THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF COMMUNITY MEDICINE

STUDY REPORT

TITLE : FACTORS AFFECTING COMPLIANCE IN THE UPTAKE OF ZIDOVUDINE (AZT) AND NEVIRAPINE (NVP) BY HIV SEROPOSITIVE EXPECTANT WOMEN DELIVERING OUTSIDE A HEALTH FACILITY IN LUSAKA URBAN.

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STATEMENT

I hereby certify that this study was conducted independently by me and that all the sources quoted are indicated in the text and the reference section of this study. I am greatly indebted to all those whose material I quoted during this research.

SIGNED BY---**Date** 30 / JUN / 2008
(Student)

DECLARATION

I hereby declare that to the best of my knowledge, the work presented in this study for the Master of Public Health, has not been presented either wholly or in part for any Master of Public Health degree and is not currently being submitted for any other degree.

SIGNED: --DATE 30 / JUN / 2008
(Student)

SIGNED: --DATE 1 / July / 2008
(Supervising Lecturer)

NAME Prof. Soter Siziya

DEDICATION

This study is dedicated to my children for their love, support, patience and encouragement during my studies. Without their encouragement this study would not have been achieved. I thank them and all other members of the family for their perseverance during this period. May the Good Almighty Lord bless them.

APPROVAL

This dissertation of JAMESON M. MUBONDE is approved in partial fulfillment for the Master of Public Health by the University of Zambia.

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ABSTRACT

The chances of Vertical transmission of HIV can be reduced if expectant HIV seropositive mothers complied with the uptake of AZT/NVP given during pregnancy. Zidovudine given to expectant mothers in their third trimester of pregnancy and Nevirapine given intrapartum to mother when labor begins and postpartum to baby reduce the chance of Mother to Child Transmission of HIV. However, some studies have revealed that many HIV seropositive expectant women do not comply with the uptake of AZT/NVP. It is observed that many of these women often forced by circumstances beyond their control deliver outside a health facility. It appears that many of these women do not return to the clinic in order to avoid health staff that may ascertain the drug given was taken. This behavior contradicts the need that an HIV positive expectant mother takes AZT/NVP to reduce chances of infecting the baby with HIV during delivery.

The purpose of this study was to determine the proportion of factors affecting compliance in the uptake of AZT/NVP by HIV seropositive expectant mothers and to determine whether these factors influenced Mother's choice for place of delivery.

This study was cross sectional and was conducted at six government health centers in Lusaka Urban. The targeted population was 674 HIV seropositive of expectant women in their third trimester of pregnancy who received AZT/NVP during antenatal clinic services.

A sample size of 300 HIV seropositive women attending postnatal services were selected to participate in this study. An interview schedule and structured questionnaire were used to collect data from the women during these services

The questions aimed at drawing out information on HIV seropositive expectant mothers' knowledge on HIV/AIDS and how transmission of infection can be prevented to unborn babies. The study examined whether age of the mother, educational level, number of biological children and the number of children alive influenced mother's choice for place of delivery and compliance in the uptake of AZT/NVP. The questions furthermore elicited information on the women's relationship with their partner, myths/misconceptions and stigma and whether these had any influence at all on the women's choice for place of delivery and compliance in the uptake of AZT/NVP.

Data was analyzed using SPSS statistical package. The findings in this study show that some of these factors had influence on place of delivery while others had influence on compliance with the uptake of AZT/NVP. Only two factors showed influence on both. Socio-demographic characteristics such as age, levels of education, number of biological children alive showed little influence on place of delivery and compliance with the uptake of AZT/NVP and were therefore not significant.

Knowledge levels were low in some cases and these showed significant influence on choice for place of delivery and compliance with the uptake of AZT/NVP. Partner relationships appear to improve probably due to increased community sensitization. For the same reason, stigma and myth seem to decrease and exhibit little significance on choice for place of delivery and compliance with the uptake of AZT/NVP.

Recommendations from this study are documented at the end of the discussion of the findings.

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Lastly but not the least I would like to thank my classmates for the Master of Public Health 2005-2006/2007 for their support particularly those who belonged to the same study group as I, Mrs. Rhoza Shonga, Mr. Gracious Simwanza, Mr. D. Fwambo, Dr Simon Kunda, and Dr Manda , for all the advice and encouragement.

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LIST OF ABREVIATIONS

1.	AIDS	Acquired Immune Deficiency Syndrome
2.	ARV (ART)	Antiretroviral Drug
3.	AZT	Zidovudine
4.	CDC	Center for Disease Control
5.	HIV	Human Immunodefficiency Virus
6.	HIVNET	HIV Network
7.	MDGs	Millenium Development Goals
8.	MoH	Ministry of Health
9	MTCT	Mother to Child Transmission
10.	NVP	Nevirapine
11	PMCTCT	Prevention of Mother to Child Transmission
12.	SPSS	Special Package for Social Sciences
13.	UNZA-REC	University of Zambia Research Ethics Committee
14	UN	United Nations
15.	UNICEF	Joint United Nations Children's Fund
16.	VCT	Voluntary Counseling and Testing
16.	WHO	World Health Organization

DEFINITIONS OF TERMS

Adverse Social Event	An unpleasant community incident, such as gender Violence
Antiretroviral	A drug used to reduce the viral load in an HIV positive person
Compliance	An act meant to fulfill or conform with instruction to take the drug
NVP Intrapartum	Nevirapine given intrapartum refers to NVP given in the initial stage of labor prior to delivery.
Myth	Fictitious story which many people are made to Believe
Nevirapine	A drug that reduces chances of HIV infection from mother to baby during delivery.
Pandemic	An epidemic usually affecting a large proportion of the global population.
Postpartum	Period after baby is delivered
Prenatal Transmission	Passing on HIV to baby before birth
Seronegative	HIV negative status
Seropositive	HIV positive status
Stigma	Process of devaluation that significantly discredits an individual in the eyes of others.

CHAPTER ONE

1.0 INTRODUCTION

Prevention of Mother to Child Transmission (PMTCT) is a critical element in the fight against HIV/AIDS. Many pregnant women diagnosed with HIV and AIDS infection are not only concerned with their own health, but most importantly with the health of their unborn children. The trauma of having an HIV positive result is compounded with the fear of delivering an HIV infected baby that may consequently die from AIDS. These women, therefore wish to prevent infection to their babies at all costs, but unfortunately however, one of the tragedies of HIV and AIDS is that it can be passed onto the baby through the "bloodstream and other body fluids," (Jackson 2002).

HIV infection is transmitted through unprotected sexual intercourse with an infected person; it can be transmitted through contaminated blood contacts such as blood transfusion, contaminated needles or sharp cutting instruments; it can be passed onto the baby from its mother during pregnancy, labor, or delivery, and during breast-feeding. To prevent these infections the United Nations (UN) agencies (UNICEF, UNFPA, UNAIDS, the World Health Organization (WHO) and the World Bank) recommend a four component strategy. The first component supports prevention of HIV infection in all people, especially the young women. The second component focuses on the prevention of unintended pregnancies in HIV infected women. The third component promotes reduction of HIV transmission from HIV infected women to their infants (PMTCT) through such interventions as use of antiretroviral drugs to reduce prenatal transmission, safer delivery practices and counseling and support for infant feeding. The fourth component involves providing care treatment and support to HIV infected women, their infants, and their families (Sweat et.al. 2004).

1.1 BACKGROUND INFORMATION

The global infection of HIV and AIDS is estimated at 40 Million people of whom between 25 –28 million reside in Sub Saharan Africa. HIV prevalence in this region is said to be highest amongst women aged between 15-24 years of age (13 women infected for every 10 men); in South Africa 20 women are infected for every 10 men; and in Kenya and Mali, 45 women are infected for every 10 men (UNAIDS 2004). It is estimated that in 2003 there were 2.5 Million children living with HIV and AIDS globally and 700,000 new annual infections among children. Zambia, a Sub-Saharan country with a population of over 10.3 Million has its own share of HIV and AIDS infected people and by 2001 about 1.2 million were infected. In the same year it is reported that Zambia had about 150,000 children infected with HIV and AIDS (Ministry of Health Report 2004). The vast majority of these infections were acquired from mothers during pregnancy, labor and delivery, with over 90% of the world's HIV infected children residing in Africa (Sweat et.al 2004).

The United Nations Millennium Declaration of 2000[referred to as the Millennium Development Goals (MDGS)] identified the fight against HIV and AIDS as one of the top priorities (Park K 2005). The Conference of International Panel of economists resolved the fight against HIV/AIDS as top of global priority for spending on international aid (WHO 2004). Therefore a range of interventions such as raising awareness, education and interventions designed to produce changes in risk behavior have been used to address the HIV and AIDS epidemic. In the recent past antiretroviral therapies (ART) have been introduced in the same effort to fight the pandemic. These include zidovudine (AZT) and nevirapine (NVP) for the Prevention of Mother to Child Transmission. The reasons given above depict how important the fight against HIV and AIDS is, and how important it is to understand why PMTCT is relevant in the fight against the HIV and AIDS pandemic. While the fight against HIV and AIDS remains crucial as a major medical problem, it transcends beyond the borders of medicine as it is a social problem as well. While a cure or vaccine is yet to be found, it requires all concerted efforts that crosscut the boundaries of medicine to control the spread of the pandemic.

1.2 STATEMENT OF THE PROBLEM

Antiretroviral prophylaxes such as AZT/NVP have proved quite significant in the prevention of Mother to Child transmission of HIV in many countries. In Zambia however, the use of these drugs have been received with mixed reactions. Records obtained from Lusaka urban health centers that provide nevirapine showed that between January and December 2004, some 11, 716 positive expectant women were given nevirapine to take at the on set of labor. Out of that figure only 4,591 who delivered at a health facility were recorded to have taken nevirapine. The Central Board of Health similarly reported that in 2003 out of 11,000 HIV positive pregnant women received Nevirapine and that only 5,000 of those women who delivered at a health facility were recorded to have used Nevirapine (MoH 2004). There were no records to show that women who delivered outside a health facility in Lusaka urban took nevirapine. Stringer J et.al. report that only 751 of 1112 (68%) women who received a positive antenatal test result and an NVP tablet for ingestion at labor onset had "NVP detected in the cord blood". Further, only 675 of the 2257 (30%) of seropostive mother- infant pairs in the study, received maternal and infant dose of NVP (AIDS 19(12)-1309-1315, August 12, 2005). In a similar study Stringer et.al. state that out of 24% of HIV positive women 57% took nevirapine and it was estimated that 190 babies were spared of HIV infection.(AIDS 17(9) !377-1382 June 13 2003).

This study therefore investigated the proportion of factors that determined the level of compliance in the uptake of Zidovudine (AZT) and Nevirapine (NVP) and investigated their effect on place of delivery by pregnant HIV seropositive women in Lusaka Urban.

1.3 RESEARCH QUESTION

While data for women delivering at health centers was easy to get, data for women who delivered outside a health facility was not readily available, it was argued from this point that it was important to investigate whether these women who delivered outside a health facility adhered to the uptake of zidovudine/nevirapine. Is there any relationship between place of delivery and compliance with the uptake of AZT / NVP? What is the proportion of factors affecting the level of compliance with uptake of zidovudine/nevirapine?

1.4 HYPOTHESIS

There is no relationship between place of delivery and compliance with the uptake of zidovudine/nevirapine.

1.5 JUSTIFICATION OF THE STUDY

The World Health Organization (WHO 2003) puts HIV and AIDS as the leading cause of

Death in adults aged 15-59 years killing almost 5,000 men and women in this age group. In Sub-Saharan Africa, about 1,000 children die every 24 hours.

The risk of HIV transmission from an infected mother to her child can be reduced by 50% if given a short course of zidovudine(starting at 36 weeks of pregnancy) and a single dose of nevirapine (given intrapartum, and postpartum to baby). (UNAIDS 2004). If all HIV seropositive expectant mothers complied with the uptake of AZT/NVP, transmission of HIV from Mother to child could be drastically reduced. For this reason, it was considered essential to ensure compliance with uptake of AZT/NVP and therefore encourage HIV seropositive expectant Mothers to take AZT/NVP and thereby prevent transmission of HIV to unborn children. It was considered appropriate to encourage HIV positive expectant mothers to comply with this requirement in order to save the lives of these innocent and hapless babies. These mothers therefore require special messages and counseling sessions with advice from trained workers in order to comply with the uptake of AZT/NVP.

1.6 GENERAL OUTLINE OF FACTORS

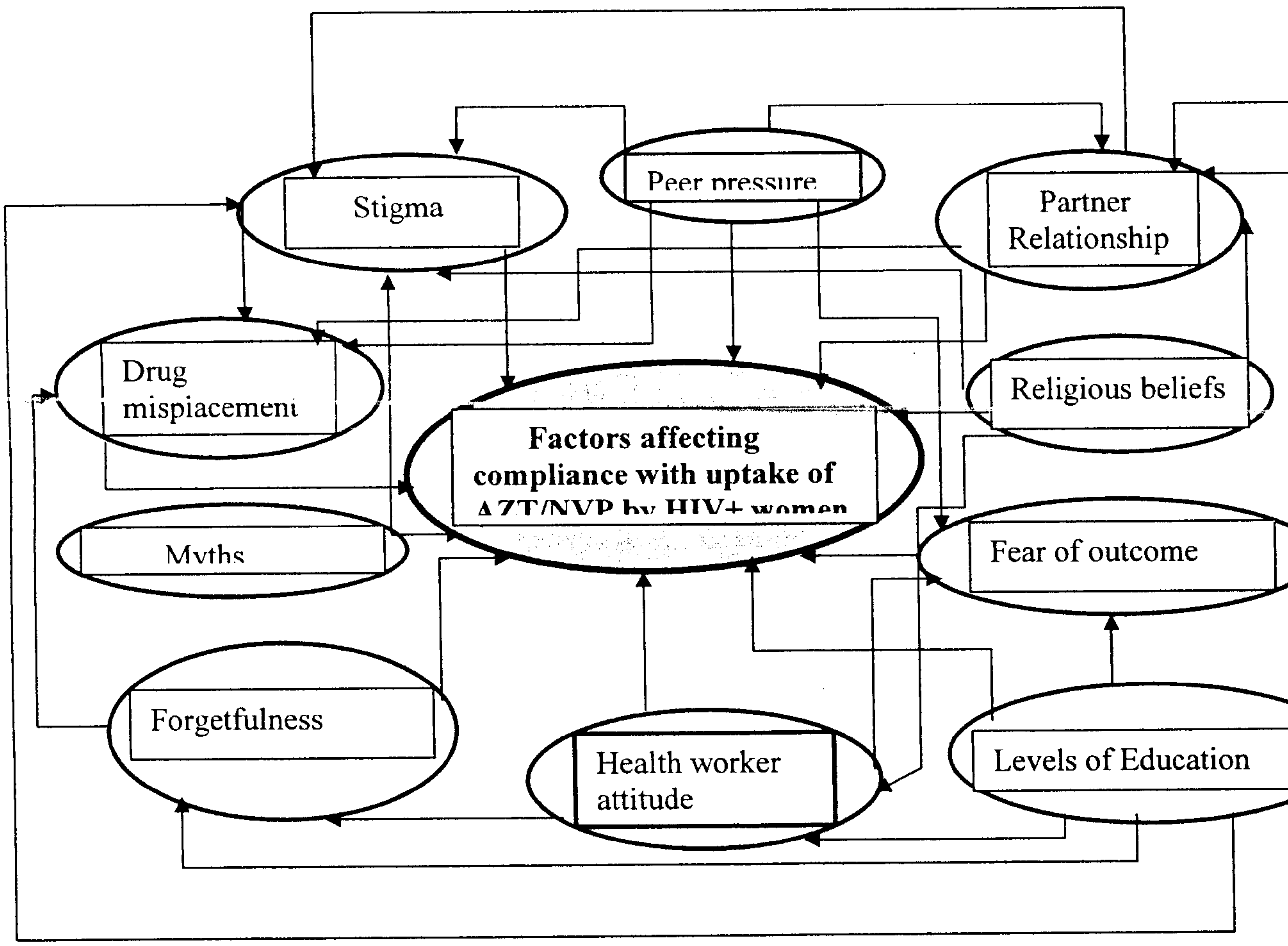
Factors that are responsible for compliance with the uptake of Zidovudine/Nevirapine include socio-economic factors and cultural factors. Socio-economic factors among others include relationships that exist between the spouses; myth or misconceptions about the outcome effects of the drug taken; the levels of education of the infected woman; stigma associated with HIV and AIDS, religious and cultural beliefs, peer pressure and levels of income for the couple. In the Thai – CDC study and the Kenyan HIVNET study (Kiarie et.al 2003) showed that partner relationships were cardinal to adherence with the uptake of counseling services and the use of nevirapine. Partner participation was considered crucial as it involved knowledge and understanding of the reasons for partner's need to take up counseling and testing or uptake of nevirapine and the advantages derived from such participation. This entails that, an HIV positive woman who tested alone could only share her results with her spouse with whom she enjoyed a cordial relationship and with whom she trusts and knows she would receive moral and psychological support. Disclosure could be difficult if the relationship was faced with mistrust or suspicion and the woman might find the situation to reveal her HIV status stressful. This could discourage her from disclosing her test result to her spouse because of not being sure of what might happen to their relationship. But the situation could be made less stressful if the couple went for Voluntary Counseling and Testing (VCT) together and received their results simultaneously as a couple. Similarly, women might not wish to disclose their HIV status to their partners for fear of adverse social events from their spouses or spouses' relatives. Stigma and rejection can result in violence or even divorce. Stigma is described as a process of devaluation that significantly discredits an individual in the eyes of others; it is the shame associated with HIV and AIDS that silences open discussion among most couples or partners (UNAIDS, 2005). Gender related stigma sometimes results in violent acts especially against women by their spouses. Another example of a study conducted in Nairobi Kenya, reported that seropositive women who received VCT in an antenatal setting reported high levels of negative outcomes. Of the 324 women who were found to be positive only 66 (27.2%) communicated their test result to their partner and only 21 partners subsequently tested. Eleven seropositive women were chased away from their house or replaced by another wife, seven were beaten up and one committed suicide (UNAIDS 2001). In some cases women were considered disrespectful and were discriminated against even by their own families. Such acts discouraged women from disclosing their test results to their spouses and consequently affected their decisions to comply with uptake of nevirapine which could reduce the risk of transmission of HIV to their babies. Partner relationships could similarly be affected because of male partner's peer pressure more especially when the woman's HIV test result were positive. Male spouses sometimes consider their female spouses promiscuous even if they themselves were mostly the worst culprits and therefore blamed their partners for being responsible and bringing HIV and AIDS and shame to their homes.

The fear that ARVs may have negative outcomes on the unborn child and / or the mother, may seriously impact on compliance. The fear that an HIV-positive expectant woman who takes nevirapine could develop resistance that might negatively affect her future use of nevirapine when she becomes pregnant again; and the suspicion that there could be a rebound effect that the baby could be infected after it is born through breastfeeding may hinder compliance, [Jackson-2004].

Levels of education play a very significant impact on adherence with nevirapine uptake. Literate women (as well as men) can obtain information more easily by reading materials aimed at informing them and are therefore at a better advantage than their illiterate counterparts. Increased education for instance can help a person change her attitude toward a behavior. For instance, the proportion of adults who vote rises with education. Education "is associated with awareness" (Hagen E.E 1986).

Figure 1. Analysis Framework

Factors affecting compliance with uptake of AZT/NVP by HIV seropositive expectant women



CHAPTER TWO

2.0 LITERATURE REVIEW

Notwithstanding the lack of information documented on compliance with the uptake of antiretroviral drugs by HIV positive expectant women who deliver outside a health facility, information however exist on compliance with antiretroviral regimens to prevent prenatal HIV-1 transmission. Studies that were conducted in a Thai-CDC study (Kiarie et.al, 2003) reveal that compliance was associated with partner support of antiretroviral use and knowledge that at recruitment, antiretroviral drugs could prevent HIV-1 infection. Furthermore, the Kenyan study (HIVNET-012), revealed similar findings that compliance was associated with partner notification and partner willingness to have HIV-1 testing. Therefore, partner involvement and support on prenatal HIV-1 prevention may improve compliance and increase the number of infants protected from HIV-1 infection.

In another study, (Semrai et.al 2004) state that improved adherence to PMTCT antiretroviral regimens by HIV-positive women was associated with disclosure of HIV status. Male partner involvement in Voluntary Counseling and Testing (VCT) may increase the likelihood of VCT uptake, behaviour change, as well as improved compliance with PMTCT measures such as nevirapine (NVP) uptake. Although male partners' involvement is crucial for compliance in the uptake of nevirapine prophylaxis, male participation has not been easy. There are difficulties of including men in antenatal Voluntary Counseling and Testing services (VCT) in many countries. At a site in

Zimbabwe only 30% of over 600 women managed to bring in their partners and in Rwanda 70% of the 1,223 women who were screened for HIV and wanted their partners tested only 8% of the partners came for testing. Similarly in Botswana, few women informed their partners of their HIV status and very few agreed to be tested (Baggley et.al. 2000).

It has been observed that disclosure of HIV status to partner is not easy. The problem of being HIV positive may cause considerable distress to most women and men alike. Considering that ARVS are often given immediately after diagnosis, many pregnant women are rarely given enough time to think over and make decisions to accept AZT/NVP or not. There are fears that their partner may discover their HIV status on seeing the drug, this can be quite traumatic. Such women require enough time to internalize the impact of their result and therefore require support from services including mid wives, doctors, peer supporters, counselors, and health advisors before they make decisions to inform their spouses. Disclosure is important and should be encouraged in all aspects of partner relationships but may be viewed as a process that may take sometime especially where HIV-testing is done without the presence of the spouse. "Simultaneous partner testing", especially during the first HIV-test helps partners to share their results particularly when the couple receives results together (Baggley et.al. 2000).

There are concerns amongst HIV positive expectant women about the use of nevirapine in the prevention of vertical transmission; this is about what might happen after the woman has taken nevirapine. Many are concerned and fear that nevirapine may lead to resistance in the mother that may consequently result in reduction of benefits that may be derived from the use of nevirapine in future. There are similar concerns about its safety to the baby as well as to the mother and whether there can be a rebound of viral load so that those mothers who proceed to breastfeed may have an increased risk of transmitting HIV through breastfeeding. Although the risk of the mother developing drug resistance to single doze exists it appears to be very low. Nevirapine has been cited of its toxicity as an important limitation for its use in MTCT prevention. However, only long-term use of nevirapine in adults has resulted in significant side effects such as life threatening liver toxicity and skin reaction (Haroon S. 2004). Nevirapine taken as part of a triple therapy occasionally causes serious effects, but not when taken as a single dose for preventing transmission to the baby [Jackson 2002].

Counseling and testing affects compliance in the uptake of nevirapine, a study conducted in South Africa (Hoqueet.al.2003), discovered that HIV counseling and testing was contributing to adherence. Many women had to be tested in order to access antiretroviral nevirapine, but many refused to attend voluntary counseling and testing (VCT) services. Participating in a CVCT program is dependent on weighting advantages and disadvantages. For example traveling to and from a VCT Center, which is often far, away from ones home may need travel requirements such as money for transport. Should the money be spent on paying for transport or food for the family? These economic reasons among others could be limiting factors on compliance. Location of infrastructure such as buildings or rooms used for counseling services may be another factor for refusal to participate in such activities. They may not provide a suitable environment for confidentiality especially for those receiving results or collecting drugs. In addition, health workers may not be very tolerant enough to women receiving antiretroviral drugs or receiving their HIV test results.

Fear of outcome effects of the drug affecting the mother or the child at birth (as already mentioned) has great impact on decision making on whether to take zidovudine/nevirapine. Similarly, fears relating to unclear benefits, which may result due to failure by healthcare workers or counselors to explain clearly the advantages of taking zidovudine/nevirapine affects compliance in the same way, (Hoque et.al. 2004).

2.1 OBJECTIVES

2.2 GENERAL OBJECTIVES

To determine the proportion of factors affecting compliance with the uptake of zidovudine and nevirapine (AZT/NVP) by HIV-seropositive expectant women who deliver outside a health facility in Lusaka Urban.

2.3 SPECIFIC OBJECTIVES

1. To determine the degree of non-compliance with the uptake of AZT/NVP by HIV sero-positive expectant women delivering outside a health facility.
2. To determine whether partner relationship affects compliance with uptake of AZT/NVP by HIV-seropositive women delivering outside a health facility.
3. To determine the levels of myth or misconception and their effect on compliance with uptake AZT/NVP by HIV-seropositive expectant women delivering outside the health facility in Lusaka urban.
4. To determine whether levels of education have influence on compliance with the uptake of AZT/NVP by HIV-seropositive women who deliver outside a health facility

CHAPTER THREE

3.0 METHODOLOGY

3.1 STUDY SETTING

The study was conducted with 300 participants from six randomly selected clinics out of eleven government clinics offering delivery services in Lusaka Urban District. The six health facilities were selected using simple random selection method. The study was restricted to Lusaka Urban district only because of financial and logistical problems. The participants were selected on convenient selection method because of confidentiality attached to HIV test results which are considered personal.

3.2 STUDY POPULATION

The sample of 300 participants was drawn from a population of 674 HIV seropositive pregnant women who had received AZT/NVP during their trimester of pregnancy, and came from six randomly selected government health facilities in the Lusaka Urban District. Participants' ages ranged between16 to 49 years (considered most at risk age group).

Table 1 on page 19 shows population and sample size distribution by facility.

3.3 STUDY DESIGN

This was a cross section study which compared women who delivered at a health facility with those who delivered at home. It aimed at determining the existence of a significant relationship between delivering outside a health facility and compliance with uptake of AZT/NVP. *Cross tabulations and Chi-Square- test was used to determine this relationship.*

3.4 INCLUSION / EXCLUSION CRITERIA

Using the inclusion / exclusion criteria set the study participants were drawn from women who tested HIV positive during pregnancy and received AZT/NVP at the antenatal clinics in Lusaka. The same women were attending postnatal services at the time of data collection at these facilities. All women who tested HIV positive and delivered at home or health facility were eligible for participation. All HIV-seronegative women who delivered either at home or a health facility and those whose HIV status was not known were not eligible for participation in this study.

3.5 CONFOUNDING FACTORS

In order to collect information on possible confounders, detailed information was collected by stratifying the sample according to age, marital status, educational level, number of births and the number of biological children alive. The sample was similarly selected proportionately according to the population size of HIV seropositive pregnant women who received AZT/NVP at each health facility.

3.6 SAMPLING METHOD

3.6.1 SAMPLE SIZE SELECTION

The sample size was drawn from women who attended antenatal services and were diagnosed HIV positive during pregnancy at one of the six randomly selected clinics in Lusaka Urban District. They were attending postnatal services at these health facilities at the time of data collection. Only those who received zidovudine/nevirapine during antenatal were eligible to participate. The sample size was calculated considering a rate of 50 % because the proportion of women on zidovudine/nevirapine was unknown and at 95 % confidence level the sample size of 245 women was calculated based on the population size of 674 HIV positive women in their third trimester of pregnancy as follows:

$$n = \frac{z^2(PQ)}{d^2}$$

Where: n = sample size

p = population proportion

q = 1-P

z = confidence limit

d = confidence level at 95%

$$\text{Therefore } n = \frac{(1.96 \times 1.96)(50 \times 50)}{5^2}$$

$$= \underline{384}$$

Adjusting for a finite population of 674 the required sample size is:

Sample size = n / {1-(n / population)}

Population size: 674

Expected frequency: 50 %

Confidence level: 95 %

Sample size is 245. Therefore after adjusting this time for a refusal rate of 15% and non - participation rate of 10% a sample of 300 participants was arrived at.

3.7 DATA COLLECTION METHOD

Data was collected through personal interviews using a structured interviewer administered questionnaire using experienced research assistants (nurse psychosocial counselor/ volunteers) who were trained.

3.8 DATA PROCESSING AND ANALYSIS

Data processing and analysis was done using SPSS package. Raw data was first checked for completeness and consistency. It was then entered into SPSS for processing and analysis and cross tabulations. Analysis was performed using the Pearson Chi-square test to determine the relationship and significance of dependent variables on the independent variable with P value at <.05.

3.9 ETHICAL CONSIDERATION

The research was conducted and confined to health facilities within the Lusaka Urban District and was conducted after approval from the Board of Graduate Studies, the Ministry of Health (Lusaka Urban District) and the University of Zambia Research Ethics Committee (UNZA REC)

While considering the sensitivity of HIV/AIDS issues and maintaining strict confidentiality of participants' HIV sero status, the women were invited and asked to voluntarily participate in the study. Their rights to take part or to withdraw their consent were assured. They were informed that they would not be identified by name, but by an assigned number. Additionally, participants were asked to sign a consent form which they read or was read to them *individually before taking part in the study. Each participant's* responses were confidentially stored and separated from any document that might identify them by name.

3.10 STUDY PERIOD

The study commenced in August 2006 after approval by the relevant institutions. The study was completed in December 2007.

3.11 LIMITATIONS

Notwithstanding the success of achieving a 100% response rate, some limitations were encountered that delayed the completion of the study. The study data collection was conducted at health centers; therefore all efforts were made to collect data without interfering with normal operations of these centers. In this respect data collection and analysis was delayed, as a result the report of the study was similarly delayed.

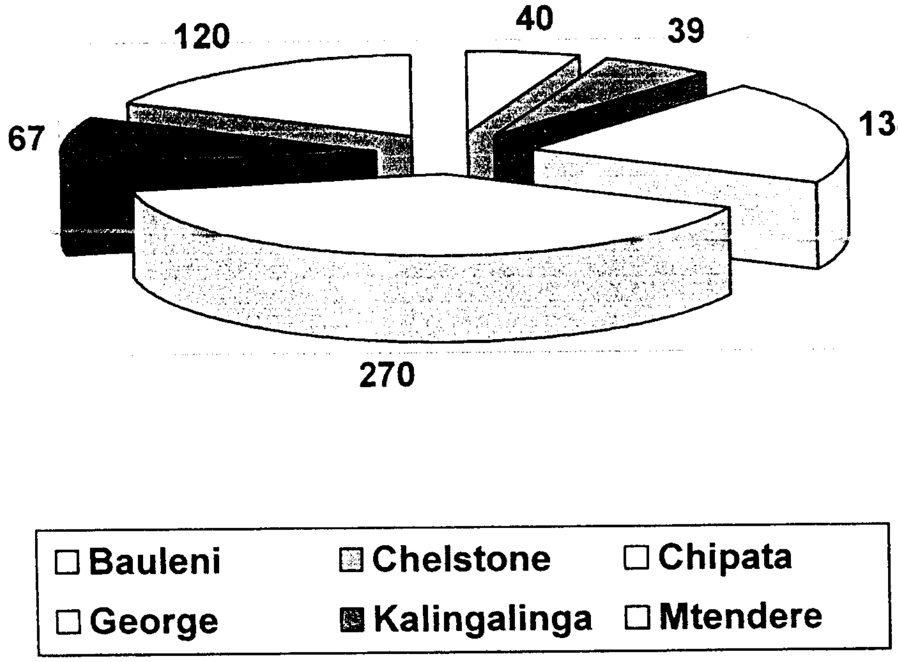
Information about taking nevirapine provided by those who delivered at clinics was easy to verify as records were available, however, information provided by those who took NVP at home could not be verified and therefore depended upon the credibility of the respondents themselves.

The study covered a large sample and therefore to accomplish the task of data collection financial assistance was required; this came rather late and led to the completion of the study later than was projected.

Table 1. Showing population proportion and sample size selection

Health Facility	Location: Compound /T/ship	# HIV+ women in 3rd trimester	Proportion	Sample size
Bauleni clinic	Bauleni	40	6%	18
Chelstone clinic	Chelstone	39	6%	18
Chipata clinic	Chipata	138	20%	60
George clinic	George	270	40%	120
Kalingalinga clinic	Kalingalinga	67	10%	30
Mtendere clinic	Mtendere	120	18%	54
TOTAL	**6**	**674**	**100%**	**300**

Figure 2: Pie chart showing population of HIV positve pregnant women who received AZT/NVP by centre

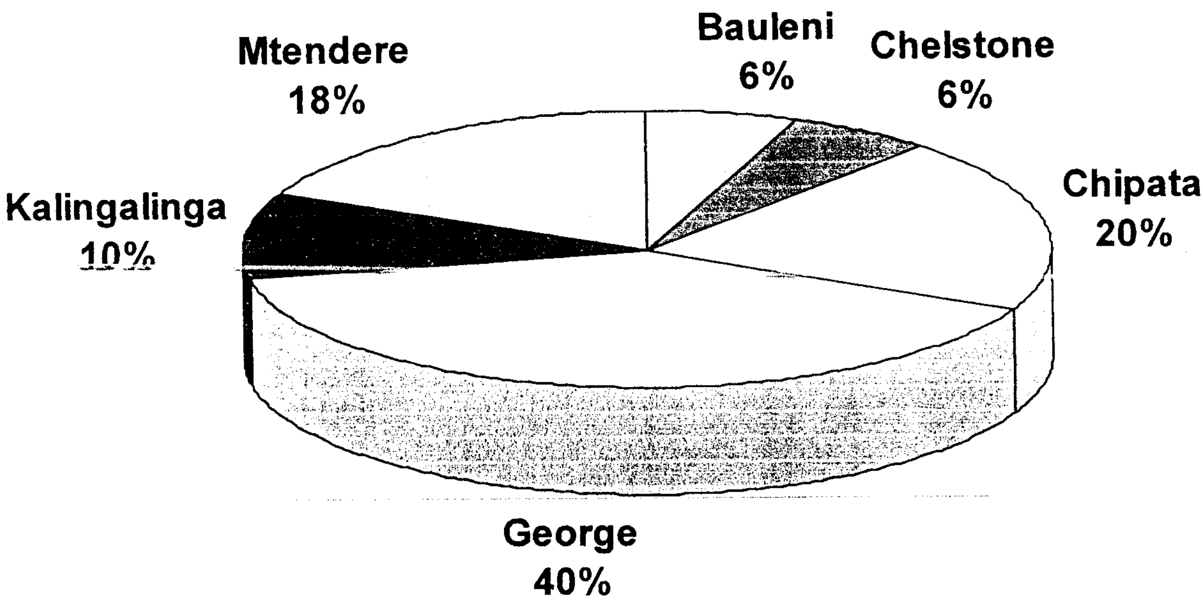


CHAPTER 4

4.0 PRESENTATION OF FINDINGS

This chapter presents findings as obtained from the field. Characteristics of all the participants from the six government health centers in Lusaka urban were analyzed and cross tabulated. At the time of data collection, these women were attending postnatal services at these same clinics. A large number of these women (88.3%) were married while a smaller number (11.7%)] were single women. Data was analyzed using Chi-square test for significance. This is presented in tables and cross tabulations. Sample size distribution by institution is presented as follows: Bauleni 18 (6%). Chelstone 18 (6%), Chipata 60 (20%), George 120 (40%), Kalingalinga 30 (10%) and Mtendere 54 (18%) and is shown in table 1and figure 3.

Fig. 3: Pie chart showing sample size distribution by location.



4.1 AGE

. This study reveals that the proportion of respondents aged 30 and below who delivered at home (66.7%) was lower than the proportion of respondents who delivered at a health facility (78.4%). The same study reveals that the proportion of respondents aged above 30 who delivered at home (33.3%) was higher than the proportion of respondents who delivered at a health facility (21.6%).

Compliance with the uptake of AZT/NVP showed that the proportion of respondents aged 30 and below (76.4%) was higher than the proportion of respondents who did not comply (68.4%). On the other hand, the proportion of respondents aged above 30 who complied with the uptake of AZT/NVP (23.6%) was lower than the proportion of respondents who did not comply with the uptake of AZT/NVP (31.6%).

There was a significant relationship between age and place of delivery (P value 0.031<0.05) but there was no significant relationship between age and compliance with the uptake of AZT/NVP (P value 0.160> 0.05).

Table2: Shows a relationship of age, with place of delivery and compliance with uptake of AZT/NVP by HIVseropositive Mothers.

Factor	**Place of delivery**			**Compliance**			**Confounder**
Age	**Home**	**Clinic**	**Pvalue**	**Yes**	**No**	**Pvalue**	
	n (%)	n (%)		n (%)	n (%)		
<= 30yrs	98(66.7)	120 (78.4)	**0.031**	120 (76.4)	98 (68.4)	**0.160**	**No**
> 30 yrs	49(33.3)	33 (21.6)		37 (23.6)	45 (31.6)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

4.2 EDUCATION

. The proportion of women who delivered at home among the low educated (69.4%) was higher than the proportion of women who delivered at a health facility (64.1%). However, among the highly educated, women who delivered at a health facility (35.9%) were higher than the proportion for home deliveries (30.6%).

The proportion of women with low education who complied with the uptake of AZT/NVP (68.2%) was higher than the proportion of women who did not comply with the uptake of AZT/NVP (65.0%). The proportion of respondents with high education who did not comply (35.0%) was higher than the proportion of women who complied with the uptake of AZT/NVP (31.8%).

There was no significant relationship between education and place of delivery (P Value 0. 390>0.05) and there was no significant relationship between education and compliance with the uptake of AZT/NVP, (P value 0.653>0.05).

Table 3: Showing the relationship between education, place of delivery and compliance with uptake of AZT/NVP

Factor	**Place of delivery**			**Compliance**			**Confounder**
Education	**Home**	**Clinic**	**P Value**	**Yes**	**No**	**Pvalue**	
	n (%)	**n (%)**		**n (%)**	**n (%)**		**No**
Lower education	102(69.4)	98 (64.1)	**0. 391**	107 (68.2)	93 (65.0)	**0.653**	
Higher education	45(30.6)	55 (35.9)		50 (31.8)	50 (35.0)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

4.3 MARITAL STATUS

. The proportion of married women who delivered at home (85.0%) was lower than the proportion of mothers who delivered at the clinic (91.5%). The proportion of single women who delivered at home (15.0%) was higher than the proportion of single women who delivered at the clinic (8.5%).

The proportion of married women who complied with the uptake of AZT/NVP (89.8%) was higher than the proportion of women who did not comply (86.7%). However, among the single women, the proportion of those who did not comply with the uptake of AZT/NVP (13.3%) was higher than the proportion for single women who complied with the uptake of AZT/NVP (10.2%).

There was no significant relationship between marital status and place of delivery (P value 0.118>0.05) and similarly, there was no significant relationship between marital status and compliance with the uptake of AZT/NVP (P Value 0.513>0.05).

Table 4: Showing relationship between marital status, place of delivery and compliance with uptake of AZT/NVP by HIV seropositive Mothers.

Factor	**Place of delivery**			**Compliance**			**Confounder**
Marital status	**Home**	**Clinic**	**Pvalue**	**Yes**	**No**	**Pvalue**	
	n (%)	**n (%)**		**n (%)**	**n (%)**		
Married	125(85.0)	140 (91.5)	**0.118**	141(89.8)	124(86.7)	**0.513**	**No**
Single	22(15.0)	13 (8.5)		16(10.2)	19(13.3)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

4.4 NUMBER OF BIRTHS

The proportion for respondents who had 1-2 previous deliveries and delivered at home (38.8%) was lower than the proportion of respondents who had 1-2 previous deliveries who delivered at the clinic (45.8%). The proportion of respondents with three or more previous deliveries who delivered at home (61.2%) was higher than the proportion of respondents with the same number of previous deliveries who delivered at the clinic (54.2%).

The proportion of participants with 1-2 previous deliveries who complied with uptake of AZT/NVP (41.4%) was lower than those who did not comply with the uptake of AZT/NVP who had the same number of deliveries (43.4%). The proportion of participating mothers with three or more previous deliveries who complied with uptake of AZT/NVP (58.6%) was higher than the proportion of those who did not comply (56.6%). There was no significant relationship between the number of births by participant and place of delivery (P value 0.269 > 0.05) and there was no significant relationship between number of births by participant and compliance with the uptake of AZT/NVP (P value 0.822 > 0.05)

Table 5: Shows number of births, place of delivery and compliance with uptake of AZT/NVP amongst HIV- seropositive Mothers

Factor	Place of delivery			Compliance			Confounder
Number of births	Home	Clinic	Pvalue	Yes	No	Pvalue	
	n (%)	n (%)		n (%)	n (%)		
1 – 2	57(38.8)	70 (45.8)	**0.269**	65(41.4)	62(43.4)	**0.822**	**No**
3 and above	90(61.2)	83 (54.2)		92(58.6)	81(56.6)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

4.5 NUMBER OF BIOLOGICAL CHILDREN ALIVE

The result showed that the proportion of women who had 0-2 biological children who delivered at home (44.2%) was lower than the proportion of women who delivered at a clinic (53.6%).The proportion of respondents with three or more biological children who delivered at home (65.8%) was higher than the proportion for those women who delivered at the clinic (46.4%).

The proportion of mothers with 0-2 children who complied with the uptake of AZT/NVP (51.3%) was higher than the proportion for those who did not comply (47.6%). The proportion for those with three or more biological children who did not comply (52.4%) was higher than the proportion for those who complied with the uptake of AZT/NVP (44.6%).

There was no significant relationship between number of biological children and place of delivery (P value 0.131>0.05) and there was no significant relationship between number of biological children and compliance with the uptake of AZT/NVP (P value 0.716 > 0.05).

Table 6: Showing number of biological children alive, place of delivery and compliance with uptake of AZT/NVP.

ctor	Place of delivery			Compliance			Confounder
ımber ological ildren alive	Home	Clinic	Pvalue	Yes	No	Pvalue	
	n (%)	n (%)		n (%)	n (%)		
0 – 2	65(44.2%)	82(53.6%)	**0.131**	79(51.3%)	68(47.6%)	**0.716**	**No**
and above	82(65.8)	71(46.4%)		78(44.6%)	75(52.4%)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

5.0 HIV/AIDS KNOWLEDGE

5.1 HIV CAN BE TRANSMITTED TO BABY DURING PREGNANCY

. Participants who said HIV was sometimes transmitted to baby during pregnancy, the proportion for those who delivered at home (58.5%) was higher than the proportion of those who delivered at the clinic (52.3). Participants who said HIV was always transmitted to baby during pregnancy, the proportion for those who delivered at home (41.5%) was lower than the proportion for those who delivered at the clinic (47.7%).

Meanwhile, the proportion for compliance with the uptake of AZT/NVP for women who said HIV was always transmitted during pregnancy (42.7%) was lower than the proportion for the women who did not comply with the uptake of AZT/NVP (49.0%). The proportion of women who complied with the uptake of AZT/NVP and said that it was sometimes transmitted to baby during pregnancy (57.3%) was higher than non-compliance (51.0%).

There was no significant relationship between participants' knowledge of HIV transmission during pregnancy and place of delivery (P value 0.334 > 0.05). Neither was there any significant relationship between participants' knowledge of HIV transmission from Mother to baby during pregnancy and compliance with the uptake of AZT/NVP (P value 0.268> 0.05)

Table7: Showing participants' knowledge of HIV transmission from Mother to baby during pregnancy and compliance with uptake of AZT/NVP and place of delivery.

actor	**Place of delivery**			**Compliance**			**Confounder**
IIV can be ransmitted uring regnancy	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	N (%)	**n (%)**		**n (%)**	**n (%)**		
lways	61(41.5)	73(47.7)	**0.334**	61(42.7)	77(49.0)	**0.268**	**No**
Sometimes	86(58.5)	80(52.3)		82(57.3)	80(51.0)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

5.2 HIV CAN BE TRANSMITTED TO BABY DURING DELIVERY

The proportion of women with knowledge that HIV can be transmitted to baby during delivery, the proportion of women who delivered at home (22.4%) was lower than the proportion of women who said HIV cannot be transmitted during delivery (77.6%). The proportion of women who delivered at the clinic and agreed that HIV could be transmitted to child during delivery (19.0%) was similarly lower than the proportion of those women who said HIV could not be transmitted to child during delivery (81.0%). The proportion of participants who complied with uptake of AZT/NVP, women who agreed that HIV can be transmitted to baby during delivery (15.9%) was much lower than the women who declined that HIV can be transmitted during delivery (84.1%). The proportion of non-compliance for those who said HIV can be transmitted to baby during delivery (7.0%) was much lower than those who said HIV cannot be transmitted to baby during delivery (93.0%).

There was no significant relationship between HIV transmission to baby during delivery and place of delivery (P value 0.545 >0.05). While on the other hand. there was a significant relationship between knowledge that HIV can be transmitted to baby during delivery and compliance with uptake of AZT/NVP (P value .016 < .05).

Table 8: Showing Knowledge on HIV transmission from Mother to Child during delivery and compliance with uptake of AZT/NVP and place of delivery

Factor	**Place of delivery**			**Compliance**			**Confounde**
HIV can be transmitted during delivery	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	N (%)	**n (%)**		**n (%)**	**n (%)**		
Yes	33(22.4)	29(19.0)	**0.545**	25(15.9)	10(7.0)	**0.016**	**No**
No	114(77.6)	124(81.0)		132(84.1)	133(93.0)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

5.3 HIV CAN BE TRANSMITTED TO CHILD DURING BREASTFEEDING

The proportion of women who delivered at home and said HIV can be transmitted during breastfeeding (25.9%) was higher than the proportion of those who delivered at the clinic (19.0%). Participants who said that HIV cannot be transmitted from mother to child during breastfeeding, the proportion for those who delivered at the clinic (81.0%) was higher than the proportion of those who delivered at home (74.1%). Participants who said HIV can be transmitted to child during breastfeeding, the proportion of those complying with the uptake of AZT/NVP (14.0%) was higher than the proportion for non-compliance (6.3%).

On the other hand, participants who said HIV cannot be transmitted to child during breastfeeding, the proportion of compliance with the uptake of AZT/NVP (86.0%) was lower than the proportion for non- compliance with the uptake of AZT/NVP (93.7%).

There was no significant relationship between transmission of HIV from mother to child during breastfeeding and place of delivery (P value 0.0.195 > 0.05), but there was a significant relationship between HIV transmission from mother to baby during breast feeding and compliance with the uptake of AZT/NVP (P value 0.029 < 0.05).

Table 9: Showing Mode of HIV Transmission knowledge to baby during breastfeeding and compliance with uptake of AZT/NVP and place of delivery.

Factor	**Place of delivery**			**Compliance**			**confounde**
HIV can be transmitted to child during breastfeeding	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	N (%)	**n (%)**		**n (%)**	**n (%)**		
Yes	38(25.9)	29(19.0)	**0.195**	22(14.0)	9 (6.3)	**0.029**	**No**
No	109(74.1)	124(81.0)		135(86.0)	134(93.7)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

5.4 HIV SEROPOSITIVE MOTHERS ARE IMPORTANT IN PMTCT

The proportion of participants who said that HIV seropositive mothers were important in PMTCT who delivered at home (93.2%) was lower than the proportion of those who delivered at the clinic (95.4%). Participants who said they were not, the proportion for those who delivered at home (6.8%) was higher than the proportion of those who delivered at the clinic (4.6%).

Participants who said that HIV seropositive mothers were important in PMTCT, the proportion of compliance (91.1%) was higher than the proportion of non-compliance (76.2%). Participants who said they were not important the proportion of compliance with uptake of AZT/NVP (6.9%) which was lower than the proportion of non-compliance (23.6%).

There was no significant relationship however. between participants' knowledge that HIV positive mothers were important in the Prevention of Mother to Child Transmission of HIV and place of delivery (P value 0.559>0.05). Meanwhile we found a significant relationship between knowledge that mothers were important in the prevention of HIV to their baby and compliance with the uptake of AZT/NVP, (P value .001 < .05).

Table 10: Shows participant's knowledge on PMTCT and compliance with uptake of AZT/NVP and place of delivery

actor	**Place of delivery**			**Compliance**			**confounder**
IV+ lothers nportant in MTCT	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	N (%)	**n (%)**		**n (%)**	**n (%)**		
Yes	137(93.2)	146(95.4)	**0.559**	143(91.1)	109(76.2)	**0.001**	**No**
No	10(6.8)	7(4.6)		14(6.9)	34(23.6)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

5.5 HIV+ EXPECTANT MOTHERS RECEIVE AZT/NVP TO REDUCE INFECTING UNBORN BABIES

Participants who said AZT/NVP reduce HIV infection to baby. the proportion of participants who delivered at home (32.7%) was higher than the proportion of participants who delivered at the clinic (31.4%). Participants who said AZT/NVP reduce the probability of HIV infection to unborn baby, the proportion of participants who delivered at home (59.2%) was higher than the proportion of participants who delivered at the clinic (58.8%).

Participants who said AZT/NVP reduces infection to baby, the proportion of compliance in the uptake of AZT/NVP (43.9%) were higher than the proportion of non-compliance (18.9%). For participants who said AZT/NVP are given to reduce the probability of transmitting HIV infection to baby those who did not comply in the uptake of AZT/NVP, the proportion (81.1%) was higher than those who complied with the uptake of AZT/NVP(56.1%).

There was no significant relationship between knowledge that HIV expectant Mothers should receive AZT/NVP to reduce infecting unborn babies and place of delivery (P value 0.957 > 0.05). However, there was a significant relationship between participants' perception that HIV expectant Mothers should always receive AZT/NVP to reduce infecting their unborn babies and compliance with the uptake of AZT/NVP (P value .001 < .05).

(23.1%) was lower than the proportion of those who said it was intended to reduce the probability of infecting the baby (76.9%).

There was a significant relationship between knowledge that AZT/NVP is intended to reduce infection of the mother and / or the baby and place of delivery (P value 0.042<0.05). At the same time we found a significant relationship between knowledge that AZT/NVP is intended to reduce infection of the mother and / or baby and compliance in the uptake of AZT/NVP (P value 0.029< 0.05).

Table 12: Shows participant's knowledge on whether AZT/NVP reduces chances of infecting baby or mother

tor	**Place of delivery**			Complied			**confounder**
/NVP given to + mothers to ce infection	**Home**	**Clinic**	**Pvalue**	Yes	No	**Pvalue**	
	n (%)	**n (%)**		n (%)	n (%)		
Mother	30(20.4)	17(11.1)	**0.042**	21(13.4)	33(23.1)	**0.029**	**Yes**
Baby	117(79.6)	136(88.9)		136(86.6)	110(76.9)		
al	**147(100.0)**	**153(100.0)**		**157(100.0)**	143(100.0)		

6.0 PARTNER RELATIONSHIP

(Kiarie et.al. 2003) reveal that "partner support" was vital for compliance with the use of antiretroviral drugs. Partner relationship is considered crucial at the time of decision making for HIV testing by expecting women. This study examined this relationship between partners and their influence for place of delivery and compliance with uptake of AZT/NVP.

6.1 PARTNER WOULD BE ANGRY IF I TESTED POSITIVE

The proportion of participants who indicated that their partner would be angry and delivered at the clinic, (29.4%) was lower than the proportion of those who indicated that their partner would not be angry(70.6). The proportion of those who delivered at home and said partner would be angry (29.9%) was lower than the proportion of those who said partner would not be angry (70.1%). The proportion of those who said their partner would be angry if they tested HIV positive but complied with the uptake of AZS/NVP (22.3%), was lower than the proportion of those who indicated that their partner would not be angry even if they tested HIV positive (77.7%) who complied with the uptake of AZT/NVP. Meanwhile the proportion of those who did not comply with the uptake of AZT/NVP and said their partner would be angry if they tested HIV positive (37.8%) was lower than the proportion of those who said partner would not be angry (62.2%).

There was no significant relationship between partner being angry if she tested positive and place of delivery (P value 0.978 >0.05). However there was a significant relationship between partner being angry if tested positive and compliance with the uptake of AZT/NVP (P value 0.001< 0.05).

Table 13: Partner's Reaction to HIV Status and compliance with uptake of AZT/NVP And place of delivery.

ctor	Place of delivery			Compliance			confounder
rtner uld be gry if I ced HIV itive.	Home	Clinic	Pvalue	Yes	No	Pvalue	
	N (%)	n (%)		n (%)	n (%)		
Yes	44(29.9)	45(29.4)	**0.978**	35(22.3)	54(37.8)	**0.001**	**No**
No	103(70.1)	108(70.6)		122(77.7)	89(62.2)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

6.2 TELLING MY PARTNER MY HIV STATUS IS EASY

. In this study, the proportion of women who delivered at home and indicated that disclosure of one's HIV status to partner was easy, (20.4%) was lower than the proportion of those who indicated that it was difficult (79.6%). The proportion of women who delivered at the clinic and indicated that disclosure of ones HIV status to the spouse was easy (21.6%) was lower than the proportion of those who said it was not easy (78.4%).

The proportion of participants who indicated that it was easy to disclose ones HIV status to partner and complied with the uptake of AZT/NVP (55.4%) was higher than the proportion of those who said it was not easy to disclose to the spouse (44.6%). The proportion of participants who did not comply with the uptake of AZT/NVP who said it was easy to disclose to their partner (65.0%) was higher than those participants who indicated it was not easy (35.0%).

There was no significant relationship between disclosure of one's HIV status and place of delivery (P value 0.916.0.05). Similarly there was no significant relationship between disclosure of ones HIV status and compliance with the uptake of AZT/NVP (P value0.114>0.05).

Table 14: Shows partner's reaction to HIV status disclosure and compliance with the uptake of AZT/NVP and pace of delivery.

actor	Place of delivery			Compliance			confounder
elling my artner my IV status is asy	Home	Clinic	Pvalue	Yes	No	Pvalue	
	N (%)	n (%)		n (%)	n (%)		
es	30(20.4)	33(21.6)	**0.916**	87(55.4)	93(65.0)	**0.114**	**No**
o	117(79.6)	120(78.4)		70(44.6)	50(35.0)		
otal	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

6.3 MY PARTNER WOULD BE ANGRY IF HE KNEW I TESTED WITHOUT HIS KNOWLEDGE

. The proportion of participants who delivered at home and indicated that their spouse would be angry if discovered they tested without their knowledge (28.6%) was lower than those that indicated that their partner would not be angry (71.4%). The proportion of participants that delivered at the clinic and indicated that their partner would be angry (26.8%) was still lower than the proportion of those who indicated that their partner would not be angry (73.2%).

The proportion of compliance for the women who indicated that partner would be angry (25.5%) was lower than those who indicated that partner would not be angry (74.5%). The proportion of women not complying with the uptake of AZT/NVP for those who indicated that their partner would be angry (30.1%) was still lower than the proportion of those who indicated that their partner would not be angry (69.9%).

There was no significant relationship between partner being angry if respondent had tested alone and place of delivery (P value 0.830>0.05) and similarly there was no significant relationship between partner testing without the knowledge of the spouse and compliance with the uptake of AZT/NVP (P value 0.448 >0.05).

Table15: Shows Reaction by male partner when spouse tests without his consent and compliance with uptake of AZT/NVP and place of delivery.

Factor	**Place of delivery**			**Compliance**			**confounder**
Partner will be angry if I tested without his knowledge	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	n (%)	**n (%)**		**n (%)**	**n (%)**		
Yes	42 (28.6)	41 (26.8)	**0.830**	40 (25.5)	43 (30.1)	**0.448**	**No**
No	105 (71.4)	112 (73.2)		117 (74.5)	10[illegible] (69.9)		
Total	**147 (100.0)**	**153 (100.0)**		**157 (100.0)**	**14[illegible] (100.0)**		

6.4 PARTNER WOULD BEAT ME IF I WAS HIV POSITIVE

Gender related violence particularly male violence against female partners has been documented in many reports. A UNAIDS report (UNAIDS 2001) describes how some women in Kenya were chased from their homes or beaten up because they tested HIV positive. This study reveals that the proportion of participants who delivered at home and agreed that their partner would beat them up if they discovered that they were HIV positive (7.5%) was lower than the proportion of those who said their partner would not beat them (92.5%).For those that delivered at the clinic and indicated that their partner would beat them if they were HIV positive, the proportion (20.9%) was lower than the proportion for those who said their partner would not beat them even if they tested positive (79.1%).

Proportion for compliance for those who said they would be beaten if they tested positive was (20.4%) which was lower than the proportion for those who said they would not be beaten even if they were HIV positive (79.6%). The proportion for women who did not comply among those who said they would be beaten (25.2%) was lower than those who indicated that they would not be beaten (74.8%).

There was a significant relationship between partner violence and place of delivery (P value $0.002 < 0.05$). However there was no significant relationship between partner violence and compliance with the uptake of AZT/NVP (P value $0.394 > 0.05$).

Table 16: Shows participant's fears to partner being violent if she tested positive and compliance with uptake of AZT/NVP and place of delivery

:or	Place of delivery			Compliance			confounder
ner d beat if he v I was positive	Home	Clinic	Pvalue	Yes	No	Pvalue	
	n (%)	n (%)		n (%)	n (%)		
Yes	11(7.5)	32(20.9)	**0.002**	32(20.4)	36(25.2)	**0.394**	No
No	136(92.5)	121(79.1)		125(79.6)	107(74.8)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

6.5 PARTNER WOULD DIVORCE ME IF I TESTED HIV POSITIVE

The findings from a Kenyan study reported some high levels of negative outcomes because these women were tested HIV positive (UNAIDS 2001). The report states that 66 (27.2%) of women out of a total of 324 women who were found to be positive communicated their test result to their partner. Out of that figure 11 of them were chased or replaced by another woman. In this study we found that the proportion of participants who delivered at home and indicated that they would be divorced if their partner knew they tested HIV positive (30.6%) was lower than the proportion of those who indicated that they would not be divorced (69.4%). The proportion of participants who delivered at the clinic and indicated that they would be divorced if the partner knew they were HIV positive (24.5%) was lower than the proportion of those who indicated that they would not be divorce (74.5%).

The proportion of compliance among those who said they would be divorced (25.5%) was lower than the proportion of those who said they would not be divorced 117(74.5%). The proportion for non-compliance (30.8) was lower than that for the ones who said they would be divorced 99(69.2%).

There was no significant relationship between fear for divorce and place of delivery (P value 0.390>0.05) and there was no significant relationship between fear for divorce and compliance with the uptake of AZT/NVP (P value 0.770>0.05).

Table 17: Shows participant's marital security when tested HIV positive and compliance

ctor	Place of delivery			Compliance			confounder
tner uld orce me if ested HIV itive	Home	Clinic	Pvalue	Yes	No	Pvalue	
	n (%)	n (%)		n (%)	n (%)		
Yes	45(30.6)	39(25.5)	**0.390**	40(25.5)	44(30.8)	**0.770**	No
No	102(69.4)	114(74.5)		117(74.5)	99(69.2)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

with uptake of AZT/NVP and place of delivery

7.0 STIGMA

7.1 FRIENDS WOULD AVOID ME IF THEY KNEW I WAS HIV POSITIVE

In this study the proportion of respondents who delivered at home (38.1%) indicated that they would be avoided by their friends if they knew that they were HIV positive. This proportion was higher than the proportion of those who delivered at the clinic (36.6%)

Who indicated that they would be avoided by their friends if they knew that they were HIV positive. The proportion of participants who said they would not be discriminated against and delivered at home (61.9%) was lower than the proportion of participants who delivered at the clinic (63.4%)

The proportion of compliance with the uptake of AZT/NVP was higher among the participants who indicated that they would not be avoided by their friends even if they knew that their HIV status was positive (64.3%). However, the proportion of non-compliance was higher among those who said their friends would not avoid them even if they knew their HIV status to be positive (60.8%).

There was no significant relationship between friends discriminating if they knew their HIV status and place of delivery (P value 0.882>0.05), neither was there any significant relationship with the uptake of AZT/NVP (P value0.616>0.05).

The table below shows respondents perception of their friends' reaction to their HIV status.

Table 18: Shows respondents perception to friends reaction when tested HIV positive

ctor	Place of delivery			Compliance			confounder
iends uld avoid if they ew I was V positive	Home	Clinic	P value	Yes	No	P value	
	n (%)	n (%)		n (%)	n (%)		
Yes	56(38.1)	56(36.6)	**0.882**	56(35.7)	56(39.2)	**0.616**	**No**
No	91(61.9)	97(63.4)		101(64.3)	87(60.8)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

7.2 CHURCH WOULD DISCRIMINATE AGAINST ME IF THEY KNEW I WAS HIV POSITIVE

The proportion of respondents who thought the Church would discriminate against them was higher for the respondents who delivered at home (44.9%) than those who delivered at the clinic (35.9%). Similarly, the proportion of respondents who indicated that the Church would not discriminate against them and delivered at the clinic (64.1%) was higher than those who delivered at home (55.1%). The proportion of compliance was correspondingly lower for those who indicated the church would discriminate against them (27.4%), but was higher for those who declined that the church would discriminate against them (72.6%). Non compliance was lower amongst those who agreed that the church would discriminate them (31.5%).

There was no significant relationship between discrimination by the Church and place of delivery (P value 0.144>0.05). Similarly there was no significant relationship between Church discrimination and compliance with the uptake of AZT/NVP (P value 0.517>0.05).

Table 19: Shows respondents perception to how church would react to their HIV status and compliance with uptake of AZT/NVP and place of delivery

r	**Place of delivery**			**Compliance**			**confounder**
h	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
ninate t me if HIV+	**n (%)**	**n (%)**		**n (%)**	**n (%)**		
es	66(44.9)	55(35.9)	**0.144**	43(27.4)	45(31.5)	**0.616**	**No**
Io	81(55.1)	98(64.1)		114(72.6)	98(68.5)		
tal	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

8.0 MYTH

Rumors about a new drug may constitute fallacious beliefs and these could present challenges to the enforcement of its uptake. The Central Board of Health (2003) reported that a large number of women diagnosed HIV positive were given nevirapine to take at the on set of labor inorder to reduce the probability of transmitting HIV infection to baby during delivery. However, it was discovered that many women did not take this drug. This study revealed similar findings that a large number of HIV positive women from the sample did not take AZT/NVP. We investigated whether myth was responsible for this action.

8.1 AZT/NVP CAUSES ABNORMALITY TO CHILD AFTER BIRTH

The proportion of respondents who indicated that AZT/NVP caused abnormality to a child after birth (19.7%) for those who delivered at home was higher than the proportion of those who delivered at the clinic (16.3%). The proportion of those who indicated that AZT/NVP cannot cause any abnormality to child after birth and for those who delivered at the clinic (83.7%) was higher than the proportion for those who delivered at home (80.3%). Compliance was lower (10.8%) for those who agreed than those who did not comply (25.9%).

There was no significant finding between AZT/NVP causing abnormality problems to child after birth and place of delivery (P0.540 > 0.05). However, there was a significant relationship between AZT/NVP causing abnormality problems after child birth and compliance with the uptake of AZT/NVP (P value 0.001<0.05).

Table 20: Shows participant perception on effects of AZT/NVP on child after birth and compliance with uptake of AZT/NVP and place of delivery.

ctor	Place of delivery			Compliance			confounder
T/NVP uld cause normality child after th.	Home	Clinic	P value	Yes	No	P value	
	n (%)	n (%)		n (%)	n (%)		
Yes	29(19.7)	25(16.3)	**0.540**	17(10.8)	37(25.9)	**0.001**	No
No	118(80.3)	128(83.7)		140(89.2)	106(74.1)		
Total	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

8.2 AZT/NVP CAUSES DELIVERY COMPLICATIONS

The proportion of respondents who delivered at home and said AZT/NVP can cause delivery complications (13.6%) was higher than the proportion of respondents who delivered at the clinic (10.5%).The proportion of those who said AZT/NVP cannot cause delivery problems and delivered at home(86.4%) was lower than those who delivered at the clinic (89.5%).

Compliance with the uptake of AZT/NVP was lower (7.0%) for those who said AZT/NVP can cause delivery problems than those who did not comply for the same group (17.5%). For those who refused that AZT/NVP can cause delivery complications compliance was higher (93.0%) than non-compliance (82.5%).

There was no significant relationship between AZT/NVP causing delivery problems and place of birth P value 0.509>0.05). However, there was a significant relationship between AZT/NVP causing delivery complications and compliance with the uptake of AZT/NVP (P value 0.005<0.05).

Table21: Shows respondent's perception about AZT/NVP effects on mother after delivery and compliance with uptake of AZT/NVP and place of delivery.

...or	**Place of delivery**			**Compliance**			**confounder**
...NVP cause ...ery ...lication	**Home**	**Clinic**	**P value**	**Yes**	**No**	**P value**	
	n (%)	**n (%)**		**n (%)**	**n (%)**		
...es	20(13.6)	16(10.5)	**0.509**	11(7.0)	25(17.5)	**0.005**	**No**
No	127(86.4)	137(89.5)		146(93.0)	118(82.5)		
...otal	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

8.3 BABY WHOSE MOTHER TAKES AZT/NVP DIES

(Jackson – 2004) states that the fear of negative outcome effects to the unborn baby or even to the mother herself resulting from the uptake of nevirapine may impact on compliance. The fear of developing resistance by a woman who has ingested nevirapine may have a very negative impact on compliance. Whether these are misconceptions or not usually have very negative impact on the acceptance for the use of AZT/NVP by many women. This study discovered that the proportion of women who accepted that the baby whose mother took AZT/NVP would consequently die and delivered at home (14.3%) was lower than those who delivered at the clinic (15.0%). The proportion of those who declined that the baby would die after the mother took AZT/NVP (85.7%) for those who delivered at home was higher than those who delivered at the clinic (85.0%). Compliance with the uptake of AZT/NVP was similarly high amongst those who declined to say the baby would die if the mother took AZT/NVP (87.9%) while no-compliance was lower (82.5%). This study observed that neither home deliveries nor clinic deliveries influenced the notion that the baby whose mother took AZT/NVP would die. Compliance is similarly not influenced by this misconception.

There was therefore no significant relationship between the notion that baby would die if mother took AZT/NVP and place of delivery (P value 0.984>0.05) and similarly there was no significant relationship between Mother's taking of AZT/NVP and consequent death of the baby and compliance with uptake of AZT/NVP (P value 0.188 > 0.05).

Table22: Respondent's perception on the effect of AZT/NVP on Baby and compliance with the uptake of AZT/NVP and place of delivery

or	Place of delivery			Compliance			confounder
whose er takes /NVP	Home	Clinic	P value	Yes	No	P value	
	n (%)	n (%)		n (%)	n (%)		
Yes	21(14.3)	23(15.0)	**0.984**	19(12.1)	25(17.5)	**0.188**	**No**
No	126(85.7)	130(85.0)		138 (87.9)	118(82.5)		
otal	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

8.4 HIV/AIDS IS PUNISHMENT FROM GOD

. This study discovered that the proportion of women who said that HIV/AIDS is punishment from God who delivered at home (32.0%) was higher than the proportion of those who delivered at the clinic (20.9%). The proportion for those who said it was not punishment from God and delivered at clinic (79.1%) was higher than the proportion for those who delivered at home (68.0%).

The proportion of women who complied with the uptake of AZT/NVP and agreed that AIDS was punishment from God (13.4%) was lower than the proportion of those women who did not comply (32.2%). The proportion of women who said it was not true that HIV/AIDS is punishment from God and complied with the uptake of AZT/NVP (86.6%) was higher than the proportion of those women who did not comply with the uptake of AZT/NVP (67.8%).

There was a significant relationship between HIV/AIDS being punishment from God and place of delivery (P value 0.041>0.05). At the same time there was a significant relationship between compliance with the uptake of AZT/NVP and HIV/AIDS being punishment from God (P value 0.001<0.05).

Table23: Respondent's perception about HIV/AIDS and compliance with uptake of AZT/NVP and place of delivery

r	Place of delivery			Compliance			confounder
is ment God	Home	Clinic	P value	Yes	No	P value	
	n (%)	n (%)		n (%)	n (%)		
ue	47(32.0)	32(20.9)	**0.041**	21(13.4)	46(32.2)	**0.001**	Yes
lse	100(68.0)	121(79.1)		136(86.6)	97(67.8)		
tal	**147(100.0)**	**153(100.0)**		**157(100.0)**	**143(100.0)**		

8.5 TOOK AZT/NVP

The proportion of participants who delivered at home and complied with the uptake of AZT/NVP (46.9%) was lower than the proportion of participants who delivered at the clinic who complied with the uptake of AZT/NVP(57.5%). The proportion of participants who delivered at home who did not comply with the uptake of AZT/ (53.1%) was higher than the proportion of participants who delivered at the clinic who did not comply with the uptake of AZT/NVP (42.5%).

There was no significant relationship between compliance with the uptake AZT/NVP and place of delivery (P value 0.086 > 0.05).

Table24: Showing compliance with uptake of AZT/NVP by HIV seropositive Mothers

Factor	**Place of delivery**			
Took AZT/NVP	**Home**	**Clinic**	**Total**	**P value**
	n (%)	**n (%)**	**n (%)**	
Complied	69 (46.9)	88 (57.5)	**157 (100.0)**	**0.086**
Did not comply	80 (53.1)	65 (42.5)	**143 (100.0)**	
Total	**147 (100.0)**	**153 (100.0)**	**300 (100.0)**	

CHAPTER 5

9.0 DISCUSSION OF FINDINGS

9.1 AGE

This study revealed that age has an influence on place of delivery. This is not surprising as most young women would prefer to deliver at a health center rather than at home. The reason is due to the probability that young women lack experience with delivery complications and would therefore prefer to be attended to by an experienced medical person at a health facility. On the contrary, older women may prefer to deliver at home because of the probability that they have experience with previous deliveries. On the other hand, age was found to have no influence on compliance with the uptake of AZT/NVP. The reason for this trend could not be established and was probably due to the fact that some women may take AZT/NVP while others may not for reasons best known to themselves.

9.2 EDUCATION

Education had no influence on both place of delivery or compliance in the uptake of AZT/NVP. This is rather surprising because" education is associated with awareness," (Hagen E.E.1986). It is often assumed that less educated people may not be aware of the advantages of delivering at a health center and may therefore prefer to deliver in their homes, similarly less educated women may take time to understand the advantages of taking AZT/NVP because of lack of knowledge of the drug and because they are easily influenced by rumors associated with uptake of these drugs. However, this is not so in this study, the trend of these events may only be due to probability.

9.3 MARITAL STATUS

Marital status had not influenced either place of delivery or compliance with uptake of AZT/NVP. This is surprising because men have often been associated with influencing their spouses in decision making. Earlier in this study, we reported an association of good partner relationship being cardinal to "adherence and the use of nevirapine" (Kiarie et.al 2003). This study revealed that marital status has no influence on place of delivery or compliance in the uptake of AZT/NVP.

9.4 NUMBER OF BIRTHS / NUMBER OF BIOLGICAL CHILDREN ALIVE

This study revealed that the number of births or the number of biological children alive a woman has had did not influence the place of delivery nor compliance with the uptake of AZT/NVP. This phenomenon could probably be attributed to the fact that people take the drug because it is good since it has been given to them .by a health worker.

9.5. HIV/AIDS KNOWLEDGE

Lack of knowledge by participants that there is a probability to transmit HIV to baby during delivery showed a significant influence on compliance with uptake of AZT/NVP and no influence with place of delivery. The study revealed that the level of compliance with the uptake of AZT/NVP was very low because many participants expressed ignorance that there is a probability for HIV transmission during delivery. Similar trends were noticed with other factors such as transmission of HIV to baby during breastfeeding, HIV positive Mothers being aware of their role in Prevention of Mother to Child Transmission and Expectant Mother's knowledge on the use of AZT/NVP. This study shows that many participants were ignorant about the effects of these factors which consequently compromised compliance with the uptake of AZT/NVP.

9.6. PARTNER RELATIONSHIP

Most participants in this study indicated a good relationship with their partner. Some participants, however, indicated experiencing some adverse social events with their partner (37.8%). Semrau et.al (2004) stated that disclosure of HIV status by HIV positive women to their partners " improved adherence to PMTCT antiretroviral regimens" by these women. Disclosure of HIV status could be less stressful if good partner relationship existed. However, bad relationships could discourage adherence with the uptake of AZT/NVP because there is fear of these adverse social events. This study revealed that partner relationships influenced women's decision for a place of delivery and similarly affected compliance in the uptake of AZT/NVP. This study found that compliance was negatively affected where women feared their partner would be angry if they were discovered with HIV positive status (P value< 001). This is not surprising as most women who fear adverse social events from their partner were less likely to disclose their HIV status let alone be prepared to take AZT/NVP lest their partner discovered. On the other hand, this study revealed fear for partner violence and as a result this influenced choice for place of delivery. It is rather surprising to note that many of the women who indicated that they did not expect any partner violence (92 5%) delivered at home as against (79.1%) who delivered at the clinic. However many factors indicated a good partner relationship.

9.7. MYTH

It was arguably difficult to effectively determine whether some of these factors were myth or not. Nevirapine for instance has been cited for its toxicity as an important limitation for its use in PMTCT (Haroon S 2004). Nevirapine used in small quantities like in PMTCT is considered safe. Nevertheless, it was necessary to investigate participants views on the effects of AZT/NVP which they took to prevent the probability of infecting the unborn baby. This study found that there was a significant relationship between myth and compliance with the uptake of AZT/NVP. Many people took AZT/NVP because they did not know the side effects they caused. However some participants expressed their concern in that Neviapine caused delivery complications.

CHAPTER 6

10.0 CONCLUSION AND RECOMMENDATIONS

10.1 CONCLUSION

This study has revealed that a large proportion of factors have no direct influence on the choice for place of delivery and adherence in the uptake of AZT/NVP. However, some factors have shown some significant relationships with the choice for place of delivery and compliance in the uptake of AZT/NVP by HIV seropositive expectant women. Many participants reported good relationship with their partner whilst stigma was not considered an issue for limiting compliance in the uptake of AZT/NVP or choice for a place of delivery. Advantages for the uptake of AZT/NVP need to be discussed alongside disadvantages so that the consumer is aware of their side effects.

This study highlights partner relationship concerns by participants in that the partner would abandon them leaving them economically crippled as most men are bread winners of their households. They expressed fear for divorce by their partner if they were discovered HIV positive. This fear is a deterrent to compliance with the uptake of AZT/NVP as discovery by their spouse would entail abandonment and loss of economic support. Some women expressed concern over the effect of the ARVS on the baby at birth. One participant complained that her baby had the umbilical cord come out first at birth due to her uptake of AZT/NVP. Other highlights from this study suggest that compliance in the uptake of AZT/NVP and the choice of place of delivery may be determined by personal attributes of the woman. If the woman accepted her responsibility to save her baby from HIV infection, its more than likely that she would decide to take AZT/NVP in order to save her baby

Finally, the study concluded that the proportion of factors that may influence compliance in the uptake of AZT/NVP by HIV seropositive expectant women delivering outside a health facility in Lusaka urban was lower than was predicted. On the other hand however, the level of compliance with the uptake of AZT/NVP was quite high. The study therefore does not accept the null hypothesis which states that there is no relationship between compliance with uptake of AZT/NVP by HIV seropositive women and delivering outside a health facility in Lusaka Urban District. We however accept the alternative hypothesis that there is a relationship between compliance with the uptake of AZT/NVP and delivering outside a health facility by HIV seropositive women delivering outside a health facility in Lusaka Urban District.

10.2 ECOMMENDATIONS

Based on the findings of this study, the following recommendations are made:-

1. **Short –term**

   1) Since non-compliance with the uptake of AZT/NVP is highest amongst those delivering at home, institutions dealing in PMTCT programs should intensify educating pregnant women on the importance of delivering at a health facility, this will enable health personnel to monitor the uptake of ARVS.

   2) Pregnant women in general and those infected with HIV and AIDS in particular should be sensitized on the advantages of using ARVS.

   3) Community Based Organizations ,Non-governmental Organizations and all other institutions engaged in the prevention of HIV and AIDS transmission

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Appendix 4

QUESTIONNAIRE

INSTRUCTIONS

Thank you for agreeing to participate in this study. This study is intended to investigate factors that contribute to women's non-compliance in taking AZT/Nevirapine. Please answer the following questions. Your responses will be confidential and will not affect you in anyway nor will they affect the services you receive from this or any other clinic. The responses are for educational purposes although they may help other women like you who may decide to take or not to take AZT/Nevirapine in future. Please be assured that all your responses will be confidential.

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dent Identification number [RID] | | | |

Health Facility [NHLFAC] | | | | | | | | | | | | |
terview [DATINT]: d d m m m y y y y

interviewer [NAMINT]

nographic Data [DEMDAT]

1. Age:

2. Education level:[EDULEV]:

   [1]Low education [ ] [2] Higher education [ ]

3. Marital status [MRSTAT]

   [1] Married [ ] [2] Single [ ]

4. Number of all biological children [NBIOCH]

5. Number biological children living [BIOCAL]

HIV / AIDS Knowledge [HIVKNO]

6 . HIV can be transmitted to baby during pregnancy [HIVPRE]?
[1] Always [ ] [2] Sometimes [ ]

7 HIV can be transmitted to baby during delivery [HDEL]
[1] Always [ ] [2] Sometimes [ ]

8 HIV can be transmitted from positive mother to baby during breastfeeding [HBREST]
[1] Always [ ] [2] Sometimes [ ]

9. HIV Positive expectant women are important in PMTCT [HEMKEY]
[1] Yes [ ] [2] No [ ]

10. HIV Positive expectant Mother should receive AZT/NVP to reduce chances of infecting unborn baby [RECNVP]
[1] Always [ ] [2] Sometimes [ ]

11. Nevirapine is given to HIV expectant woman to reduce HIV infection [NVPRED]

[1] to mother ☐ [2] to baby ☐

12. NVP can be taken at home when labour begins [NVPHOM]

[1] Yes ☐ [2] No ☐

ARTNER RELATIONSHIP [PATREL]

13. If my HIV status was positive my partner would be angry [PATSTA]

[1] Yes ☐ [2] No ☐

14. Telling my partner my HIV status is easy [TEASY]

[1] Yes ☐ [2] No

15. My partner would be angry if he knew I tested without his knowledge [PATANG]

[1] Yes ☐ [2] No ☐

16. ~~My partner would beat me if he knew I was HIV~~ positive [PATVIOL]:

[1] Yes ☐ [2] No ☐

17. My partner would divorce me if he knew I tested positive [PATVOC]

[1] Yes ