your monthly income?

- a. None
- b. Less than K500
- c. Between K500 and K1000
- d. Between K1000 and K1,500
- e. K2000 and above


7. Where do you stay/ live (Residential area)?

---

**SECTION B: KNOWLEDGE OF HIV TESTING AND PMTCT**

8. Have you heard of PMTCT?

- a. Yes
- b. No


9. If yes, which was your source of information?

- a. Media
- b. Health Personnel
- c. Relatives
- d. Friends
- e. Others? Specify

-----


10. What is HIV?

-----

11. Do you think it is possible for an HIV infected woman to transmit HIV to her baby?

- a. Yes
- b. No




12. If yes to question 10, explain when can HIV be transmitted from the mother to the baby?

- a. During pregnancy
- b. During breast feeding
- c. During delivery
- d. During bottle feeding


13. Do you think it is important to test for HIV in pregnant?

- a. Yes
- b. No
- c. Don't know


14. If "yes" to question 14 then what are the benefits? (Tick all appropriate)

- a. To protect the baby from getting the HIV virus from the infected mother.
- b. Medication is given to those that are HIV positive to prevent transmission of the virus
- c. Women who are HIV negative are educated on how they can reduce risk of acquiring the virus.


d. Other specify -----  
-----

**SECTION C: ACCEPTABILITY OF ROUTINE HIV TESTING**

15. What is the meaning of routine HIV testing in pregnancy?

- a. Testing for HIV when pregnant but can refuse if doesn't want to.
- b. It is mandatory testing for HIV by pregnant women
- c. Don't know


16. Do you know your HIV status?

- a. Yes
- b. No

17. Would you like to be tested for HIV in this current pregnancy?

- a. Yes
- b. No


18. If No to question 17 above, state the reason why not

-----

**SECTION D: SOCIO CULTURAL FACTORS**

19. In your opinion, do you think it is important to come with your spouse for HIV testing?

- a. Yes
- b. No


20. Would you disclose your HIV status to your spouse if found HIV positive?

- a. Yes
- b. No


21. What would be the reaction of your spouse to the HIV positive results?

- a. Accepted and understanding
- b. Angry at wife
- c. Physical violence towards wife
- d. Threatened divorce


22. Would you receive any social support after testing positive for HIV in pregnancy?

- a. Yes
- b. No


23. If the answer is “yes”, from whom?

- a. Family
- b. Friends
- c. Church
- d. Spouse
- e. None


24. Doregnant women experience any form of discrimination after testing positive for HIV?

- a. Yes
- b. No


25. If answer is “yes” explain -----  
-----

**SECTION E: SERVICE RELATED FACTORS**

26. Were you ever counselled about HIV testing during this pregnancy?

- a. Yes
- b. No


27. If yes how many times were you counselled?

- a. One
- b. Two
- c. More than two


28. How long was the pre -test counselling session?

- a. Less than 5 minutes
- b. Between 5 – 10 minutes
- c. More than 10 minutes


29. Were you satisfied with the type of counselling services or information provided at your centre regarding routine HIV testing?

- a. Yes
- b. No


30. If the answer is “No” give reason-----

-----

**WE HAVE COME TO THE END OF THE INTERVIEW, I WISH TO SINCERELY THANK YOU FOR YOUR TIME AND WILLINGNESS TO PARTICIPATE IN THE STUDY.**

**THANK YOU**

**APPENDIX VI**

**MARKING KEY FOR THE STUDY VARIABLES**

<b>SECTION B</b>		<b>KNOWLEDGE LEVEL OF PMTCT AND HIV</b>	
<b>QUESTION NUMBER</b>	<b>QUESTION</b>	<b>CORRECT ANSWERS</b>	<b>MAXIMUM SCORE</b>
8	Have you heard of PMTCT?	Yes	1
9	If yes, what is the source of your information?	Media, Health Personnel, Relatives, Friends	4
10	What is HIV?	It is a virus that causes AIDS	2
11	Is it possible for an HIV positive woman to transmit HIV to her baby?	Yes	1
12	If yes, explain when HIV can be transmitted?	During pregnancy, during breast feeding, during delivery	3
13	Do you think it is important to test for HIV in pregnancy?	Yes	1
14	If yes, what are the benefits?	To protect born baby from getting the HIV virus Medication is given to mothers who are HIV positive HIV negative women are educated on how they can reduce risk of acquiring the virus	3
<b>TOTAL SCORE</b>			<b>15</b>

## **KEY**

### **1. SECTION B: KNOWLEDGE LEVEL OF PMTCT AND HIV**

- High Knowledge                      11 – 15
- Moderate Knowledge                6 – 10
- Low Knowledge                        0 – 5

**VII: NYANJA QUESTIONNAIRE**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SCIENCES**

**MBALI IMODZI YA MAFUNSO A DONGOSOLO PA  
CHIBVOMEREZO CA CIZOLOWEZI PA KUPIMITSA KALOMBO  
KA HIV PAKATI PA AMAI OYEMBKEZERA M'MAKILINIKI A  
M'MATAWUNI MU LUSAKA, M'BOMA LA LUSAKA**

TSIKU LA MAFUNSO .....

MALO OYANKHIRAKO MAFUNSO .....

NAMBALA .....

**MALANGIZO KWA OFUNSA**

1. Zidziwitseni kwa oyankha
2. Onetsani kuti oyankha ndi oyenera pa mafunso ndi kuwaphatizikapo pa phunziro.
3. Fotokozani colinga ca phunziro ndi kuitsimikizira oyankha za cisinsi
4. Pemphani oyankha cilolezo colembedwa mukalibe kuyamba kufunsa.
5. Osalemba dzina la oyankha pa ndondomeko ya mafunso.
6. Onetsani mutenga yankho ya funso ili yonse.
7. Zungunizani yankho yoyenera, kapena lemba yankho m'malo oninkhidwa.
8. Perekani nthawi kwa oyankha kufunsa mafunso pomaliza kufunsidwa.
9. Thokozani oyankha pakutha kufunsidwa.

**CIGAWO CA A: UTHENGA WOKHUDZA ZACIWERENGEDWE**

1. Munali ndi zaka zingati pa tsiku lanu lobadwa lothera?

- a. 15 – 25 years
- b. 26 – 36 years
- c. 37 – 45 years


2. Kodi umoyo wanu wa banja ndi wotani?

- a. Mulimwekha
- b. Wokwatira
- c. Munalekana
- d. Ukwati unatha
- e. Ofedwa


3. Mupemphera ku chalichi kuti?

- a. Pentekositi
- b. Opemphera Pa Chiweru
- c. Katolika
- d. Mboni Za Yehova
- e. Kwina(nenani) .....




4. Kodi munalekezera poti za maphunziro?

- a. Mulibe maphunziro
- b. Pulayimale sukulu
- c. Sekondale sukulu
- d. koleji
- e. Univesiti


5. Kodi mucita cani pa umoyo wanu?

- a. Mkazi wa pa nyumba
- b. Nchito yoziimira pa nokha
- c. Musewenza ku boma ka pena ku kampani
- d. Simusewenza.


6. Pa mwezi m'pata ndalama zingati?

- a. Kulibe
- b. Zocepela K500
- c. Pakati pa K500 ndi K1000
- d. Pakati pa K1000 ndi K1,500
- e. K2000 ndi kupitilira


7. Mukhala kuti/ kupezeka (Malo okhala)?

-----

8. Kodi munamvapo za PMTCT?

- a. Inde
- b. Ai


9. Ngati mubvomekeza, kodi ciyambi ca uthenga cinacokera kuti?

- a. Pa wailesi/ kanema
- b. Kwa a zaumoyo
- c. Abale
- d. Anzanu
- e. Kwina? Nenani -----  
-----


**CIGAWO CA B: KUDZIWA ZA KUPIMITSA KALOMBO KA HIV NDI KUCINJIRIZA KUFALA KUCOKERA KWA MAI KUPITA KU MWANA (PMTCT)**

10. Kodi ka kalombo HIV ndi kaciani?

-----

11. Kodi muganiza kuti nkutheka mai ali ndi kalombo ka HIV kufalikira ku mwana?

- a. Inde
- b. Ai


12. Ngati mubvomekeza funso 10, fotokozani pomwe kalombo ka HIV kangafalitsidwire kucokera ku mai kupita ku mwana?

- a. Nthawi yoyembekezera
- b. Nthawi yoyamwitsa
- c. Nthawi yobereka
- d. Nthawi yoyamwitsa kucokera ku botolo


13. Kodi muganiza kuti ndicofunika kupimitsa kalombo ka HIV kwa oyembekezera?

- a. Inde
- b. Ai
- c. Sindidziwa


14. Ngati mubvomera' ku funso 14 tsono phindu lake ndilotani ? ( congani poyenera)

- a. kucinjiriza mwana kulandila kalombo ka HIV .
- b. Mankhwala apatsidwa kwa omwe ali ndi kalombo
- c. Amai alibe kalombo aphunzitsidwa momwe angacepetsese kutenga kalombo.


d. Ina. Nenani -----

**CIGAWO CA C: CIBVOMEREZI CA CIZOLOWEZI COPIMITSA KALOMBO KA HIV**

15. Kodi tanthauzo la cizolowezi ca kupimitsa kalombo ka HIV nciani?

- a. Kupimitsa kalombo ka HIV ngati ayembekezera koma ungakane ngati suufuna.
- b. Ndilamulo kupimitsa kalombo ka HIV kwa oyembekeza


--

16. SindidziwaKodi mudziwa za umoyo wanu pankhani ya kalombo ka HIV?

- a. Inde
- b. Ai


--

17. Ngati ndi ai ku funso 16 pa mwamba apa, kodi mufuna kupimitsa?

- a. Inde
- b. Ai


--

18. Ngati                    na                    ai                    kufunso                    17,  
fotokozani.....

--

**CIGAWO CA D: ZA CIKHALIDWE NDI ZA MWAMBO**

19. Mkuganiza kwanu, muganiza kuti ndikoyenera kubwera ndi wokonedwa kudzapimitsa kalombo ka HIV?

- a. Inde
- b. Ai


--

20. Kodimungaulule kwa wokondewa anu mukapezeka ndi kalombo ka HIV?

- a. Inde
- b. Ai


21. Kodi wokondedwa wanu angazilandire bwanji mukapezeka ndi ka kalombo ka HIV?

- a. Yolandidridwa ndi yomvetsedwa
- b. Munakalipira mkazi
- c. Cipongwe ku mkazi wanu
- d. Kuopseza kutha cikwati.


22. Kodi mungalandire cithandizo ciliconse pambuyo pakupimitsa no nakupezeka nakalombo ka HIV?

- a. Inde
- b. Ai


23. Ngati yankho ndi 'inde', kucokera kuti?

- a. Banja
- b. Abwenzi
- c. Chalichi
- d. Wokondedwa wanu
- e. Kunalibe


24. Kodi muzimai wapanthupi amasankhulidwaatapezekandikalombo ka HIV?

- a. Inde
- b. Ai


25. Ngati yankho ndi 'inde' fotokozani -----

--

**CIGAWO CA E: ZOKHUDZA UTHANDIZI**

26. Kodi anakupatsakoni uphungu wokhudza kupimitsa kalombo ka HIV pa nthawi yoyembekezera?

- a. Inde
- b. Ai


27. Ngati ndi inde, kodi ndikangati munapatsidwa uphungu?

- a. Kamodzi
- b. Kawiri
- c. Kupitilira kawiri


28. Kodi anakupatsani uphungu mukalibe kutenga zotulukamo zakupimitsa kalombo ka HIV?

- a. Inde
- b. Ai


28. Ngati mubvomekeza, panapita nthawi itali bwanji muli kupatsidwe uphungu?

- a. Kucepela mphindi zisanu
- b. Pakati pa mphindi zisanu ndi nkhumu
- c. Kupitilira mphindi nkhumu


29. Kodi munakhutitsidwa ndi uphungu kapena uthenga opatsidwa ku malo akwanu okhudza cizolowezi ca kupimitsa kalombo ka HIV?

- a. Inde
- b. Ai


30. Ngati yankho ndi 'inde', perekani zifukwa -----  
-----  
-----

**TAFIKA KUMAPETO KWA MAFUNSO, NDIFUNA KUKUTHOKOZANI  
CIFUKWA CA NTHAWI YANU NDI KUDZIPEREKA KWANU  
PAKUTENGA KO MBALI KU PHUNZIRO.**

**ZIKOMO**

**APPENDIX VII: GHANT CHART**

S/No	ACTIVITY	RESPONSIBLE PERSON	FROM JANUARY 2015 TO NOVEMBER 2015													
			JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	JAN	
1	Development of research proposal	Researcher	■	■	■											
2	Presentation of research proposal to department of Nursing sciences	Researcher				■										
3	Presentation of research of research proposal to Post Graduate Studies Forum.	Researcher					■									
4	Submission to Research Ethics Committee for approval	Researcher					■									
5	Obtaining consent from Research Ethics Committee.	Researcher						■								
6	Briefing Lusaka DHMT and District Development Coordinating committee.	Researcher							■							
7	Pre-test and reviewing data collection tools.	Researcher							■							
8	Data collection	Researcher								■	■					
9	Data analysis	Researcher									■	■				
10	Report writing	Researcher										■	■			
11	Submission of draft report	Researcher											■			
12	Submission of final report	Researcher												■		
13	Dissemination of final report	Researcher													■	



**APPENDIX VIII: THE BUDGET**

<b>S/NO</b>	<b>BUDGET CATEGORY</b>	<b>UNIT OF MEASURE</b>	<b>QUANTITY REQUIRED</b>	<b>UNIT COST (K)</b>	<b>TOTAL COST (K)</b>
	<b>STATIONERY</b>				
<b>1</b>	Bond paper	Each	10	35.00	350.00
<b>2</b>	Flash disc	Each	1	100.00	100.00
<b>3</b>	Pens	Each	10	1.00	10.00
<b>4</b>	Pencils	Each	5	0.50	2.50
<b>5</b>	Rubbers	Each	5	0.50	2.50
<b>6</b>	Note books	Each	5	10.00	50.00
<b>7</b>	Tippex	Each	5	20.00	100.00
<b>8</b>	Stapler	Each	1	70.00	70.00
<b>9</b>	Staples	Each	1 Box	10.00	10.00
<b>10</b>	Printer cartridge	Each	1	200.00	200.00
<b>11</b>	Bag for interview schedules	Each	1	150.00	150.00
<b>12</b>	Plastic folders for field work	Each	5	15.00	60.00
	<b>SUBTOTAL</b>				<b>1,170.00</b>
	<b>PERSONNEL- LUNCH ALLOWANCES</b>				
<b>13</b>	Principle researcher	<b>Each</b>	<b>30</b>	<b>50</b>	<b>1,500.00</b>
<b>14</b>	Research assistants	<b>Each</b>	<b>120</b>	<b>50</b>	<b>3,600.00</b>
	<b>SUBTOTAL</b>				<b>5,100.00</b>
	<b>MISCELLANEOUS SERVICES</b>				
<b>15</b>	Ethics Committee	<b>Each</b>	<b>1</b>	<b>500</b>	<b>500.00</b>
<b>16</b>	Data entry	<b>Each</b>	<b>1</b>	<b>500</b>	<b>500.00</b>
<b>17</b>	Data analysis	<b>Each</b>	<b>1</b>	<b>1000</b>	<b>1000.00</b>
<b>18</b>	Photocopying proposal	<b>Each</b>	<b>100</b>	<b>0.30</b>	<b>300.00</b>
<b>19</b>	Photocopying questionnaire	<b>Each</b>	<b>10 pages x 120</b>	<b>0.30/copy</b>	<b>360.00</b>
<b>20</b>	Photocopying report	<b>Each</b>	<b>0.30</b>	<b>400</b>	<b>120.00</b>
<b>21</b>	Binding	<b>Each</b>	<b>50</b>	<b>5</b>	<b>250.00</b>
<b>22</b>	Transport				<b>2000.00</b>
	<b>SUBTOTAL</b>				<b>5,030</b>
	<b>Contingency Fund – 10% Of Budget</b>				<b>1,130</b>
	<b>GRAND TOTAL</b>				<b>12,430</b>

## **JUSTIFICATION OF THE BUDGET**

### **APPENDIX VIII: THE BUDGET**

#### **STATIONERY**

1. Reams of bond paper were required for the following activities:
  - Writing the research proposal
  - Making extra copies of the research proposal for submission to the Research Ethics Committee and the Board of Graduate Studies
  - Photocopying semi- structured interview schedules
  - Writing and printing the final report
2. The bag for carrying and keeping the interviews to ensure that the interview schedules are kept safe.
3. The flash disc is for copying, storage and safe keeping of research data.
4. Other accessories such as pens, pencils, rubbers stapler and staples and notes are required for the routine collection of research data.

#### **PERSONNEL**

Lunch allowances were paid to the researcher. Upkeep allowances were paid to research assistants. These allowances were required because the team were collecting data throughout the day, away from their homes.

The research was conducted for a period of 60 days to allow adequate time for administration of the semi- structured interview schedules.

#### **SECRETARIAL SERVICES**

Funds were needed for photocopying, and binding the proposal and the report. Initially one copy was printed and thereafter, several photocopies were made because it would have been costly to print all copies as the cartridge is expensive. The copies needed were: 5 complete copies and 25 summary copies of the proposal to submit to Post Graduate Research Committee.

#### **CONTIGENCY**

Contingency fund which was 10% of the budget was required for any extra costs due to inflation and for any eventualities.



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Rhodes Park, Lusaka  
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I.R.B. No. 00005948  
E.W.A. No. 00011697

19<sup>th</sup> August, 2015

**Ref. No. 2015-June-015**

The Principal Investigator  
Ms. Mercy Muyemba  
University of Zambia  
School of Medicine  
Dept. of Nursing Sciences  
P.O. Box 50110,  
**LUSAKA.**

Dear Ms. Muyemba,

**RE: ACCEPTABILITY OF ROUTINE HIV TESTING BY PREGNANT WOMEN IN LUSAKA URBAN ANTENATAL CLINICS, LUSAKA DISTRICT.**

Reference is made to your corrections dated 27<sup>th</sup> July, 2015. The IRB resolved to approve this study and your participation as principal investigator for a period of one year.

Review Type	Ordinary	Approval No. <b>2015-June-015</b>
Approval and Expiry Date	Approval Date: 19 <sup>th</sup> August, 2015	Expiry Date: 18 <sup>th</sup> August, 2016
Protocol Version and Date	Version-Nil	18 <sup>th</sup> August, 2016
Information Sheet, Consent Forms and Dates	<ul style="list-style-type: none"> <li>English, Nyanja.</li> </ul>	18 <sup>th</sup> August, 2016
Consent form ID and Date	Version-Nil	18 <sup>th</sup> August, 2016
Recruitment Materials	Nil	18 <sup>th</sup> August, 2016
Other Study Documents	Semi-Structured Interview Guide.	18 <sup>th</sup> August, 2016
Number of participants approved for study	366	18 <sup>th</sup> August, 2016

All communications should be addressed  
to the Community Development Officer

Telephone: +260-211-233554  
Telefax: +260-211-236429



In reply please quote

No. ....

REPUBLIC OF ZAMBIA

**MINISTRY OF COMMUNITY DEVELOPMENT  
MOTHER AND CHILD HEALTH**

DISTRICT COMMUNITY HEALTH OFFICE  
P. O. BOX 50827  
LUSAKA

31<sup>st</sup> August 2015

Mercy K. Muyemba (Ms)  
The University of Lusaka  
Department of Nursing Sciences  
P.O. Box 50110  
**LUSAKA**

Dear Ms. Muyemba

**RE: AUTHORITY TO CONDUCT RESEARCH AND PILOT STUDY IN LUSAKA DISTRICT**

We are in receipt of your letter over the above subject.

Please be informed that Lusaka District Community Health Office has no objection for you to conduct the research study and pilot study on "**Acceptability of routine HIV testing among the pregnant women at antenatal urban clinics in Lusaka District**" for two (2) months for academic purposes only.

Please ensure that a copy of the summary of the findings is also provided to Lusaka District Community Health Office at the end of the research study.

By copy of this letter, the Health Centre In-Charges for Kabwata, Chilenje, Mtendere and Ngombe Clinics are herewith informed.

Yours sincerely,

Dr. Lendy Kasanda  
**PRINCIPAL CLINICAL CARE OFFICER  
FOR/DISTRICT MEDICAL OFFICER**

C.C. The In-Charges: Kabwata, Chilenje, Mtendere and Ngombe Health Centres  
C.C. The Chairperson: Dr. E. Munalula Nkandu