# WILLINGNESS TO ACCEPT HIV TESTING AMONG CARETAKERS WITH A CHILD ATTENDING THE UNIVERSITY TEACHING HOSPITAL IN LUSAKA, ZAMBIA

By

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**A Dissertation submitted to the University of Zambia in partial fulfilment of the requirements of the degree of Master of Medicine in Paediatrics and Child Health.**

(School of Medicine)

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## DECLARATION

**I declare that this dissertation represents my own work and that it has not previously been submitted for a degree, diploma or other qualification at this or another University.**

**Signed……**

**Date……..**

**Candidate**

## APPROVAL

This dissertation of Jacqueline Muchiliko Banda is approved as fulfilling the requirements for the award of the Master of Medicine in Paediatrics and Child Health of the University of Zambia.

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# ABSTRACT

**TITLE:**

**WILLINGNESS TO ACCEPT HIV TESTING AMONG CARETAKERS OF CHILDREN ATTENDING THE UNIVERSITY TEACHING HOSPITAL IN LUSAKA, ZAMBIA**

**BACKGROUND:** Just 28 percent of Zambian adults aged 15-49 know their HIV status. Those who do not know they are infected with HIV can spread the virus to many others before they become ill, and without early diagnosis may not get the treatment and care they require. In spite of all efforts put in place in the prevention of HIV, the numbers of adults accessing voluntary counselling and testing has remained low and the HIV prevalence remains high at 14.3 percent. The 2005 Zambia Sexual and Behaviour Survey showed that only 15 percent of women and 11 percent of men have ever been tested for HIV. With all these efforts in place the question that comes to mind is why so few have ever been tested, studies have looked at various factors and none have consistently been associated with testing or not. This brings to light the issue of willingness, are individuals willing to accept the test.

**METHODS:** This was a descriptive cross-sectional study whose main objective was to determine willingness to accept HIV testing among caretakers bringing a child to the University Teaching Hospital Paediatric department. 241 caretakers who consented to participate in the study were recruited from the paediatric admission ward a structured questionnaire to collect data was administered. Data was analyzed using SPSS version 16.

**RESULTS:** All the 241 caretakers approached to participate agreed to take part in the study though only 239 were considered valid during the analysis, 69 percent (165/ 239) were willing to accept an HIV test for themselves. 99 percent (239/239) caretakers were willing to have routine HIV testing and counselling as part of the hospital services. 98 percent (234/239) of caretakers were willing to have siblings of the child tested. The main fear for not going for voluntary counselling and testing (VCT) or accepting an HIV test was death. 226 of the caretakers interviewed were female and only 15 were male.233 out of 239 had been tested 157 were prompted to have an HIV test for ANC/MCH reasons compared to 46 who voluntarily went for VCT.

**CONCLUSION:** There is a general willingness to accepting HIV testing among caretakers of children attending the University Teaching Hospital Paediatric department, the majority need to be prompted to actually take the test and therefore RTC should be implemented in all health facilities

## DEDICATION

This study is dedicated to my mother Mrs Banda, my sister Janet and brother-in-law Chomba, for the love and support they gave me through-out this study.

## ACKNOWLEDGEMENTS

Special thanks to the Vanderbilt University for providing the financial support towards this study.

I thank my supervisors Dr Veronica Mulenga and Dr Chipepo Kankasa for their constructive criticism that enabled me to carry out this study.

To my research assistant Febby Banda Kawamya, to the counsellors Charity Sakala Phiri, Norah K. Nyirenda, Eneless Kaimika and Joyce M. Shonga , the data personnel Nkandu F. Kawamya, Edward Mwabuka.and E. Chama

Thank you to Dr Ben Andrews for taking the time to explain the various sections in the data analysis

Finally I thank sincerely all the caretakers who participated in this study without their participation, this study would not have been possible.

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## ABBREVIATIONS AND ACRONYMS

ANC - Antenatal Care

ART - Antiretroviral therapy

HIV/AIDS - Human Immunodeficiency virus/acquired immunodeficiency syndrome

KAP - Knowledge Attitude and Practice

MOH - Ministry of Health

MTCT - Mother to Child Transmission

PMTCT - Prevention of Mother to Child Transmission

RCT - Routine Counselling and Testing

VCT - Voluntary Counselling and Testing

WHO - World Health Organisation

## Definition of Terms:

**Attitude** – a pattern of mental views established by cumulative prior experience.

**Caretaker** – an individual, such as a parent, foster parent, or head of a household, who attends to the needs of a child.

**Counsellor** – a person who gives advice, concerning HIV.

**Counselling-** is a confidential dialogue between a client and a counsellor.

**HIV testing -** is the obtaining of a bodily sample for the specific purpose or performing a medical test or a number of medical tests to determine the HIV status of a person.

**Practices** – utilization of one's knowledge.

**Pre-test counselling** – is the counselling provided to an individual prior to HIV testing.

**Post-test counselling** is the counselling provided when an individual receives his or her HIV test results as well as giving moral support immediately after the client has received the result.

**Routine Counselling and testing** (RCT) - also referred to as provider-initiated HIV counselling and testing is one form of strategy of VCT using an opt-out approach.

**Voluntary counselling and testing** (VCT) is a process by which an individual undergoes counselling to enable them to make an informed decision about being tested for HIV, assess their personal risk for HIV and develop a risk reduction strategy.

**Willingness to accept HIV testing** – describing ones feelings towards acceptance of testing as measured by

(i) **very comfortable** - reflecting ones willingness to test

(ii) **some- what worried, very worried, never** - reflecting ones unwillingness to test

# CHAPTER 1

## 1.0 INTRODUCTION

2011 marks 30 years since the discovery of AIDS, 10 years since the landmark United Nations General Assembly Special Session on HIV/AIDS that declared AIDS an issue of international security and 5 years since the 2006 High level Meeting where the universal access commitment was made. Although these are all important milestones the clock is still ticking and lives are still being lost. In the context of fiscal austerity and multiple global development challenges, the 2011 High Level Meeting provides an unparalleled opportunity to build on unprecedented progress in addressing these global health crises and to galvanise Member States to commit to a transformative agenda that overcomes remaining barriers to effective HIV services and builds effective equitable and sustainable HIV responses. (UNAIDS report 2011)

At the end of 2009 an estimated 33.3 million people were living with HIV, and 2.6 million became newly infected. Sub-Saharan Africa, home to more than two-thirds of those infected, 90 percent of all HIV-positive children and close to 70 percent of those newly infected in 2009, remains the global epicentre of the AIDS pandemic .An estimated 370 000 children [220 000–520 000] contracted HIV during the perinatal and breastfeeding period, down from 500 000 [320 000–670 000] in 2001. In the same year UNAIDS called for the virtual elimination of mother-to-child transmission of HIV by 2015(Global report 2010)

Efforts to promote HIV testing have led researchers to examine the predictors of HIV testing. Few factors consistently differentiate test acceptors from those who do not accept testing. For example being younger, engaging in HIV risk behaviours and perceiving oneself to be at risk for HIV were associated with willingness to accept HIV testing in some studies(Mengesha A et al 2006).

