FACTORS CONTRIBUTING TO NON-UTILIZATION OF ANTIRETROVIRAL (ARVs) DRUGS FOR PREVENTION OF MOTHER – TO – CHILD – TRANSMISSION BY HIV POSITIVE – PREGNANT WOMEN IN LUSAKA URBAN DISTRICT, ZAMBIA.

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BY

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DECLARATION

I hereby declare that the work presented in this dissertation for the Master's degree in Public Health (MPH) is my own work and has not been previously submitted for a degree at the University of Zambia or any other University.

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ABSTRACT

Mother-to-Child Transmission (MTCT) is by far the largest source of HIV infection in children below the age of 15 years. Children who acquire the virus through Mother-to-Child Transmission do so before birth, during birth, or through breastfeeding. In the absence of any intervention, the transmission of the virus from Mother –To- Child is 40 percent. The study sought to determine factors contributing to non-utilization of antiretroviral (ARVs) drugs for Prevention of Mother – To – Child Transmission (PMTCT) among HIV positive pregnant women in Lusaka urban district.

A comparative study design was used in six health centres in Lusaka, Zambia.
A total of 320 HIV positive antenatal/postnatal mothers were randomly selected of which 160 utilized ARVs for PMTCT and 160 did not utilize ARVs for PMTCT.
It was revealed from the study that the independent factors associated with non-utilization of ARVs for PMTCT were willingness to take an HIV test, reaction to HIV positive result, informing spouse, family members and friends, knowledge about the possibility of HIV transmission from the mother to the baby, and knowledge about the benefits of ARVs for PMTCT.

The respondents who were willing to take an HIV test were 4.35 times more likely to utilize ARVs for PMTCT compared to those who were not willing to have HIV test O. R = 4.35 (95% CI, 2.22, 8.33). Respondents who denied the HIV positive result were 0.33 times less likely to utilize ARVs compared to those who accepted the results OR = 0.33 (95% CI 0.18, 0.58). Respondents who informed their spouses, family members and

friends about their HIV status were 2.13 times more likely to utilize ARVs compared to those who did not inform their spouse, family members and friends about their HIV status OR 2.13 (95% CI 1.25, 3.70). In addition, the respondents who were more knowledgeable about the possibility of transmission of HIV from the mother to the baby were 6.25 times more likely to utilize ARVs compared to those who had less knowledge about the transmission of HIV from mother to baby OR = 6.25 (95% CI 2.22, 16.67) . The women who knew the benefits of ARVs for PMTCT were 5.26 times more likely to utilize ARVs compared to those who did not know the benefits of ARVs for PMTCT OR = 5.26 (95% CI 3.23, 8.33).

In conclusion, integration of VCT into PMTCT activities, a positive attitude towards an HIV positive result, support from spouse, family members and friends, awareness that HIV can be transmitted from mother to baby and knowledge that ARVs can prevent the transmission of HIV from mother to baby would increase the uptake of ARVs for PMTCT.

DEDICATION

This study is dedicated to my late father Mr. Vincent Mwanza and my dear mother Mrs. Rebecca T. Mwanza, my brother and my sister who gave me great encouragement in pursuing further studies, not forgetting my beloved nephews and nieces who endured the long periods of my absence from home.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal care
ARVs	Antiretroviral drugs
CDC	Centre for Disease Control
CSO	Central Statistical Office
CTA	Call To Action
ELISA	Enzyme-Linked Immunosorbent Assay
HAART	Highly Active Antiretroviral Therapy
HB	Haemoglobin
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IPT	Intermittent Presumptive Treatment
MCH	Maternal and Child Health
MoH	Ministry of Health
MTCT	Mother to Child Transmission of HIV/AIDS
NVP	Nevirapine
O. R	Odds Ratio
PCR	Polymerase Chain Reaction
PMTCT	Prevention of Mother to Child Transmission of HIV/AIDS
STI	Sexually Transmitted Infections
UNICEF	United Nations International Children's Fund
VCT	Voluntary Counselling and Testing
WHO	World Health Organization
ZDHS	Zambia Demographic Health Survey
ZDV/AZT	Zidovudine

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

A pregnant woman is expected to attend Antenatal Clinic (ANC) as soon as she realizes that she is expecting. Antenatal care aims at making pregnancy and delivery a safe experience for the mother. It is also intended to build the foundation for the delivery of a healthy baby (National Protocol Guidelines: Integrated Prevention of Mother – To – Child Transmission of HIV/AIDS, National AIDS Council 2005). All pregnant women are expected to attend at least four visits of focused antenatal care. The following are some of the activities that are carried out at the antenatal clinic in order to achieve the aims:

- Clinical screening and examination, monitoring of blood pressure, urinalysis, weight measurement at every visit.
- Active detection and effective treatment of Sexually Transmitted Infections. Voluntary Counselling and Testing (VCT) for Human Immunodeficiency Virus (HIV) is also done. If the HIV test is negative in the first trimester; it is repeated at 34 weeks gestation.
- Detection, treatment and prevention of anaemia is also carried out and Ferrous Sulphate and Folic acid are provided.
- Intermittent Presumptive Treatment (IPT) with Sulphadoxine- pyremethamine (Fansidar) for malaria prophylaxis is given starting in the second trimester. The IPT is administered at least after every four weeks and the woman receives three doses before delivery (National Protocol Guidelines: Integrated Prevention of

Mother – To – Child Transmission of HIV/AIDS, National AIDS Council, 2005).

At the initial visit and subsequent ones, all pregnant women receive prenatal care and health information that include HIV, VCT and Mother – To – Child Transmission which is the primary means by which young children become infected with HIV. A number of factors influence the risk of infection, particularly the viral load of the mother at childbirth; the higher the viral load, the higher the risk. In addition, maternal and infant factors facilitate vertical HIV transmission: advanced maternal disease, mastitis, reduced CD4 count, genital tract infection and oral sores in the infant (Richardson et al., 2003). HIV is also transmitted through the colostrum and early milk as they have higher viral load than mature milk (Rousseau et al., 2003).

Voluntary Counselling and Testing is central in preparing pregnant women for making a properly informed decision about use of ARVs in PMTCT. During VCT, blood is collected for haemoglobin estimation, HIV as well as Rapid Plasma Reagin (RPR). Prevention of Mother- To- Child Transmission (PMTCT) of HIV is also explained to them. This includes firstly, administration of antiretroviral (ARVs) drugs. This prevents Mother- To- Child Transmission of HIV during pregnancy. Secondly, exclusive breastfeeding or exclusive formular feeding for six months helps prevent Mother – To – Child Transmission (MTCT) of HIV from breast milk. The mothers are then asked to return after two weeks to check for their results. The ones that test HIV positive and CD4 count is less than $350/mm^3$ are commenced on ARVs for treatment after the first trimester. During the first trimester, the first stage of the baby's development takes place and administration of ARVs particularly Efavirenz may cause congenital malformation of vital organs. Those on ARVs prior to pregnancy continue throughout pregnancy.

However, the regimen used should not have serious side effects to both mother and baby (National Protocol Guidelines: Integrated Prevention of Mother – To – Child transmission of HIV/AIDS, National AIDS Council, 2005). If the CD4 count is more than $350/mm^3$, the woman is given Zidovudine (AZT/ZDV) 300mg twice a day starting at 32 weeks gestation or as soon as possible thereafter. At the onset of labour, she is given nevirapine 200mg single dose as well as ZDV 600mg every 6 hours until delivery. This is for prevention of transmission of HIV from the mother to the baby. After delivery, the mother is given ZDV 300mg twice a day for 7 days. The baby is given Nevirapine 2mg/kg oral suspension immediately after birth and ZDV 4mg/kg twice a day for 7 days starting immediately after birth. At 18 months the baby is tested for HIV.

Due to limitations in HIV test technology, it is not possible to determine the precise timing or mode of transmission to the newborn. Polymerase Chain Reaction (PCR) and viral culture tests, although able to detect the virus itself, are not able to definitely establish infection before 2 to 3 months of age (Preble et al., 1998). MTCT can occur during pregnancy, labour and delivery, and through breast feeding (Nduati et al., 2000). Currently evidence suggests that most of maternal- infant HIV transmission occurs late in pregnancy or during labour and delivery and the percentage is higher (21 – 43 percent) in less developed countries (UNAIDS, 2004). Administration of ARVs to HIV positive pregnant women is one of the ways which reduces transmission of the virus to the baby.

All pregnant women meeting the criteria for commencement of ARVs either for treatment or prevention of transmission should therefore be given ARVs starting from the

second trimester.

However, some women do not receive nevirapine or AZT. This study will determine reasons why eligible women do not receive nevirapine or AZT which can reduce Mother-To- Child Transmission.

1.2 STATEMENT OF THE PROBLEM

The main source of HIV infection in Zambia is through hetero sexual intercourse. Studies suggest that the risk of transmission from an HIV infected mother to her child in Zambia is around 40 percent (Hira et al., 1989; Luo et al., 2000) and 5 to 10 percent will be as a result of transmission during pregnancy, 10 to 20 percent during labour and 5 to 10 percent through breastfeeding (Hira, 1989). The Zambia Demographic and Health Survey (CSO et al., 2000) estimated that of the 425,000 yearly births, 93 percent had at least one antenatal visit (91 percent of rural births and 98 percent of urban births). Since a high proportion of pregnant women access antenatal services, these services provide a window of opportunity for delivery of PMTCT services (Strategic Framework for PMTCT 2003, 2005). The provision of universal counseling and testing services to all women attending antenatal clinics, in conjunction with PMTCT services is one of the greatest opportunities to increase uptake of these services in the general population.

Preventing the transmission of HIV from HIV- positive mothers to their infants during pregnancy, labour, delivery and breastfeeding can be achieved through improved antenatal care (ANC) services, proving antiretroviral drugs to HIV positive women during pregnancy, safe delivery practices such as avoidance of invasive procedures. The availability of short- course antiretroviral (ARV) regimens, combined with elements of

improved maternal and newborn care can significantly reduce the risk of MTCT and prevent perinatal HIV infections. A survey of pregnant women was conducted in 2004. It revealed that infection rates in urban areas were 27 percent and 13 – 14 percent in rural areas (UNAIDS, 2004). In an effort to reduce the incidence of new childhood HIV infections in Zambia, the Ministry of Health (MoH) with support from United Nations International Children's Fund (UNICEF) launched the PMTCT Pilot Programme in 1999 to assess the feasibility of integrating PMTCT interventions in MCH services. By October 2000, the pilot programme was fully operational in six pilot sites. By October 2003, there were 74 PMTCT sites in the country located in 9 districts in 6 provinces in Zambia.

According to the 2000 census of population and housing, Lusaka the capital city of Zambia has a total population of 1,391,329 (14.1 percent). The growth rate is 3.4 percent. Women in child bearing age account for 22 percent of the total population (306,092.38). Fertility rate stands at 4.6 per family. The estimated HIV prevalence in pregnant women attending antenatal clinics in Lusaka is 30.6%. In Lusaka District, ARVS were introduced in the PMTCT services in 2004. Currently there are 23 PMTCT sites in Lusaka of which 15 are offering both PMTCT services and ARVs. The clinics are being managed by Lusaka District Health Management Team (LDHMT). Clinic records from one of the clinics revealed that in 2004, out of 1139 HIV positive pregnant women, 82 percent received ARVs both for treatment and for PMTCT. This means 18 percent of HIV positive pregnant women did not receive ARVs.

In 2005, out of 1003 HIV positive pregnant women, 84 percent received ARVs representing 16 percent of HIV positive pregnant women who did not utilize ARVs. It is clear from the foregoing that there is still a significant proportion of HIV positive pregnant women utilizing ARVs whether for treatment or for PMTCT. The reasons for non-utilization of ARVs are not clear. To date there has been no study to determine factors associated with non-utilization of ARVs for PMTCT in HIV positive pregnant women in Zambia. The purpose of this study is to determine factors that may contribute to non-utilization of ARVs for PMTCT by HIV positive pregnant women.

1.3 JUSTIFICATION

In any setting, it is useful to know factors contributing to non-utilization of ARVs for PMTCT. This will help to increase utilization. It would also help in policy and planning for health services. Present study is critical and the findings in this study may help in increasing the number of HIV positive pregnant women needing ARVs to utilize them.

1.4 RESEARCH QUESTION

What factors are associated with non-utilization of ARVs among HIV positive pregnant women in Lusaka, Zambia?

1.5 RESEARCH OBJECTIVES

GENERAL OBJECTIVE

To determine factors contributing to non-utilization of ARVs for PMTCT by HIV positive pregnant women in Lusaka urban.

SPECIFIC OBJECTIVES

- To compare the age of HIV positive pregnant women who utilized ARVs and those who did not.
- To compare the educational level of HIV positive pregnant women who utilized ARVs and those who did not.
- To compare the reaction towards an HIV positive result between the pregnant women who used ARVs and those who did not.
- To determine the attitudes of friends, relatives and spouses towards HIV positive pregnant women among those who utilized ARVs and those who did not.
- To determine knowledge levels of HIV positive pregnant women who utilized ARVs and those who did not.
- To make recommendations to policy makers and planners of utilization of ARVs by HIV positive pregnant women.

CHAPTER TWO

LITERATURE REVIEW

2.1 GLOBAL

Prevalence

The World Health Organization (WHO) estimated that by the end of 2005, approximately 40 million people were living with HIV/AIDS world wide. Sub- Saharan Africa had 25.8 million adults and children living with HIV/AIDS (UNAIDS/WHO, 2004). Women constituted 55 percent of infected adults in sub- Saharan Africa and 90 percent of these women were in their reproductive tears. Hetero- sexual transmission is the main route of HIV transmission in sub- Saharan Africa (UNAIDS, 2004).

Mother To Child Transmission

One of the tragic consequences of the HIV/AIDS pandemic is Mother- To- Child Transmission of HIV. Since the beginning of the pandemic, an estimated 5.1 million children worldwide have been infected almost all through Mother- To- Child Transmission. In the year 2000, more than 600,000 children became infected, 90 percent of whom were in Africa (Coutsoudis et al., 1999). De Kock et al (2000) also states that 90 percent of the HIV infected children live in sub- Saharan Africa. In 2004, approximately 640,000 children under 15 years became infected with HIV (UNAIDS, 2004). This represents an increase of HIV- infected children by 40,000 in four years. MTCT rates range from 13 to 32 percent in industrialized countries and fro 25 to 48 percent in developing countries (UNAIDS, 2001).

Prevention of Mother- To- Child Transmission

According to Population Council Annual Report (2003), the high incidence of HIV infection in babies in Africa is due to inadequate access to antiretroviral drugs which can reduce the transmission of HIV from mother to child. The regimens can be divided into those that are used as part of longer-term treatment for the mother (long- term treatments) and those that are used only to prevent MTCT (short course treatments). The most basic short course regimen is single dose nevirapine (NVP). Between 1997 and 1999 the HIV NET 012 study in Uganda found that single dose nevirapine given to the mother at the onset of labour and to the baby after delivery greatly reduced MTCT rates. It is easy to administer and affordable particularly in sub- Saharan Africa where resources are limited (Clayden, 2004).

Prevention of MTCT of HIV is being done mainly in three ways, namely: primary prevention of HIV among parents- to-be, prevention of unwanted pregnancies among HIV positive women and prevention of HIV transmission from HIV infected pregnant women to their infants (Strategic plan 2003, 2005). Prevention of HIV transmission from HIV infected pregnant women to their infants is being addressed through Information, Education and Communication (IEC) on HIV prevention, promotion of condom use, antenatal care, use of ARVs, safe delivery practices, counselling and support for safer infant feeding practices. The practice of either exclusive formular feeding or exclusive breastfeeding directly reduces the probability of MTCT by reducing the exposure of the infant to the virus from their mothers. Under the current socio-economic trends in sub-Saharan Africa, most HIV- positive mothers are left with exclusive breastfeeding as the only 'safe' and affordable option (Nutrition News for Africa, 2005). The use of infant

formular means the baby is not receiving the special vitamins, nutrients and protective agents found in breast milk. The cost of infant formular often puts it beyond the reach of poor families in resource constrained countries, even when the products are widely available.

For HIV- positive women who choose to breastfeed, exclusive breastfeeding is recommended for the first six months of an infant's life, and should be discontinued once an alternative form of feeding becomes feasible. This is because mixed feeding may increase the risk of HIV infection (UNAIDS, 2004). It therefore becomes imperative that other preventive measures of PMTCT are explored and encouraged such as use of ARVs.

2.2 REGIONAL

Prevalence

The East, Central and Southern African region, has equally been affected by the HIV/AIDS pandemic. Kenya with a population of 31.1 million, has 1.2 million births every year. Of the 2.2 million people living with HIV/AIDS, 1.4 million are women. A study on utilization of ARVs reported that 73 percent of women attending ANC who were offered VCT, 89 percent accepted, and of the 6 percent of women who tested HIV positive, 64 percent accepted treatment (Ayisi, 2002). HIV positive women give birth to 118,000 children annually. An estimated 35,000 – 40,000 of these infants are HIV positive and 10 percent of reported HIV/AIDS cases in Kenya are in children less than 5 years of age.

Approximately 3 to 4 million South Africans are currently infected with HIV and the vast majority of these infections are in the reproductive age group, newborn infants and children under the age of one year. In 1997, the prevalence rate in women attending public health antenatal clinics in South Africa was 17 percent. In 2000, a survey conducted showed that on average, 22 percent of pregnant women attending antenatal clinics were HIV positive (Jeffery et al., 2000). By 2003, the prevalence rate had risen to 27.9 percent. At least 10 percent of the adult population in Malawi is infected with HIV and vertical transmission is the main mode of transmission (Ministry of Health, 1999). High infection rates have been reported among women attending antenatal care and about 30 percent are reported to be infected (Taha et al., 1998).

Mother To Child Transmission

Since 2001, all prenatal clinics in Botswana have offered HIV screening and interventions for PMTCT of HIV, which can decrease vertical transmission of HIV. HIV testing in Botswana is performed after individual pretest counseling, with patients actively choosing whether to be tested ("opt in" approach). In 2003, 52 percent of pregnant women receiving prenatal care nation wide learned their HIV status and approximately 37 percent were infected with HIV (Botswana National AIDS Coordinating Agency, 2003).

Prevention of Mother To Child Transmission

Most countries started PMTCT pilot projects between 1998 and 2000. Based on UNICEF pilot programs, combined data from 9 African countries showed that 43 percent of ANC attendees accepted VCT, 19 percent tested HIV positive and 39 percent of HIV positive

pregnant women received ARV therapy. Combined data from Call To Action (CTA) program reported that of the 110,000 total women tested for HIV at ANC; 90 percent were counseled, and 80 percent were tested for HIV. Among 17 percent who tested positive, 58 percent of women and 30 percent of their newborn babies received antiretroviral therapy (Buyse, 2002). In Kenya PMTCT interventions include antiretroviral drug prophylaxis, optimal obstetric care, infant feeding counseling, and family planning. Under this program 50 percent of HIV positive antenatal women have received prophylactic antiretroviral drugs (Shaffer et al., 2004). It is not clear why the other 50 percent did not receive the ARVs which are beneficial in PMTCT of HIV.

In a study done in Botswana in 2002, 56 percent of ANC attendees accepted counseling. The results were that 52 percent of those counseled were tested, 52 percent of women who tested HIV positive received ARV therapy and only a third of these completed the course of therapy (Ngashi, 2002). Botswana's 2003 surveillance data showed that 37.4 percent of women attending antenatal clinics were HIV- positive. Botswana has had a national PMTCT program since 2001 and an antiretroviral treatment (ART) programme since 2002. Both programmes are free to clients. Antiretroviral prophylaxis for women and infants are provided to HIV positive pregnant women. Although 95 percent of pregnant women attend antenatal clinics and deliver in health facilities, uptake of PMTCT has been low (Shaffer et al., 2004). It is not clear why uptake of PMTCT is low in Botswana as well.

A cohort study done in Abidjan, Nigeria in 2005 revealed that giving Zidovudine (AZT) alone, or Zidovudine plus nevirapine, or Zidovudine plus nevirapine plus limousine at 36

weeks gestation reduces peripartum mother to child transmission (ANRS, 2005). A study done in Botswana in 2003 revealed that administration of Highly Active Antiretroviral Therapy (HAART) suppresses HIV in breast milk and may therefore reduce MTCT of HIV via breastfeeding. According to Shapiro et al (2005), the presence of ARVs in breast milk may reduce MTCT either through the direct inhibition of local HIV replication or by providing infant prophylaxis. However, it was also noted that infant exposure to nevirapine and possibly to Lamivudine and Zidovudine from breast milk is sufficient for both the beneficial and adverse effects of these drugs. This means that the drugs may provide protection against HIV infection but they may also expose infants to the risk of drug related toxicities or even resistance. In 2004, to increase the use of free national PMTCT and antiretroviral treatment (ARV) programmes, Botswana began routine, non compulsory ("opt out" approach) HIV screening in prenatal settings.

Concerns have been raised that routine testing in Africa might deter women from seeking prenatal care and might result in fewer women returning for their test results and HIV care after testing. To assess the early impact of routine testing on HIV – test acceptance and rates of return for care, the CDC Global AIDS Programme and the PMTCT programme in Botswana evaluated the routine prenatal HIV testing at four clinics in Francis town, the second largest city in Botswana, where HIV prevalence has been more than 40 percent. The results revealed that in the first three months of routine testing, 90.5 percent of pregnant women were tested for HIV compared with 75.3 percent who were tested in the last four months. However, many women who were tested never learned their HIV status because of logistical problems or not returning to the clinic.

Substantial increases in HIV testing of pregnant women were also observed at the Francis town referral hospital and at prenatal clinics nationwide.

These findings highlight the potential public health impact of routine HIV testing for programmes seeking to increase the number of persons accessing HIV- prevention and treatment services. However, barriers to serostatus disclosure to male partners have been documented. It is believed that HIV positive women do not disclose to their partners for the following reasons: fear of abandonment, fear of losing economic support, fear of rejection and discrimination , fear of violence and fear of upsetting family members (Suzanne, 2003). In addition, women may not inform their spouses for fear of blame that it was the woman who acquired infection from extra marital sexual relations and fear of divorce. Though the mentioned factors are associated with non disclosure of HIV status; they could be extrapolated to be the same factors contributing to non- utilization of ARVs by HIV positive pregnant women.

2.3 NATIONAL

Zambia has a population of approximately 9,885,591 people (CSO et al., 2000). About one-third of Zambia's population resides in cities, making it among the most highly urbanized countries in sub-Saharan Africa. The world's most devastating HIV/AIDS epidemic has not spared Zambia. The Zambia Demographic and Health Survey (ZDHS) conducted in 2005 revealed that the prevalence of HIV/AIDS was 14.4 percent nationwide.

However, the incidence was lower in rural areas (11 percent) compared to 25 percent in urban areas (CSO et al., 2000). The estimated number of adults and children living with

HIV/AIDS by the end of 2003 was 830,000 adults and 85,000 children. Of the 830,000 adults, 57 percent were women (UNAIDS/WHO, 2004).

In 1993 a survey of pregnant women revealed that infection rates were 27 percent in urban areas and 13 – 14 percent in rural areas (Noble, 2005). In 2002, HIV prevalence rates in sentinel antenatal clinics according to town were estimated as follows: Mongu 31.8 percent, Livingstone 31.6 percent, Lusaka 30.6 percent, Kabwe 28.8 percent, Chipata 27.2 percent, Ndola 22.7 percent, Mansa 22.2 percent, Kasama 18.4 percent, Solwezi 13.5 percent and Isoka 6.7 percent (Strategic plan 2003, 2005).

Prevention of Mother To Child Transmission

PMTCT services in Zambia were commenced in 2002 and provision of ARVs within PMTCT package was incorporated in 2004. However, there is limited documentation on utilization of ARVs for PMTCT in HIV positive pregnant women. Available literature is mainly related to appropriate feeding methods for infants of HIV positive mothers. Replacement feeding is not a realistic or affordable option in low income settings, even for literate urban women (Zambia National Food and Nutrition Commission, 2000). In another study that looked at infant feeding practices between HIV infected mothers and the uninfected, it was reported that HIV infected mothers introduced fluids and weaned their infants earlier than HIV – uninfected mothers. This puts infants at greater risk of non HIV related morbidity and HIV transmission, as early introduction of foods other than breast milk may increase MTCT (Luo, et al., 2000). A study done by Horizons (2003) in Ndola revealed that even when drugs are not available, mothers who receive counseling about infant feeding are far more likely to take steps such as adopting safer

feeding practices, to prevent their babies from contracting HIV (Population Council Annual Report, 2003). Another study was conducted which revealed that prolonged breastfeeding does not increase death rate among HIV infected women (Kuhn et al., 2005).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 STUDY DESIGN

A case control study which aimed at collecting and presenting data about HIV positive pregnant women with regard to non-utilization of ARVs was used. Those who were not willing to utilize ARVs were cases and those who were willing to utilize ARVs were controls. The case control study design was chosen for the following reasons:

1. The design was appropriate due to limited time available to complete the study.
2. The method enabled the researcher to collect current information about the study.
3. The design allowed for collection of information from a variety of individuals with similar characteristics to study.

3.2 VARIABLES

The dependent variable in this study was non-utilization of ARVs for PMTCT by HIV positive pregnant women while age, educational level, reaction towards an HIV positive result, attitudes of friends, relatives and spouses and knowledge of HIV transmission were independent variables.

TABLE 3.2 VARIABLES AND INDICATORS

S/N	VARIABLE	INDICATOR
1.	Age	1. Below 24 years 2. 25 – 29 years 3. 30 – 34 years 4. Above 34 years
2.	Education level	1. Primary 2. Secondary 3. Tertiary
3.	Reaction towards an HIV positive result	1. Denial 2. Anger 3. Accepted the results
4.	Attitudes of friends, relatives and spouses towards an HIV positive pregnant woman	1. Accepted the results 2. Anger 3. Disappointment 4. Rejection 5. Other
5.	Knowledge about HIV transmission	1. In pregnancy 2. During labour and delivery 3. During breastfeeding 4. Other

3.3 RESEARCH SETTING

The study was conducted in six clinics within Lusaka urban. These were; Chelstone, Kaunda Square, Kabwata, Kalingalinga, , Kamwala and Mtendere. The clinics were randomly selected out of 26. The clinics are several kilometers apart and serve the local communities. The women in these communities are of various backgrounds. According to the 2000 census of population and housing, Lusaka the capital city of Zambia has a total population of 1,391,329 (14.1 percent). The growth rate is 3.4 percent. Women in child bearing age account for 22 percent of the total population (306,092.38). Fertility rate stands at 4.6 per family. The estimated HIV prevalence in pregnant women attending antenatal clinics in Lusaka is 30.6%.

3.4 STUDY POPULATION

The study population was drawn from women attending antenatal and post natal care services.

INCLUSION CRITERIA

Women seeking ante/postnatal care services and were HIV positive

EXCLUSION CRITERIA

Women seeking ante/postnatal care services and were HIV negative

3.5 SAMPLE SIZE

The sample size was determined after a pilot study. From the pilot study, the main factor of interest was the benefit of ARVs for PMTCT. In this study the proportion of 19.4 percent rounded up to 20 percent and 33.3 percent rounded up to 35 percent of respondents in those who utilized and those who did not knew the benefits of taking ARVs for PMTCT. Using the information collected from the pilot study data was collected in a ratio of 1:1. Information was collected from a total sample size of 320 HIV positive mothers. The sample comprised of 160 mothers who utilized and 160 mothers who did not utilize ARVs for PMTCT.

Sample size calculation

Using these proportions, the required sample size in each group is 136 (See formular below).

Adjusting this sample size of non- respondents which has been put at 17 percent, 160 who utilized and 160 who did not utilize ARVs for PMTCT would need to be enrolled into the study.

Formular

$$n = \frac{P_1 Q_1 + P_2 Q_2}{(P_1 - P_2)^2} \text{ X } f$$

$$\frac{35 \text{ x } 65 + 20 \text{ x } 80}{(35 - 20)^2} \text{ X } 7.84$$

$$\frac{2275 + 1600}{(15)^2} \text{ X } 7.84$$

$$\frac{3875}{225} \text{ X } 7.84$$

17.22 X 7.84

136

Adjusted to 160

This was based on anticipated high refusal given stigma related to non- participation associated with HIV positive clients.

3.6 SAMPLING METHOD

Using the inclusion and exclusion criteria already outlined, the mothers who utilized and those who did not utilize ARVs for PMTCT were selected using random sampling technique.

3.7 DATA COLLECTION, ENTRY AND ANALYSIS

Scheduled structured questionnaires were used to collect data. Questionnaires were collected, checked for accuracy and completeness on a daily basis and thereafter, the data was coded and entered into the computer using SPSS. Both bivariate and multivariate analysis were employed. Chi Square test was used to analyse data that was categorical

and 'z' test was used to analyse data that was continuous. Cross tabulation was used to screen data and identify factors that were significant. All significant factors at bivariate analysis were included in the backward logistic regression model. This test identifies independent factors.

3.8 ETHICAL CONSIDERATIONS

Approval to undertake the study was sought from the University of Zambia, Research Ethics Committee. Permission was obtained from the Permanent Secretary, Ministry of Health, the Provincial Health Director and the District Director of Health in Lusaka. Written consent was obtained from the respondents and confidentiality was assured and maintained

3.9 PILOT STUDY

A pilot study was conducted at 2 clinics in Lusaka urban district at least one month before the main study. The purpose of the pilot study was to detect areas that needed correction in the questionnaire and obtain data that was used to compute the required sample size for the main study. Thereafter appropriate changes were made and the sample size was calculated.

3.10 ADMINISTRATION AND UTILIZATION OF RESULTS

It is expected that the findings generated from this study will contribute to knowledge and understanding of utilization of ARVs for PMTCT by HIV positive pregnant women and be useful in developing interventions that will be undertaken to address ARV utilization for PMTCT. In addition, data collected in this study will help health planners like in the Ministry of Health come up with better designed, better directed and more culturally sensitive intervention programmes to deal with socio-cultural problems associated with

utilization of ARVs by HIV positive women.

3.11 LIMITATION OF THE STUDY

- The spouses, family members and friends of the HIV positive pregnant women were not interviewed because confidentiality of the respondents' HIV status had to be maintained. Interviewing them would have assisted in determining their attitudes towards the respondents.

CHAPTER FOUR

RESULTS

A total of 320 antenatal/post natal mothers were interviewed from 6 clinics in Lusaka urban district. The sample comprised of 160 mothers who were not willing to utilize Antiretroviral (ARVs) drugs for Prevention of Mother- To- Child Transmission (PMTCT) referred to as cases, and 160 mothers who were willing to utilize (ARVs) drugs for PMTCT referred to as controls. This section presents the results of the study.

4.1 ASSOCIATIONS BETWEEN SOCIO- DEMOGRAPHIC FACTORS AND NON-UTILIZATION OF ARVs FOR PMTCT

Of the factors in table 4.1. only age ($p= 0.030$) and marital status ($p= 0.017$) were significantly associated with non-utilization of ARVs for PMTCT. Cases tended to be younger than the controls and respondents who were single were more likely to be cases compared to the married ones.

TABLE 4.1 ASSOCIATIONS BETWEEN SOCIO- DEMOGRAPHIC FACTORS AND NON- UTILIZATION OF ARVs FOR PMTCT FOR PMTCT

Factor	**Case n (%)**	**Control n (%)**	**p value**
Age (years)			
< 25 25 -29 30 – 34 35+	50 (31.3) 62 (38.8) 30 (18.8) 18 (11.3)	44 (27.5) 47 (29.4) 53 (33.1) 16 (10.0)	0.030
Total	**160 (100)**	**160 (100)**	
Marital Status			
Single Married	23 (14.4) 137 (85.6)	10 (6.3) 150 (93.8)	0.017
Total	**160 (100)**	**160 (100)**	
Level of education			
Primary Secondary Tertiary	79 (49.4) 58 (36.3) 23 (14.4)	69 (43.1) 71 (44.4) 20 (12.5)	0.334
Total	**160 (100)**	**160 (100)**	
Religion			
Catholic Pentecostal SDA UCZ Baptist	43 (26.9) 48 (30.0) 14 (8.84) 16 (10.0) 39 (24.4)	59 (36.9) 48 (30.0) 9 (5.6) 10 (6.3) 34 (21.3)	0.256
Total	**160 (100)**	**160 (100)**	

4.2 ASSOCIATIONS BETWEEN ECONOMIC FACTORS AND NON-UTILIZATION OF ARVs FOR PMTCT

Of the factors in table 4.2, only income level of respondents (p= 0.034), and income level of spouses (p= 0.046) were significantly associated with non- utilization of ARVs for PMTCT. Respondents as well as spouses who were cases earned less than the controls.

TABLE 4.2 ASSOCIATIONS BETWEEN ECONOMIC FACTORS AND NON-UTILIZATION OF ARVs FOR PMTCT

Factor	**Case n (%)**	**Control n (%)**	**p value**
Occupation of respondents			
Formal	30 (18.8)	45 (28.1)	0.116
Informal	37 (23.1)	37 (23.1)	
None	93 (58.1)	78 (48.8)	
Total	**160 (100)**	**160 (100)**	
Monthly income of respondents			
Less than K 1, 000, 000	53 (33.1)	51 (31.9)	0.034
K 1, 000, 000 – K 1, 500, 000	15 (9.4)	31 (19.4)	
Above K1, 500, 000	92 (57.54)	78 (48.8)	
Total	**160 (100)**	**160 (100)**	
Occupation of spouses			
Formal	77 (48.1)	87 (54.4)	0.130
Informal	60 (37.5)	61 (38.1)	
None	23 (14.4)	12 (7.5)	
Total	**160 (100)**	**160 (100)**	
Monthly income of spouses			
Less than K 1, 000, 000	97 (60.6)	92 (57.5)	0.046
K 1, 000, 000 – K 1, 500, 000	18 (11.3)	33 (20.6)	
Above K1, 500, 000	22 (13.8)	23 (14.4)	
None	23 (14.4)	12 (7.5)	
Total	**160 (100)**	**160 (100)**	

4.3 ASSOCIATIONS BETWEEN PHYSICAL HEALTH AND NON-UTILIZATION OF ARVs FOR PMTCT

Of the factors in table 4.3, only first marriage ($p= 0.014$), and use of family planning ($p< 0.001$) were significantly associated with non- utilization of ARVs for PMTCT. Controls were more likely to have been married for the first time compared to cases. In addition, controls tended to use family planning compared to cases.

TABLE 4.3 ASSOCIATIONS BETWEEN PHYSICAL HEALTH FACTORS AND NON- UTILIZATION OF ARVs FOR PMTCT

Factor	**Case n (%)**	**Control n (%)**	**p value**
Is this first marriage			
Yes No Not married	106 (66.3) 36 (22.5) 18 (11.3)	109 (68.1) 46 (28.8) 5 (3.1)	0.014
Total	**160 (100)**	**160 (100)**	
Number of children			
0 1 2 3 4	15 (9.4) 34 (21.3) 45 (28.1) 35 (21.9) 31 (19.4)	15 (9.4) 43 (26.9) 40 (25.0) 40 (25.0) 22 (13.8)	0.524
Total	**160 (100)**	**160 (100)**	
Using Family Planning			
Yes No	85 (53.1) 75 (46.9)	113 (70.6) 47 (29.4)	< 0.001
Total	**160 (100)**	**160 (100)**	
Gestation at first antenatal attendance			
Less than four months Four to seven months	48 (30.0) 112 (70.0)	53 (33.1) 107 (66.9)	0.548
Total	**160 (100)**	**160 (100)**	

4.4 ASSOCIATIONS BETWEEN KNOWLEDGE AND NON- UTILIZATION OF ARVs FOR PMTCT

According to the results in table 4.4, all the factors were significantly associated with non- utilization of ARVs for PMTCT. Respondents who were willing to take an HIV test were less likely to be cases compared to those who were not willing to take HIV test. While most of the controls' reaction towards an HIV positive test result was acceptance, most of the case's reaction towards an HIV positive test result was denial. Respondents who told spouses about their HIV status were less likely to be cases compared to those who did not tell the spouses about their HIV status. Respondents who told the family members about their HIV status were less likely to be cases compared to those who did not tell the family members about their HIV status. Respondents who told friends about their HIV status were less likely to be cases compared to those who did not tell friends about their HIV status. Respondents who had knowledge about the possibility of transmission of HIV from the mother to the baby were less likely to be cases compared to those who did not have the knowledge about transmission of HIV from mother to baby. Respondents who had knowledge that ARVs for PMTCT prevent the baby from getting infected with HIV were less likely to be cases compared to those who said that it improves mothers' wellbeing.

TABLE 4.4 ASSOCIATIONS BETWEEN KNOWLEDGE AND NON- UTILIZATION OF ARVs FOR PMTCT

Factor	Case n (%)	Control n (%)	p value
Willing to do HIV test			
Yes	111 (69.4)	154 (96.3)	0.001
No	49 (30.6)	6 (3.8)	
Total	**160 (100)**	**160 (100)**	
Reaction towards HIV positive results			
Denial	76 (47.5)	29 (18.1)	0.001
Anger	52 (32.5)	33 (20.6)	
Accepted	32 (20.0)	98 (61.3)	
Total	**160 (100)**	**160 (100)**	
Tell spouse about HIV status			
Yes	69 (43.1)	118 (73.8)	0.001
No	91 (56.9)	42 (26.3)	
Total	**160 (100)**	**160 (100)**	
Tell family members about HIV status			
Yes	46 (28.8)	91 (56.9)	0.001
No	114 (71.3)	69 (43.1)	
Total	**160 (100)**	**160 (100)**	
Tell friends about HIV status			
Yes	9 (5.6)	49 (30.6)	0.001
No	151 (94.4)	111 (69.4)	
Total	**160 (100)**	**160 (100)**	
Can HIV be transmitted from mother to baby			
Yes	88 (55.0)	159 (99.4)	0.001
No	72 (45.0)	1 (0.6)	
Total	**160 (100)**	**160 (100)**	
Benefits of ARVs for PMTCT			
Prevents the baby from getting HIV	19 (11.9)	121 (75.6)	0.001
Improves mothers' wellbeing	141 (88.1)	39 (24.4)	
Total	**160 (100)**	**160 (100)**	

4.5 MULTIVARIATE ANALYSIS

Table 4.5 shows the results from the multivariate analysis. Respondents who were willing to have an HIV test were 77% less likely (OR =0.23; 95% CI, o.12, 0.45) to be cases compared to the respondents who were not willing to have an HIV test. Compared to respondents who accepted their HIV test positive results, those who were in denial were 3.07 (95% CI 1.73, 5.46) times more likely to be cases. Respondents who informed their friends about their HIV status were 53% less likely to be cases compared to those who did not inform their friends (OR=0.47;95% CI 0.27, 0.80). d Respondents who thought HIV could be transmitted from the mother to the baby were 84% less likely to be cases compared to those who did not think that HIV can be transmitted from the mother to the baby (OR=0.16; 95% CI 0.06, 0.45). Respondents who indicated that the benefits of taking ARVs for PMTCT by HIV positive pregnant women was the protection of the baby from HIV were 81% less likely to be cases compared to those who indicated other benefits (OR= 0.19; 95% CI 0.12, 0.31)

TABLE 4. 5 RESULTS OF THE MULTIVARIATE ANALYSIS

FACTOR	**O. R**	**95% C I**	
Willingness to have HIV test			
Yes	0.23	0.12	0.45
No	1		
Reaction towards HIV positive results			
Denial	3.07	1.73	5.46
Anger	1.12	0.64	1.97
Accepted	1		
Informed friends about their HIV status			
Yes	0.47	0.27	0.80
No	1		
Transmission of HIV from mother to baby			
Yes	0.16	0.06	0.45
No	1		
Benefits of ARVs for PMTCT			
Protects baby from HIV	0.19	0.12	0.31
Other	1		

CHAPTER FIVE

DISCUSSION

5.1 INTRODUCTION

In Zambia the PMTCT programme has been incorporated in the ANC activities. The programme is for all pregnant women to know their HIV status. The Zambia National PMTCT Programme uses an 'opt-out' approach. The opt-out approach means that HIV testing is part of the routine laboratory processes undertaken during all pregnancies (National Protocol Guidelines, 2005). The women that test HIV positive are counseled to take ARVs to prevent transmission of the virus from the mother to the baby. At the time of study, nevirapine alone was used in most clinics. However, currently two drugs are administered for PMTCT: Zidovudine and nevirapine.

The study sought to determine factors contributing to non-utilization of ARVs for PMTCT by HIV positive pregnant women. There was 100 percent response rate from the participants. It was established in the study that the following factors were associated with non-utilization of ARVs for PMTCT by HIV positive pregnant women.age, marital status, monthly income level, number of marriages and using Family Planning, willingness to undergo HIV test, reaction towards HIV positive results, support from spouse, family and friends, knowledge on possibility of HIV transmission from mother to baby and knowledge on the benefits of ARVs for PMTCT.

5.2 SELECTED DETERMINANTS

5.2.1 AGE

The study has revealed that the younger the pregnant woman, the less likely she will utilize ARVs for PMTCT. This is likely to occur because a young pregnant girl is most

likely single and may be afraid of stigmatization at ANC. However there was no literature to explain how age relates to utilization of ARVs for PMTCT.

5.2.2 MARITAL STATUS

The study also showed that married women were more likely to utilize ARVs for PMTCT compared to single women. A married pregnant woman will be much more willing to use the service than a single woman because a couple is able to consult each other and make a collective decision. In the case of a single pregnant woman she may not have such an opportunity. In some cases the spouse may even refuse responsibility of the pregnancy. A single pregnant woman lacks emotional support and encouragement. Although this result was significant at bivariate analysis, there has been no study done to support or contradict the current finding.

5.2.3 MONTHLY INCOME LEVEL

The study further revealed that the respondents as well as their spouses who earned more income were more likely to utilize ARVs for PMTCT compared to those who earned less income. A client who is pregnant and on ARVs is expected to take adequate nutritious foods regularly. In Zambia, it may be assumed that the monthly income for most families is not adequate to meet even the daily requirements. Therefore a couple who earns little income may perceive it as an extra burden to spend more money on food and opt not to utilize ARVs even for PMTCT. There was no study identified to support or contradict this result.

5.2.4 NUMBER OF MARRIAGES

The study showed that women who utilized ARVs for PMTCT were more likely to have been married for the first time compared to those who did not utilize ARVs. In Zambia

the general assumption is that women who are married for the first time are more likely to receive care and support from the spouse. She is treated with respect and the spouse will listen to whatever she has to say. She may even be escorted for ANC in which case he will be sensitized on the need for the wife to take ARVs for PMTCT. However, it may also be true that a woman married for the second or third time may equally receive the same attention accorded to one married for the first time. There was no literature to support or contradict this finding.

5.2.5 USING FAMILY PLANNING

The results of the study also revealed that women who had been using family planning were more likely to utilize the ARVs compared to those who had not been using family planning. This is expected because if a woman uses family planning, she is more likely to have a planned pregnancy. If a pregnancy is planned, it is precious and the couple looks forward to a live and healthy baby. They will do everything possible to protect the baby including utilization of ARVs. However, there was no study identified to support or contradict the finding.

5.3 INDEPENDENT FACTORS FOR UTILIZATION OF ARVs FOR PMTCT

It was established in the study that the following factors were associated with non-utilization of ARVs for PMTCT by HIV positive pregnant women in multivariate analysis: willingness to take HIV test, reaction towards HIV positive results, informed spouse, family and friends about their HIV status, knowledge about transmission of HIV from mother to baby and benefits of ARVs for PMTCT

5.3.1 WILLINGNESS TO TAKE HIV TEST

The study showed that the respondents who were willing to have HIV test were more likely to utilize the ARVs compared to those who were not willing to have HIV test. Addisu (2003) in a study on determinants of voluntary counseling and HIV testing among pregnant women in Adama Town revealed that women's intention to accept VCT is likely to increase PMTCT uptake. There is an indication that women's acceptance of HIV testing seemed to depend on their VCT experience, intention to benefit from PMTCT service and partners' willingness to be part of the VCT testing process. This supports the result of the present study in that pregnant women who were willing to have an HIV test were more likely to utilize ARVs for PMTCT.

5.3.2 REACTION TOWARDS HIV POSITIVE RESULTS

The study revealed that respondents who denied the HIV positive result were less likely to utilize the ARVs for PMTCT. This is expected because if they denied the results they were convinced that they were not infected or the results were false. Such a negative attitude would not compel them to utilize ARVs for PMTCT. Such a reaction may also be indicative of poor VCT services. On the contrary, for those that accepted the results were convinced they were infected. The ones that had a positive attitude towards the HIV positive result, were likely to take measures that would prolong their life and protect the baby from transmission of HIV from the mother to the baby. For that reason they were more likely to utilize ARVs for PMTCT. Although this result was significant at multivariate analysis, there were no studies identified to support or contradict the current finding.

5.3.3 INFORMED SPOUSES, FAMILY MEMBERS AND FRIENDS

The results further showed that respondents who informed their spouses, family members and friends about their HIV status were more likely to utilize the ARVs for PMTCT compared to those who did not inform the spouse, family members or friends. Sagay et al (2006) in a study on partner disclosure of HIV status among HIV positive mothers in Northern Nigeria revealed that partner consent and support can substantially enhance adherence to PMTCT interventions. This is supported by a study on predictors of nonadherence to single dose nevirapine therapy for the prevention of mother to child HIV transmission which revealed that disclosure of HIV status and couples counseling was associated with adherence among home births (Albrecht et al, 2006). Medley et al (2004), in a study on rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries: implications for prevention of mother to child transmission programmes revealed that the low rates of HIV serostatus disclosure reported among women in antenatal settings have several implications for prevention of mother to child transmission of HIV programmes as the optimal uptake and adherence to such programmes is difficult for women whose partners are either unaware or not supportive of their participation. In the society, attitudes of spouses, family members and friends influence the way one behaves. If HIV positive pregnant women receive a positive attitude from their spouses, family members and friends chances of informing them about their HIV status are high. If they accept the HIV status of the women, it is easier for the client to utilize ARVs. However, when there is perceived hostility from the spouse, family members and friends, the client will not disclose the HIV status and will not utilize ARVs for PMTCT for fear of abandonment, losing economic support, rejection

and discrimination, upsetting family members, stigmatization, violence and even divorce (Suzanne, 2003).

5.3.4 TRANSMISSION OF HIV FROM THE MOTHER TO THE BABY

The study also revealed that the respondents who were more knowledgeable about the possibility of transmission of HIV from the mother to the baby were more likely to utilize the ARVs compared to those who had less knowledge about the transmission of HIV from mother to baby. Peltzer et al (2007) in a study on barriers to prevention of HIV transmission from mother to child in a resource poor setting in the Eastern Cape, South Africa revealed that major potential barriers included among others PMTCT knowledge. In another study conducted by Afolabi et al (2007) on HIV Voluntary Counselling and testing of pregnant Women in Primary Health care Centres in Ilesa, Nigeria, revealed that reasons for non utilization of PMTCT facilities mainly bordered on the belief that they could not transmit HIV to their unborn children. This supports the present finding that women who had knowledge about the possibility of transmission of HIV from the mother to the baby were more likely to utilize the ARVs for PMTCT (99.4%) compared to those who did not have the knowledge about transmission of HIV from mother to baby (0.6%).

5.3.5 KNOWLEDGE ABOUT BENEFITS OF ARVs FOR PMTCT

The study further revealed that respondents who knew the benefits of ARVs were more likely to utilize the ARVs compared to those who did not know the benefits of ARVs for PMTCT. This is expected because a pregnant woman who knows that utilizing ARVs would benefit the baby will surely accept utilization of ARVs in order to protect the baby from HIV. However though the finding was significant at multivariate analysis, there were no other studies identified to support or contradict the current finding.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

Using a comparative study design, the study attempted to determine factors contributing to non-utilization of ARVs for PMTCT. The findings from this study showed that integration of VCT into PMTCT activities, accompanied with a positive attitude towards an HIV positive result, support from spouse, family members and friends, awareness that HIV can be transmitted from mother to baby and knowledge that ARVs can prevent the transmission of HIV from mother to baby would increase the uptake of ARVs for PMTCT.

6.2 RECOMMENDATIONS

Based on the findings of the study, the following recommendations have been made:

- Further studies should be conducted to explore if the identified factors are the actual causes for non- utilization of ARVs for PMTCT.
- VCT and PMTCT activities should be improved to enable clients make informed choices.
- Accessibity to ARVs should be at all health facilities. This would promote utilization.
- All antenatal mothers are tested for HIV after VCT. An opt – out approach could be considered.
- Strengthen communities so that they could form clubs that would monitor the welfare of HIV positive pregnant women. This would reduce stigma on those infected with HIV.

- Information, Education and Communication on mode of transmission and preventive measures of Mother To Child Transmission of HIV should be intensified at health facilities and work places. This would reduce denial of an HIV positive result.

APPENDIX I

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APPENDIX II

QUESTIONNAIRE

FACTORS CONTRIBUTING TO NON- UTILIZATION OF ANTIRETROVIRAL (ARVs) DRUGS FOR PMTCT BY HIV POSITIVE – PREGNANT WOMEN IN LUSAKA URBAN DISTRICT, ZAMBIA.

QUESTIONNAIRE No _____

INTERVIEWER'S NAME: _____

INTERVIEW DATE: ____/____/_____

INSTRUCTIONS TO THE INTERVIEWER

1. Greet the interviewee
2. Introduce yourself
3. Explain why you are conducting the interview
4. Assure the interviewee that the information collected will be treated with confidence.
5. Get written consent
6. Carry out the interview
7. Encircle the letter with the most appropriate answer
8. At the end of the interview thank the interviewee

Section A: Demographic data

Clinic: _____

1). Chawama
2). Chelstone
3). Chilenje
4). Chipata
5). George
6). Kabwata
7). Kalingalinga
8). Kanyama
9). Matero
10). Mtendere

1. Residential Area: _____

2. Age

1) Below 24 years
2) 25 - 29 years
3) 30 – 34 years
4) Above 34 years

3. Level of education.

1) Primary
2) Secondary
3) Tertiary

4. Next of Kin

1) Spouse
2) Father
3) Mother
4) Other (Specify).....

5. Marital status

1) Single
2) Married

6. Occupation of respondent

1) Formal
2) Informal
3) None

7. Monthly Income Level of respondent

1) Less than K 1,000,000
2) K 1,000,000 and K 1,500,000
3) Above K 1,500,000
4) None

8. Occupation of spouse

1) Formal
2) Informal
3) None

9. Monthly Income Level of spouse

1) Less than K 1,000,000
2) K 1,000,000 and K 1,500,000
3) Above K 1,500,000
4) None

10. Religion

1) Catholic
2) Pentecostal
3) SDA
4) UCZ
5) Baptist

Section B: Social data

11. Is this the first marriage?

1) Yes
2) No
3) Not married

12. If no to question 11, what happened with the first marriage?

1) Divorced
2) Spouse died
3) Other (Specify) .....

13. How many children do you have?

.....

14. Have you been using any Family Planning?

1) Yes
2) No

15. If yes to question 14, which method have you been using?

1) Condoms
2) Oral contraceptives
3) Injectables
4) Norplant
3) Other (Specify).....

16. If no to question 14, give reasons

1) Spouse refused
2) Did not feel like
3) Preferred method not available
4) Other (Specify) .....

17. At how many months of pregnancy did you first visit the antenatal clinic?

1) Less than four months
2) Four to seven months

18. What made you go for antenatal clinic at that particular time?

1) Wanted to know my health status
2) Wanted to know if the baby was alright
3) Other (Specify) .....

19. What activities are conducted at the antenatal clinic?

1) Information Education and Communication (IEC)
2) Checking of blood pressure
3) Checking of weight
4) Physical examination
5) Blood test for HIV
6) Blood test for malaria
7) Giving of antimalarial drugs
8) Other (Specify).....

20. Were you willing to have the HIV test?

1) Yes
2) No

21. If no to question 20, give reasons

1) Was not ready
2) Did not inform my spouse
3) Other (Specify).....

22. What was your reaction towards an HIV positive result?

1) Denial
2) Anger
3) Accepted the results

23. Have you told your spouse about your HIV status?

1) Yes
2) No

24. If yes to question 23, what was his reaction?

1) Accepted the results
2) Anger
3) Disappointment
4) Rejection
5) Other Specify.....

25. If no to question 23, give reasons

1) Fear of rejection
2) Fear of losing economic support
3) Fear of violence
4) Other (Specify) .....

26. Have you told your family members about your HIV status?

1) Yes
2) No

27. If yes to question 26, what was their reaction?

1) Accepted the results
2) Anger
3) Disappointment
4) Rejection
5) Other (Specify) .....

28. If no to question 26, give reasons
1) Fear of rejection
2) Fear of disappointing them
3) Fear of upsetting family members
4) Other (Specify)

29. Have you told your friends about your HIV status?

1) Yes
2) No

30. If yes to question 29, what was their reaction?

1) Accepted the results
2) Anger
3) Disappointment
4) Rejection
5) Other (Specify).....

31. If no to question 29, give reasons

1) Fear of rejection
2) Fear of disappointing them
3) Other (Specify) .....

32. In your opinion do you think HIV can be transmitted from mother to the baby?

1) Yes
2) No

33. If yes to question 32, how can HIV be transmitted from the mother to the baby?

1) In pregnancy
2) During labour and delivery
3) During breastfeeding
4) Other (Specify).....

---

34. If yes to question 32, is it possible to prevent transmission of HIV from the mother to the baby?

1) Yes
2) No

35. If yes to question 34, how can transmission of HIV from the mother to the baby be prevented?

1) By giving the pregnant mother ARVs
2) By giving the baby ARVs
3) Don't know
4) Other Specify).....

---

36. Were you willing to take ARVs?

1) Yes
2) No

37. If yes to question 36, give reasons.

.....

.....

.....

38. If no to question 36, give reasons

.....

.....

.....

39. In your opinion, what are the benefits of taking ARVs for PMTCT by HIV positive pregnant women?

.....

.....

.....

40. In your opinion, how can the use of ARVs for PMTCT by HIV positive pregnant women be improved in Zambia?

END OF QUESTIONNAIRE

THANK THE RESPONDENT

APPENDIX III

CONSENT FORM

TITLE OF STUDY:

FACTORS CONTRIBUTING TO NON - UTILIZATION OF ANTIRETROVIRAL (ARVs) DRUGS BY HIV POSITIVE - PREGNANT WOMEN FOR PREVENTION OF MOTHER – TO- CHILD TRANSMISSION IN LUSAKA URBAN DISTRICT, ZAMBIA.

NAME OF RESEARCHER:

Rosemary V. Mwanza

NAME OF SUPERVISOR:

Professor S. Siziya

Purpose

I am a student currently doing a Masters degree in Public Health at the University of Zambia, School of Medicine. We are required to conduct research as part of the course. I have therefore designed a research project to study the **FACTORS CONTRIBUTING TO NON - UTILIZATION OF ANTIRETROVIRAL (ARVs) DRUGS BY HIV POSITIVE - PREGNANT WOMEN FOR PREVENTION OF MOTHER – TO-CHILD TRANSMISSION IN LUSAKA URBAN DISTRICT, ZAMBIA.**

Information about the research

If you agree to participate in this study, you will be asked to respond to questions that I will ask you. The questions and discussion will take about 30 minutes to complete. I am going to ask you questions on your personal details like when you were born, education background and HIV related questions.

Possible risks

There are no risks associated with your participation in the study. However, you may find discussing your HIV status, your spouse, friends and relatives a bit uncomfortable. You may also be afraid that the information collected will be passed on to other people. This is unlikely as everything you say remains strictly confidential and no names will be recorded.

Possible benefits

The information that you are going to give me will help different interested groups in understanding why some women take ARVs and others do not in Prevention of Mother To Child Transmission of HIV. It is also possible that the information collected can be used by the Ministry of Health and help in finding ways and means that will ensure that every HIV positive pregnant woman takes ARVs to prevent HIV transmission to the baby.

Confidentiality

You will not be identified in any report on this study. We will not tell your spouse, friends or relatives about your participation.

Participation

Your participation is completely voluntary and there is no penalty for refusing to participate. In addition you may decide to stop your participation at any time.

Should you have any concerns or questions about the study or your participation, kindly feel free to contact the Chairman of the Research Ethics Committee or myself on the following contact details:



Chairman
Research Ethics Committee
UNZA Ridgeway Campus
P. O. Box 50110.
LUSAKA
Phone: 01 – 256067

Miss Rosemary V. Mwanza
School of Medicine
Department of Community Medicine
P. O. Box 50110.
LUSAKA
Phone: 0966 - 611463

CONSENT

I have read (or been informed) of the information given above. I also understand that I can withdraw at any time. I consent to participate in the study.

Respondent's name .....

Signature/Thump.....

Date.....

Investigator's name.....

Signature.....

Date.....

ox 50827
a
260-1-235554
260-1-236429

In reply please quote
No.....

Republic of Zambia

MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH MANAGEMENT TEAM

24th January, 2007

MS. R V MWANZA
University of Zambia
School of Medicine
Box 50110
Lusaka

Dear Madam,

RE: PERMISSION TO CONDUCT A RESEARCH PROJECT

Be informed that permission has been granted for you to conduct a research project at our health facilities.

However this should be done with minimal disruption to the day today activities at the Health Centre and remember to avail this office with a copy of your report.

By copy of this letter Health Centre In-Charges are hereby informed forthwith.

Yours faithfully,

DR. M. KABASO
CLINICAL CARE EXPERT
FOR DISTRICTDIRECTOR OF HEALTH

18th December 2006

Rosemary V. Mwanza
MPH Student
University of Zambia
School of Medicine
Department of Community Medicine
P. O. Box 50110
LUSAKA

RE: PERMISSION TO CONDUCT A STUDY

I refer to your letter on the above subject to conduct a study on "Factors contributing to Non – utilization of Antiretroviral (ARVs) drugs by HIV Positive Pregnant Women for Prevention of Mother - To – Child - Transmission in Lusaka Urban District."

Research is vital to providing information for decision making and the Ministry supports such activities.

My office has no objection in the study being conducted and grants you permission. You are requested to provide the Ministry of Health, a report of your findings at the end of your study.

Wishing you the best with your study.

ORIGINAL SIGNED
BY
DR. S. K. MITI

Dr. S. K. Miti
PERMANENT SECRETARY
MINISTRY OF HEALTH

cc. The Provincial Health Director - Lusaka Province
The District Director of Health - LDHMT
Professor Siziya - Department of Community Medicine

University of Zambia
School of Medicine
Department of Community Medicine
P. O. Box 50110.
LUSAKA

14th December 2006

The Permanent Secretary,
Ministry of Health,
P. O. Box 30205.
LUSAKA.

Dear Sir/ Madam,

RE: PERMISSION TO CONDUCT A STUDY

I am a student at the University of Zambia, School of Medicine, and department of community medicine pursing a Master's degree in Public Health. I wish to request for permission to conduct a study in Lusaka Urban District. The study topic is **"FACTORS CONTRIBUTING TO NON - UTILIZATION OF ANTIRETROVIRAL (ARVs) DRUGS BY HIV POSITIVE – PREGNANT WOMEN FOR PREVENTION OF MOTHER – TO – CHILD TRANSMISSION IN LUSAKA URBAN DISTRICT, ZAMBIA."** The Research Ethics Committee has already approved the study.

I hope my request will receive a favourable response.

Thank you.

Yours faithfully,

R. V. Mwanza
MPH STUDENT

cc. The Provincial Health Director - Lusaka Province ✓
The District Director of Health - LDHMT
Professor Siziya - Department of Community Medicine