Currently, the majority of HIV-infected people are unaware of their sero-status and are therefore unable to make informed decisions and receive the services they need.

The 2005 Zambia Sexual Behaviour Survey (ZSBS) indicated that only 15 percent of women and 11 percent of men have ever been tested for HIV. The low levels of testing indicated by these findings are in strong contrast to the reported desire among this population to be tested (or tested again). When asked why some individuals may choose not to get tested the most common responses were fear of results (75 percent), fear of stigma and discrimination (34 percent) and belief that oneself is not at risk (17 percent)( Zambia Sexual Behaviour Survey 2005).

Studies in pregnant women to assess willingness to accept VCT show that a majority but not all women accept VCT (M.M De Paoli et al 2004).
As has been shown by a number of studies the survival and well being of the child is largely determined by the well being and knowledge of the caregiver (Hong R et al 2006). The risk of HIV transmission from an HIV-positive mother to her child is reduced when the mother and child are given antiretroviral therapy, but only an estimated 33 percent of pregnant HIV-positive women in need receive such treatment in low- and middle-income countries. Only 18 percent of all HIV-positive pregnant women receive testing in antenatal care clinics. Many others deliver at home or arrive at health facilities for labour and delivery, unaware of their HIV status. (USAID 2010 report)

Willingness to accept HIV testing among caretakers of children has not been studied in Zambia. Routine testing and counselling RTC is a relatively new concept at health facilities and has not yet expanded to all levels of healthcare facilities.

Thus this study aimed at assessing willingness to accept HIV testing among caretakers bringing a child to the University Teaching Hospital Paediatric Unit and the factors that may influence this decision.

## 1.1 PROBLEM STATEMENT

Most parents / mothers are unaware of their status at the time of diagnosis of their children. Not being tested denies these mothers access to preventive treatment and care programmes that can prolong their lives and that of their young children. Receipt of PMTCT services is of course dependent upon the mother's choice to participate in the programme, including, first

and foremost, her willingness to be tested for HIV. Refusal for the HIV test remains one of the biggest hurdles for PMTCT uptake (Dahl, Mellhammar et al. 2008).

In 2006 twenty one percent caretakers refused testing for themselves and in 2007 about five percent of caretakers refused HIV testing (UTH PCOE statistics). In a country with an HIV prevalence of the adult population aged 15-49 years of 14.3 percent (2007 Zambia Demographic and Health Survey),this is not acceptable.

The increased childhood morbidity and mortality in Zambia are partially consequences of high sero-prevalence of HIV infection in the reproductive age group population. Perinatal transmission accounts for 95 percent of paediatric AIDS cases and almost all new HIV infection in children. An estimated 89,000 infants are born to HIV positive women and about 28,000 are infected with HIV annually. Several studies have shown that child mortality increases substantially in children who acquire HIV infection from their mothers. (Becquet, Marston et al. 2012)

## 1.2 STUDY JUSTIFICATION

Willingness to accept an HIV test is prudent to HIV counselling and testing; knowledge of factors that encourage and discourage testing in families will help in the planning of educational material and highlight areas of concern in awareness campaigns. With this knowledge, barriers to acceptance of HIV testing can be tackled.

As has been shown by previous studies willingness is associated with acceptance of HIV testing and this in turn leads to early diagnosis treatment and care. It is therefore important to see if there are factors that could be enhanced in encouraging individuals to go for voluntary counselling and testing.

# CHAPTER 2

## 2.0 MAIN OBJECTIVE

To determine willingness to accept HIV testing among caretakers who bring children to the University Teaching Hospital Paediatric Department.

## 2.1 Specific Objectives

1. To determine the prevalence of willingness to accept testing for themselves among caretakers with a sick child admitted to UTH
2. To determine if caretakers would have siblings of the child tested for HIV
3. To evaluate factors that may be associated with the likelihood of accepting and/or refusing testing for the caretakers
4. To assess knowledge and attitudes on HIV, VCT and RTC services

# CHAPTER 3

## 3.0 LITERATURE REVIEW

## 3.1 KNOWLEDGE OF HIV STATUS

Knowledge of HIV sero status is important for both treatment and prevention efforts. This knowledge however is lacking due to the slow uptake of voluntary counselling and testing (VCT) in many parts of sub-Saharan Africa. VCT is a cornerstone of cost-effective HIV prevention and linkage to HIV treatment in low-resource settings. (WHO 2002)

Wider access to knowledge of HIV status is beneficial both to the individual and community. It enables the individual to initiate or maintain behaviours to prevent further transmission of the virus, early access to HIV-specific care, treatment and support with access to interventions to prevent transmission from mothers to their infants. Knowledge of sero-status enables one to cope better with HIV infection and plan for the future. As for the community it enables reduction in denial, stigma and discrimination that surrounds HIV/AIDS and mobilization of support for appropriate responses (Kadri A.M et al 2010). There is new information and momentum is increasing on using treatment in HIV infected individuals as a way of preventing transmission in the community

To address this problem of low uptake of VCT, WHO explored innovative, ethical and practical ways to increase access to knowledge of sero -status in resource-constrained settings? A consultative meeting was held in 2001 that discussed approaches to service delivery for different purposes and settings. (WHO 2002)

VCT was developed in the mid-1980s as the standard of care for individuals seeking to know their infection status. The goals of testing are to ascertain the client's sero -status and to contribute to promoting motivation, increasing knowledge to support risk reduction and planning for the future (WHO 2002).

To increase access to knowledge of sero -status, large-scale implementation of VCT is required. Such a move is limited by the availability of staff who are familiar with client-centred counselling, have been trained in pre- and post-test counselling techniques, and the heavy work demands placed on staff in busy health-care settings. To respond to these challenges, the VCT model needs to be tailored in some settings to make it more suitable as an entry

point to life-saving interventions as well as make it more feasible and affordable when scaled up.

A range of models of service delivery for HIV testing and counselling are in place, including free-standing services, integrated services (for example in maternal and child health programmes) and outreach services for vulnerable groups. In all these models, the greatest variation is observed in approaches to HIV counselling. Pre- and post-test counselling are often carried out in individual sessions, though other approaches are common, such as giving information to a group, followed by individual-level informed consent prior to HIV testing, and individual post-test counselling. To increase uptake, opt-out strategies, as used in Thailand, are an alternative approach to HIV testing; using this strategy all clients are offered HIV testing, though they may decline [and thus opt-out] during the informed consent procedure(WHO 2002)

Centre for Disease Control and Prevention (CDC) recommended routine HIV testing for all Americans between 13 and 64 (MMWR Recommendations and Reports September 22, 2006). The New York State Department of Health goes further to recommend that if a child is found to be perinatally HIV infected, his/her siblings also should be tested.

VCT is a key component of both care and prevention, but has so far reached only a minority of Africans. A median of 9 percent of men and only 7 percent of women reported ever having had an HIV test in surveys conducted in 25 African countries since 2000 (Measure DHS 2006 HIV/AIDS survey indicators database)

## 3.2 ACCEPTABILITY

The acceptability of a programme will determine to what extent it will be used by the target population. Therefore, assessment of programme acceptability before implementation is important (Killewo, Kwesigabo et al. 1998).

Studies done in various countries have shown that generally the number of people expressing a desire to test (readiness to test) outnumbers the number that actually go ahead and have the test done.

Generally, acceptability of VCT is quite good. A study to determine the acceptability levels of VCT in a rural village in Kagera, Tanzania by Killewo et al (1998) found that 54 percent (245/450) of the population that had been informed about the programme responded to the invitation to be tested and 55.9 percent of these agreed to be tested. Kipp W et al 2002 in Kigoyera, Uganda found an acceptance level of 74 percent among people above the age of 15 years.

In Uganda high acceptability of routine testing was demonstrated in a medical setting where 95 percent were interested in testing and of these 83 percent were not aware of their HIV status (Nakanjako D et al 2007).In Botswana, 90 percent of pregnant women had an HIV test due to introduction of routine HIV testing as a national policy in antenatal clinics (Botswana,2004 MMWR.2004).

In Papua New Guinea a study to assess the acceptability of voluntary counselling and testing among carers of children admitted to hospital showed that three quarters interviewed would consent to having a child in their care tested for HIV and over half of those who had never been tested would agree to be tested themselves, and more than half with correct answers to the HIV knowledge questions posed were significantly related to agreement to an HIV test (Waridibo E A et al 2008)

In Zambia acceptance of VCT was significantly increased by home-based delivery of results and counselling ( Fylkesnes and Siziya, 2004, Wolff et al., 2005, Lugada et al., 2009).

The need to scale up uptake of VCT is global as evidenced by the 2006 revised recommendations for HIV testing of adults, adolescents and pregnant women in health –care settings

## 3.3 FACTORS ASSOCIATED WITH VCT UPTAKE

Factors potentially associated with the uptake of HIV voluntary counselling and testing (VCT), which is the first step in acceding to programmes for the prevention of mother-to-child transmission of HIV infection have been investigated, in the Gulu district North Uganda having some education and being unmarried were significantly associated with VCT uptake. Associations of borderline significance were found for: recent change of residence, having a

partner with a modern occupation, and past use of contraceptives. VCT uptake is still low in this district of North Uganda. (Fabiani M et al 2007)

In Ethiopia major factors identified for increased uptake of VCT are gender, age and salary category ( Shemshedin O, Jemal H/ Ethiop.J Health Dev 2009)

In Tanzania support from husbands and family was an important factor in deciding to be tested, (M.M De Paoli et al 2004). Similar results were observed in Uganda of increased willingness to accept the test with the approval of husbands. Studies from South Africa and Cote d'Ivoire identified factors including fear of a positive HIV test, low levels of education and poor housing as associated with low uptake (Ginwalla SK et al 2002 and (Msellati, Juillet-Amari et al. 2003). This was also seen in Uganda where mothers beyond seven years of primary education were more likely to report a willingness to be tested compared to those who had not finished primary nor had no education at all. (Bajunirwe F,Muzoora M 2005).

Various studies undertaken in Ethiopia have shown a lack of perception of being at risk, no consideration for VCT services, fear of HIV positive results and fear of stigma to be some of the reasons for declining to test (Mengesha A et al 2006). In another study it was shown that having secondary school education and above, being female and being a Christian were associated with willingness to take VCT (de Paoli, Manongi et al. 2004).

Women in Vietnam are increasingly at risk of HIV transmission but that risk is under-reported and under-recognized. The reasons are that women are not getting tested, are not aware of risks, do not protect them and are not being protected by men. Based on this information, policy-makers and planners can develop better prevention and care programs that not only address women's needs but also reduce further spread of the infection among the general population.(Nguyen, Oosterhoff et al. 2008)

Observational studies have concurred that convenience, direct offer of testing and a positive attitude of staff have a critical impact on uptake of HIV testing and appear to outweigh individual client-related factors (Corbett, Dauya et al. 2006)

A study in rural Haiti at a primary care level, assessing provider-initiated HIV testing found that provider-initiated testing was associated with high volume uptake of HIV testing and minimal delay between first medical encounter and diagnosis of HIV infection. (Louise C Ivers et al 2007).

A study done in Nigeria in antenatal women showed that willingness for counselling and testing (CT) was positively associated with education. More of those with self-perceived risk expressed willingness to test for HIV. The study identified 4 key factors associated with willingness for CT these are – increasing educational level, not fearing a blood test, confidentiality and perceptions of higher levels of social support from relatives and peers.

A randomized trial on acceptability of voluntary HIV counselling and testing by Fylkesnes and Siziya in Zambia found that self-perceived risk of HIV infection was a main determinant of readiness for VCT among the young people whereas declining general health status, as indicated by self-rated health was more evident among those of older age (Fylkesnes, K et al 2004).

## 3.4 ATTITUDES AND PRACTICE

Though willingness is high, not associated with testing in some populations as were the findings in a population-based survey in Lusaka where about 30 percent of participants expressed willingness but only 4 percent of this group actually took the test(Fylkesnes et al 1999)
Routine offer of antenatal HIV counselling and testing is largely acceptable to the pregnant women in eastern Uganda and has enabled most of them to know their HIV status as part of the prevention of mother to child transmission of HIV package of services.(Byamugisha, Tumwine et al. 2010)

A study done in Bukoba district, Kagera region, Tanzania showed that though most of the students had an objective knowledge on HIV/AIDS transmission and prevention their attitudes and practices were different.( Kamala B.A., Aboud S 2006)

In a study done in Tanzania among students on the knowledge, attitudes and practices on HIV prevention regarding the modes of transmission many of the students mentioned sexual intercourse (86.6 percent) piercing objects (84.3 percent) and blood transfusion (75.1 percent), very few mentioned mother to child transmission (MTCT) (20. percent),. ( Kamala B.A., Aboud S 2006)

A study done in Khartoum showed the main source of knowledge s to be radio (51.2 percent), the second one was friends and relatives (47.1 percent), most of the respondents reported not having under gone HIV testing; only (3.6 percent) had been tested. Of those who did

the test 50 percent under went testing on voluntary basis, while the rest did it in a response to a physician's request?(A Sidig et al April 2004- May 2005)

Religious service attendance was found to be the highest significant factor influencing attitudes, where respondents who attend religious services were positively associated with attitudes on HIV prevention. (Nigatu. R, Seman.K.2011).

# CHAPTER 4

## 4.0 RESEARCH DESIGN AND METHODOLOGY

## 4.1 STUDY DESIGN

This was a descriptive cross-sectional study that was conducted over a period of two months from September 2009 to October 2009 in the Paediatrics Department admission ward of the University Teaching Hospital.

## 4.2 STUDY SETTING

The study was conducted at the Paediatrics Department admission ward in the University Teaching Hospital the largest tertiary, public university teaching hospital in Zambia. The hospital receives referrals from the entire country and self referrals.

All children seen in the out- patient department needing admission are first admitted to the admission ward before going to the inpatient wards.

While in admission ward routine counselling of guardians and testing for children is offered to all. Caretakers are not usually offered testing for themselves, only in cases where the child tests positive is the test offered to the caretakers.

A total of 11,794 patients were admitted in 2007 and of these 2,706 were HIV positive, and 1,947 were under the age of 18 months.

## 4.3 PARTICIPANTS AND SAMPLING

Convenience sampling was used. Participants were recruited from among caretakers bringing a child to the University Teaching Hospital Paediatric admission ward. All caretakers of children admitted to admission ward were approached by counsellors and offered participation.

Admission to the study was determined by predefined criteria.

### 4.3.1 Inclusion criteria

- caretakers of all children admitted to the paediatric admission ward,
- caretakers of children who test positive and those who test negative
- those mothers/guardians willing to take part in the study

### 4.3.2 Exclusion criteria

- caretakers of critically ill children needing emergency treatment
- Those who refused participation

## 4.4 Study Population and sample size

This study was conducted at the University teaching hospital in the department of paediatrics. The department admits on average 12,000 patients annually. In 2011, 11457 children who had never tested before were admitted to the facility of which 11449 (99.9%) consented to be HIV tested and only 8 (0.01%) refused the test.

#### SAMPLE SIZE

Information on those with HIV tests performed was obtained from ward records and from the Centre of Excellence. Factors taken into account in calculating sample size were:

- The number of admissions daily to UTH paediatrics wing
- Proportion of patients coming to UTH very ill/dead such that HIV testing may not be offered at 20%
- Poor recoding in registers by 4%

With these factors in mind, the formula used: $N= Z^2 p (1-p) / d^2$

- N= sample size, Z= 1.96 P= assumed proportions =20% d= 0.05 at 95% CI = 5%
- Population size =12,000
- N = 250.8
- Adjusting the error of 5% poor recording , adjusted N= 250.8 – (250.8* .04)=240.8
- Therefore, the required sample size N is 241.

## 4.5 PROCEDURE

Participants were approached by research assistants who are trained counsellors and had received prior training on the study, its aims and administration of the questionnaire. The participants were availed the information of the study and its aims. Once the participant agreed to take part in the study they were given a consent form to sign and a copy was retained.

The questionnaire was designed after the literature review, and it was done in order to meet the purpose and objectives of the study. Questions were formulated in simple words and it was administered in the preferred language of the study participants, English or Nyanja.

The questionnaire included - questions on the following

- Socio-demographic characteristics which included sex, age, marital status, educational level.
- Willingness to be tested or not and reasons
- Knowledge on HIV and VCT such as transmission, protection and services of VCT.
- Attitudes and practice to HIV and RTC which included: general perceptions of having an HIV test and inclusion of RTC into services offered at the health facility, main fears of having an HIV test, and whether ever tested for HIV or not.
- Reasons for prior HIV testing or not testing.

## 4.6 DATA MANAGEMENT AND ANALYSIS

Data collectors (1 nurse as supervisor and 4 counsellors) were recruited from the Paediatric Centre of Excellence (PCOE) and trained for two days by the principal investigator. Each questionnaire filled was checked for completeness of the information jointly by the supervisor and counsellors.

### 4.6.1 Measurement of variables

The variables measured in the study included dependent and independent variables

**Dependent variable**

1. **Willingness to accept an HIV test or not**, measured by the proportion of caretakers that described their feelings about being tested for HIV as
   (i) **very comfortable** - reflecting ones willingness to test
   (ii) **some- what worried** - reflecting ones unwillingness to test

2. **Willingness to have sibling of index child tested.**
3. **Knowledge, attitudes and practices on VCT/RCT**

**Independent variables**

The independent variables included both social and demographic variables. The variables were sex, age, marital status, educational level, employment, residency and number of children someone has.

**Data analysis**

Analysis involved the production and interpretation of frequencies counts, tables and graphs that describe and summaries the data.

For data on KAP, Closed-ended questions were analyzed using nominal scales into mutually exclusive categories and frequencies. Open-ended questions were analyzed using post-coding prior to entering data. The Statistical Package for Social Sciences (SPSS) version 16 was used to analyze the data.

## 4.7 ETHICAL CONSIDERATION

Ethical approval to carry out the study was obtained from the Biomedical Research Ethics Committee of the University of Zambia.

To ensure anonymity and hence confidentiality codes instead of names were used on the questionnaires to allow for checking and analysis. All information concerning individual subjects was anonymous and confidential.

No child was denied treatment even if the caretakers refused to participate in the study. No remuneration was given to participants and the right of the participant to withdraw at any time was ensured.

# CHAPTER 5

## 5.0 RESULTS

A total of 241 caretakers were approached and all were willing to take part in the study. Of the 241 questionnaires administered two were incomplete and were therefore excluded from the analysis, thus 239 were analyzed.

## 5.1 DEMOGRAPHIC PROFILE OF PARTICIPANTS

The characteristics of the study population are as outlined in table 1. 48.5 percent of the study participants were in the 21-30 years age group (117/241), with 93.8 percent female (226/241) and single 85.5 percent (206/241).44 percent had attained a secondary level of education (106/241). The majority of the study participants were not in employment 71.8 percent (173/241). Table 1 shows the demographic characteristics of the study group.

Table 1: Demographic characteristics of study participants

| Characteristic | N(241) | % |
|---|---|---|
| **Sex:** | | |
| **Female** | 226 | 93.8 |
| **Male** | 15 | 6.2 |
| **Marital Status:** | | |
| **Married** | 35 | 14.5 |
| **Single** | 206 | 85.5 |
| **Number of Children:** | | |
| **0-1 child** | 3 | 1.2 |
| **2-4 children** | 129 | 53.5 |
| **5-7 children** | 88 | 36.5 |
| **8+ children** | 21 | 21 |
| **Education:** | | |
| **Primary** | 91 | 37.8 |
| **Secondary** | 106 | 44.8 |
| **College/University** | 31 | 12.9 |
| **None** | 13 | 5.4 |
| **Employment:** | | |
| **Employed** | 68 | 28.2 |
| **Not employed** | 173 | 71.8 |
| **Residence:** | | |
| **High density** | 153 | 63.5 |
| **Medium density** | 57 | 23.7 |
| **Low density** | 31 | 12.9 |
| **Age:** | | |
| **≤20** | 34 | 14.1 |
| **21-30** | 117 | 48.5 |
| **31-40** | 72 | 29.9 |
| **41-50** | 12 | 5.0 |
| **>50** | 5 | 2.5 |

## 5.2 WILLINGNESS TO ACCEPT HIV TESTING

Willingness to accept an HIV test was assessed by the participant's feelings to being tested as outlined in the definition. Of the 239 questionnaires analyzed 69 percent were willing to accept an HIV for themselves and 98 percent were willing to have siblings of the child tested.

Table 2: Frequencies of caretakers willing to accept HIV testing for both themselves and siblings

| Willing to be tested | N(239) | % |
|---|---|---|
| **Yes** | 165 | 69 |
| **No** | 74 | 31 |
| Willing to test siblings | | |
| **Yes** | 234 | 98 |
| **No** | 5 | 2 |

## 5.3 KNOWLEDGE, ATTITUDES AND PRACTICE ON HIV, VCT, RTC AND ART

When asked on the method of HIV transmission majority of respondents (99.2 percent) said by sex, 73.8 percent said through blood and few mentioned through mother-to-child 35.8 percent. The majority mentioned condom use as a method of preventing HIV. Only three of the respondents mentioned that PMTCT services were available at their local clinic (1.2 percent).

Table 3: Knowledge on HIV, VCT and ART

| **HIV transmission** | **Frequency** | **%** |
|---|---|---|
| - by sex | 238 | 99.2 |
| - Mother to Child | 86 | 35.8 |
| - through blood | 177 | 73.8 |
| - through contaminated sharps | 101 | 42.1 |
| **HIV protection through** | | |
| - abstinence | 142 | 59.2 |
| - faithfulness | 132 | 55.0 |
| - condom use | 208 | 86.7 |
| - avoiding contaminated sharps | 41 | 17.1 |
| **VCT services available** | | |
| - pretest counselling | 228 | 95.4 |

| | | |
|---|---|---|
| - HIV testing | 232 | 97.1 |
| - post test counselling | 227 | 95.0 |
| Home based care | 21 | 8.8 |
| ART services | 95 | 39.7 |
| PMTCT services | 3 | 1.2 |

Regarding the source of information of VCT majority of the caretakers mentioned the health centre (88.3 percent). The least source of information was from the newspapers (11.2 percent) 59.6 percent and 66.2 percent of respondents had heard about VCT from the radio and television respectively as shown in the following table.

Table4: Source of information on VCT

| **Heard about VCT** | **Frequency** | **%** |
|---|---|---|
| - **From health centre** | 212 | 88.3 |
| - **On radio** | 143 | 59.6 |
| - **On Television** | 159 | 66.2 |
| - **In newspapers** | 27 | 11.2 |
| - **From family** | 47 | 19.6 |
| - **From community initiatives** | 51 | 21.2 |
| - **At school** | 42 | 17.5 |
| - **At church** | 69 | 28.8 |

The majority of respondents mentioned that RTC should be offered at healthcare facilities (99.2 percent). 70.9 percent of respondents mentioned that generally people in the community are afraid to test. Majority of respondents mentioned death as the main fear (58.3 percent)

Table 5: Attitudes and practice to HIV and RTC

| | **Frequency** | **%** |
|---|---|---|
| **RTC should be part of hospital services** | 239 | 99.2 |
| **General attitude of community towards HIV test** | | |
| - **Afraid to test** | 151 | 70.9 |
| - **Ready to test** | 62 | 29.1 |
| **Main fears for testing** | | |
| - **Death** | 140 | 58.3 |
| - **Depression** | 56 | 23.3 |
| - **Stigma** | 73 | 30.4 |

As shown in the following table more females had previously tested for HIV.

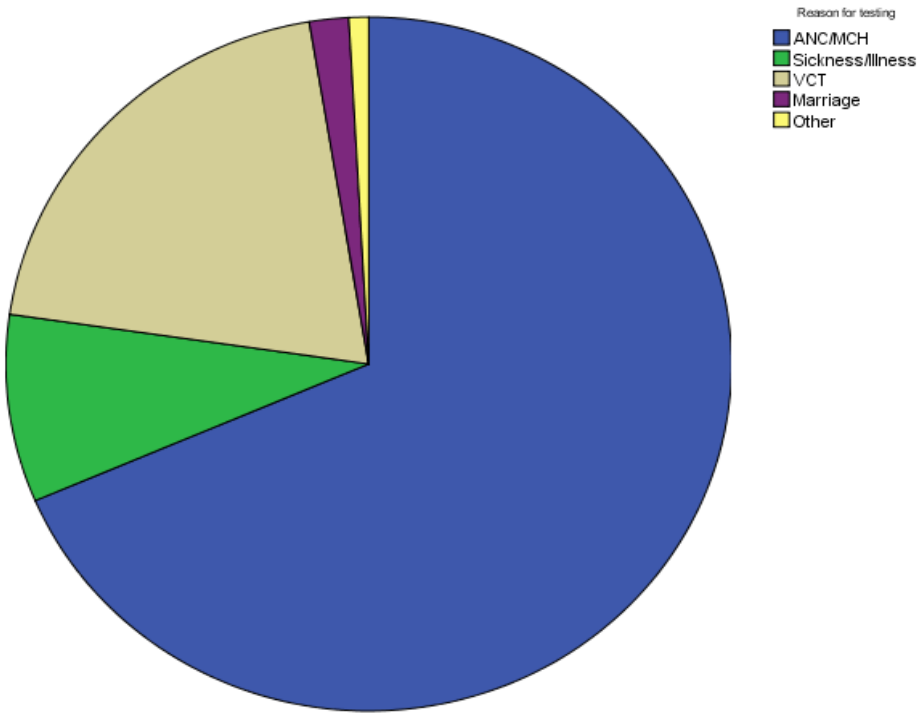
Table 6: Frequency of caretakers who had previously tested for HIV

| SEX | Ever tested for HIV | |
|---|---|---|
| | Yes | No |
| Female | 220 | 4 |
| Male | 13 | 2 |

As shown by the following graph 157 caretakers had taken an HIV test for ANC/MCH reasons. 46 reported VCT as the reason and 20 and 4 for sickness/illness and marriage respectively.

The following graph shows the reasons for testing

**Graph1: Reported reasons for testing.**



## 5.4 FACTORS ASSOCIATED WITH WILLINGNESS TO ACCEPT HIV TEST

Linear regression analysis was computed to investigate whether caregiver willingness to accept or reject an HIV test can be predicted from a combination of social and demographic variables. Each variable was considered alone to see how best it can be used to predict whether a parent/caregiver will accept or reject HIV testing. The variables considered were Sex, marital status, number of children, residency, and level of education, employment, residency, and age of the participant. The results of the analysis are shown are table 7 below. There were no significant results obtained for sex, marital status, and number of children, employment, residency and age. Only education level yielded significant results (B=-0.09, df(238)=1.20, $p<.05$, r= 0.17, R2 = .03 and 95%CI [-0.16 to -.01]). According to Cohen (1988) this was a very small effect size. Therefore, the obtained significant results could only explain a small effect size of the differenced in the education level and ones willingness to accept/reject an HIV test. As can be been seen from table 8, those who have no formal education at all were more willing (100 percent) to take an HIV test as compared to those who have been to school. Those with primary education (37.8 percent) had a higher number who did not accept testing for HIV and this was followed by those having either college or university education (35.5 percent)

Further, although, the age variable showed no associations with accepting or refusing to test for HIV when considered with other variables, considering the various age groups showed those between 21-30 years were more willing to accept an HIV test than other age groups($p<.01$).

**Table 7: Regression analysis summary for Sex, marital status, number of children, education level, employment, residency and age in predicting ones willingness to accept/refuse HIV testing(N=239)**

| Variable | B | SEB | β | p-value |
|---|---|---|---|---|
| Sex | -0.03 | 0.14 | -0.01 | 0.85 |
| Marital status | 0.02 | 0.09 | 0.02 | 0.81 |
| Number of children | 0.02 | 0.05 | 0.03 | 0.66 |
| Education level | -0.09 | 0.04 | -0.16 | 0.02 |
| Employment | 0.04 | 0.15 | 0.04 | 0.80 |
| Residency | -0.04 | 0.05 | -0.13 | 0.38 |
| Age | 0.01 | 0.04 | 0.02 | 0.81 |

Table 8: Characteristics of the study participants associated with willingness to accept HIV testing

| Characteristic | Willing % (N) | Not willing % (N) |
|---|---|---|
| **Sex:** | | |
| **Female** | 69.1(155) | 30.8(69) |
| **Male** | 4.5(10) | 2.2(5) |
| **Marital Status:** | | |
| **Married** | 73.5(25) | 26.5(9) |
| **Single** | 68.3(140) | 31.7(65) |
| **Number of Children:** | | |
| **0-1 child** | 66.7(2) | 33.3(1) |
| **2-4 children** | 72.1(93) | 27.9(36) |
| **5-7 children** | 64(55) | 36(31) |
| **8+ children** | 71.4(15) | 28.6(6) |
| **Education:** | | |
| **Primary** | 62.2(56) | 37.8(34) |
| **Secondary** | 72.4(76) | 27.6(29) |
| **College/University** | 64.5(20) | 35.5(11) |
| **None** | 100(13) | 0 |
| **Employment:** | | |
| **Employed** | 66.2(45) | 33.8(23) |
| **Not employed** | 70.2(120) | (51) |
| **Residence:** | | |
| **High density** | 66.7(102) | 33.3(51) |
| **Medium density** | 74.5(43) | 24.6(14) |
| **Low density** | 69(20) | 31(9) |
| **Age:** | | |
| **≤20** | 73.5(25) | 26.5(9) |
| **21-30** | 70.9(83) | 29.1(34) |
| **31-40** | 59.2(42) | 40.8(29) |
| **41-50** | 91.7(11) | 8.3(1) |
| **>50** | 80(4) | 20(1) |

## CHAPTER 6

### 6.0 DISCUSSION

Assessing the willingness to accept HIV testing is an important strategy in determining the gap in knowledge and its relationship with attitudes and practices to HIV prevention.

This study was aimed at investigating willingness to accept HIV test by caretakers for we know that prevention and treatment of HIV begins with testing which allows one to know their status. Not knowing prevents those infected the opportunity of treatment and care in terms of accessing antiretroviral drugs and services such as PMTCT for the prevention of mother- to- child transmission.

The study finding of high levels of willingness to accept HIV testing of 69 percent of respondents compares to other studies done in other countries. In Uganda, eighty seven percent of women sampled in PMTCT programs were willing to accept HIV testing (Banjunirwe and Muzoora 2005).

The number of admissions was not included in the questionnaire this might have proved to also lead one to being more likely to accept HIV testing as with an increasing number of admissions one is more likely to consider immunodeficiency.

The other interesting thing to note is that ninety eight percent of respondents were willing to test siblings of the child. This is in line with bringing HIV care and treatment to the family and not just the one child that is currently unwell as reflected in the revised recommendations for HIV testing for siblings of a child found to be infected perinatally. (HIV Clinical Resource: HIV Testing and Diagnosis in Infants and Children).

A number of studies have looked at factors that may influence acceptability of HIV testing and have in most cases found gender and age among other things such as salary, education, and religion to be associated with accepting VCT. In this study we found that being male and in the 21 to 30 years age group was significantly associated with willingness to accept HIV testing.

Regarding modes of transmission of HIV the majority of caretakers mentioned sex (99.2 percent) and through blood (73.8 percent). Very few of the respondents thought mother to child was a route of HIV transmission (35.8 percent) as has been shown in a study done in Tanzania. Government and Non-governmental organisations should therefore emphasize that most of the infections in children are as a result of MTCT.

Regarding preventive measures most of the respondents mentioned condom use (86.7 percent) followed by abstinence (59.2 percent) then faithfulness (55 percent). These findings suggest that health education is still required.

Majority of participants felt that routine HIV testing and counselling should be part of hospital services (99 percent).This acceptability of routine testing has also been shown in Uganda where 95 percent of adult patients at a national hospital accepted testing (Nakanjako et al, 2007).

The majority of participants felt that generally most of the members of the community were afraid to test which could be an obstacle to going for VCT. Death was thought to be the leading cause to the fear that the community had to HIV testing.

The fact that antiretroviral drugs, prolong life and are now available should be emphasized in the education and campaign materials and that the life expectancy of one should not be curtailed by a positive result rather by not testing one risks premature death from advanced disease .

Most of the participants interviewed had been tested for HIV and as reflected in the graph antenatal services prompted most to have the test. This is similar to findings in Botswana where 90 percent of pregnant women had an HIV test due to the introduction of routine HIV testing as a national policy in antenatal clinics (Centre for Strategic and international Studies, Seipone et al, 2004). This finding is similar to various studies that have found that generally the number of people expressing a desire to test (readiness to test) outnumbers the number that actually go ahead and have the test done.

The involvement of both governmental and Non-Governmental Organisations in the fight against HIV/AIDS is important and must be encouraged if we are to win this battle against this epidemic.

## CHAPTER 7

### 7.0 CONCLUSION

In conclusion there is a general willingness to accepting HIV testing but there are several fears that people have to testing and therefore sensitization needs to be priority if we are to encourage more people to go for VCT. It is encouraging that the majority of caretakers are willing to test the siblings as this is in line with the family-centred approach to managing HIV.

The knowledge, attitudes and practice of majority of respondents was good.

From the results it is most likely that where a physician or healthcare provider is actively involved in initiating the process of HIV testing more are inclined to accept an HIV test.

The media plays an important role in assisting dissemination of information that allows the community to have knowledge and therefore leading to more individuals being willing to accept HIV testing.

The study supports further evaluation of knowledge about HIV/AIDS and opportunities for health promotion, particularly in view of the implication for voluntary counselling and testing and prevention of mother-to-child HIV transmission programmes in Zambia.

### 7.1 RECCOMMENDATIONS

1. Routine testing and counselling to be enforced in all health facilities.
2. The Ministry of Health through the media to work with health workers to air programmes related to HIV prevention.
3. The Ministry of Health together with the Ministry of Education to revise the curriculum on HIV transmission particularly mother to child.

### 7.2 LIMITATIONS

The study population may have been biased towards a population that has been exposed to HIV testing as the majority of participants were women likely to have undergone antennal

care at some point in their lives. Further, there is a lot of support towards HIV programs in urban areas; therefore, it could better if this study was to be replicated in a rural setting.

Omitting the quality aspect of methodology weakened the strength of the study results.

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APPENDIX 1 QUESTIONNAIRE

## A **HIV TESTING AMONG CARETAKERS WITH A CHILD ATTENDING THE UNIVERSITY TEACHING HOSPITAL IN LUSAKA, ZAMBIA**

### A. INSTRUMENT: QUESTIONNAIRE.

**WILLINGNESS TO ACCEPT HIV TESTING AMONG CARETAKERS THAT BRING THEIR CHILD TO THE UNIVERSITY TEACHING HOSPITAL**

Study number _____
Interviewer's name _____
Date of interview ____/____/_____

**DEMOGRAPHIC DATA**

1. **How old are you?**
   <15 – 20 yrs □
   21 – 30 yrs □
   31 – 40 yrs □
   41 – 49+ □

2. **What is your marital status?**

   1. Married □
   2. Single □
   3. Divorced □
   4. Widowed □

3. **How many children do you have?**
   0 – 1 □
   2 – 4 □
   5 – 7 □
   8+ □

1. **What is your highest level of education?**

1. Primary □
2. Secondary □
3. College/University □
4. **Are you employed?**
1. Yes. □
2. No. □

**KNOWLEDGE ABOUT HIV AND VCT.**

**1. How does a person get infected by the HIV virus?**

**(Tick all applicable).**

1. Sexually transmission □
2. Infected mother to child □
3. Transmission through blood □
4. Any other ways? Specify_____
_____

2**. How can one be protected against getting HIV ?**

**(Tick all applicable).**

1. Abstinence. □
2. Be faithful. □
3. Condom use. □
4. Any other ways? Specify_____
_____

3. **Apart from the hospital, where else have you heard about VCT services?**

**(Tick all applicable).**

1. Clinic □
2. Radio. □
3. Television. □
4. Newspaper. □
5. Family members. □
6. Others, specify_____

**5. What VCT and HIV services are available at your local clinic?**
**(Tick all applicable).**

1. Pre-test counseling □

2. HIV testing. □
3. Post test counseling. □
4. Home based care. □
5. ART. □

**ATTITUDE AND PRACTICE TO HIV AND RCT SERVICES**

1. **In general what do you think are the main fears of having an HIV test?**

_____

_____

2. **Do you think that RTC should be part of hospital services?**
   1. Yes.
   2. No.

If yes why_____

If no why_____

**3. What are the benefits of counseling?**

_____

**4. What is the general attitude of your community towards people living with HIV/AIDS?**

_____

6. **How would you describe your feelings about being tested for HIV infection?**
1. Very comfortable. □
2. Somewhat worried. □
3. Very worried. □
4. I would never test. □

**6. Would you be willing to have your other children tested for HIV?**

1. Yes. □

2. No. □

**If yes**
**why**_____

**If no why_____**

7. **Have you ever been tested for HIV?**

1. Yes □
2. No. □

- If yes what made you decide to have an HIV test?_____

  _____

- **If no why not**

  **_____**

- **Would you like to take an HIV test today?_____**

8. **How many people at home know their status.**

1. 0 – 1 □
2. 2 – 4 □
3. 5 –7 □
4. 8+ □

Thank you for having given me your time to answer these questions.

## APPENDIX 2 Nyanja Consent Form

**Study number___**

**CHIBVOMEKEZO (CONSENT FORM).**

Muitanidwa kuzatengako mbali mumaphunziro amene aona pa za umoyo wa makolo amene atsamalira ana omwe amafika kuno kucipatala ca cikulu comwe cicedwa University Teaching Hospital. Maphunziro awa ndiyofuna oona kuti ndimakolo ambiri bwanji onwe azipereka ndi mtima wawo onse kuti apimitse magadzi a HIV pofuna kudziwa ngati alibe kalombo ka HIV nthawi ija yomwe ana awo apimitsidwa ngati abweresedwa kuno ku cipatala ca cikulu.

**CHOLINGA CHAMAPHUNZIRO.**

Chomwe ndiri ufuna odziwa mumamphunziro awa ndikuti ndi agati makolo omwe amazipereka ndimutima wawo onse kuti apimitse magadzi awo kuti azibe ngati iwonso alibe kapena ngati ali ndi kalombo ka HIV muthupi yawo, kuti azibe zomwe zichitika pa umoyo wawo. Ngati samazipereka kuti apimitse magadzi a HIV, kodi nciani comwe cimalenga kuti asamazipereka pomwe ana awo alupimitsidwa.

Nicolinga kuti ife anthu onse tiyenekera kudzipereka ndi mtima yatu yonse kupita ku kanselini senta ndikutengako mbali yo mapimitsa za kalombo ka HIV. Koma idzi sizimacitika tele. Sono maphunziro yomwe anacitidwa asonyedza kuti ndi makolo ang'ono cabe omwe amapimitsa magadzi a kalombo ka HIV pomwe ana awo apimitsidwa.

Sono iyi kalidwe ndiye imene ndifuna kuti ndidzibe kuti kodi nciani makolo samafuna odziba za umoyo wawo. Comwe awopera opimitsa nciani? Izi ndizomwe ndifuna odziba.

Maka maka ndilufuna odziwa kuti ndiciani comwe cifunika okalapo kuti makolo ambiri akayambe kuzipereka kapena kupita mumalo omwe amapimitsiramo magadzi a kalombo ka HIV mumadera.

**MUNDANDANDA WAMAPHUNZIRO**.

Ngati mwabvomeredza kutengeko mbali ndi maphunziro awa, comwe cidzacitika ndi kuti muzafunindwa kusaina cipepala ca cibvomekedzo ndipo muzafunsidwa mayankho yomwe mudzayakha cabe. Pomwe watha kuyakha mayankho ndikuti mumamphunziro awa yatha pomwepo. Ngati muzafuna kuti mupimitse magadzi a HIV mungathe opimitsa mucifunero canu capadela.

**ANGAKALE MALIPILO.**

Potengako mpata mumaphunziro awa muzatha odziwa umoyo wanu pa nkhani ya karombo ka HIV ndiposo muzatha udziwa momwe mudzazisungila pa umoyo wanu.

Mumamhunziro awa azathandizira akatswiri amene ayanganira za umoyo wa anthu kuti adziwe zomwe angathe ocita kuti makolo ambiri azipimitsa magadzi a HIV pofuna odziwa umoyo wawo mumadela adziko yathu iyi.

**ZIOPYEZO NDI ZOIPA.**

Kulibe ziopyezo ngakhale zoipa zomwe zocokela mumamphunziro awa.

**CHISINSIS.**

Tiziwa kuti zinthu zimene zikhuzana ndi kalombo ka HIV zifunikila chisinsi. Tizayetsa yetsa kucita zonse mwamalamulo kusunga zotulukamo mucisinsi. Zina lanu lizakhala papepala ya cibvomerekezo caje. Papepala ya mafuntso pazakhala palibe dzina lanu koma pazakhala nambala yomwe muzapatsidwa. Zomwe zizatuluka mumaphunziro awa ndiza uzako adotolo anzanga kuti pamodzi tingathe upunzitsana zocita. kulibe munthu wina azayetsa kusatasata bukuli yomwe izakhala ndi mapepala a cibvomerekezo.

**CIBVOMEKEZO.**

Awa maphunziro ndi yozipereka kodzifunira. Ngati mwasankha kusatengako mbali, muli omasuka kusatngako mbali mumaphunziro awa. Sicidzakhuza chisamalilo camwana wanu chimene mungathe kutenga kuchipatala m'tsogolo.

Zikomo kwambiri pofuna kutengako mbali mumaphunziro awa. Ngati muli ndimafunso khalani omasuka kuti amumasulileni pomwe simunabvetsetse kuti amumatsulireni. Omwe mungafuntse mungathe kufunsa a **Dr. Jacqueline Banda**, kapena amai a E. M. Nkandu a ku University of Zambia Research and Ethics Committee.

| | |
|---|---|
| **Dr Jacqueline Banda,**<br>**Department of Paediatrics and Child Health,**<br>**University Teaching Hospital,**<br>**Private Bag RW IX,**<br>**Lusaka , Zambia.**<br>**Lamya: 0966 724 500** | **Dr. James Munthali**<br>**Secretary, Research Ethics Committee**<br>**Ridgeway Campus,**<br>**Post Box 50110,**<br>**Lusaka, Zambia.**<br>**Tel: 256067.** |

Ine ……..ndatsimikidza kuti andifotokozera mwasatane satane za-mamphunziro awa. Andifotokozera zamalipilo ndiponso ziopyezo ndi zoipa amamphunziro. Andi-werengera/ndawerenga chipepala cha chibvomerekezo ndipo ndabvetsetsa mokwanira. Ndidziba kuti zochitika mumaphunziro awa zizakhala zachitsintsi. Ndidziwa kuti ndiri omasuka kusatengako mpata mumaphunziro. Ndinakhala ndimpata ofuntsa mafuntso yonse yazochitika mumaphunziro awa. Ndavomera kuzipereka kuti nditengeko mbali mumaphunziro awa.

…….. .. ……../……/…….

Otengako mbali sainani/ sindikidzani chala. Tsiku

…….. ……/……./…….

Dzina la anchito a maphunziro sainani Tsiku

APPENDIX 3 English Consent Form

Study number_____

*A. Consent form.*

**PARTICIPANT INFORMATION SHEET.**

**INVITATION.**

You have been invited to take part in a study, looking at the willingness to accept HIV testing among caretakers bringing their children to UTH.

**NATURE AND PURPOSE OF THE STUDY.**

The study is looking at the willingness to accept HIV testing among caretakers, it will help answer important questions on the factors associated with acceptance or decline of HIV testing in the community.

It is recommended that we all go for voluntary counselling and testing (VCT) to know our HIV status, however, this is not happening as has been shown by previous studies that only a small number of parents are aware of their status when the child is tested.

More information is needed on the factors that encourage one to go for HIV testing to make VCT more widely accepted and practised.

**PROCEEDURE.**

If you agree to take part in this study, you will be asked to sign a consent form and answer a few questions. This is all you will be required to do in this study. Once you have answered the questionnaire then your participation in this study has completed. But if you want to take an HIV test, you are most welcome though it will be out of your interest.

**POSSIBLE BENEFITS.**

By your taking part in this important study, you will able to know your HIV status and plan accordingly.

It will also help guide health providers the best way on expanding VCT across the country.

**POSSIBLE RISKS.**

There are no risks.

**CONFIDENTIALITY.**

All information collected will be kept confidential. You will be identified only by codes and date when questionnaire is administered. Only the consent form will have your name and the file where these consent forms will be kept will be confidential.

**CONSENT.**

Your participation in this study is strictly voluntary. You and your child not suffer any consequences if you decide not to participate. You may also withdraw from the study at any time for any reasons.

Thank you for considering participating in this study. If you have any questions, concerns and clarifications kindly contact Dr. Jacqueline Banda or the University of Zambia Research and ethics Committee on the addresses below:

| | |
|---|---|
| **Dr. Jacqueline Banda,** | **Dr. James Munthali** |
| **Department of Paediatrics and Child Health,** | **Secretary, Research Ethics Committee** |
| **University Teaching Hospital,** | **Ridgeway Campus,** |
| **Private Bag RW IX,** | **Post Box 50110,** |
| **Lusaka, Zambia.** | **Lusaka, Zambia.** |
| **Cell – 0966 724 500.** | **Tel: 256067.** |

I……..confirm that I have read/sufficiently been explained to about the nature, conduct, benefits and the risks of this clinical study. I have understood the information content. I am aware that I may withdraw from the study at any time without suffering any consequences. I have been given enough time to ask questions and seek clarifications and of my own free will, I am ready to participate in the study.

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**Participant's Name.** **Signature.** **Date.**

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**Person obtaining informed consent.** **Signature.** **Date.**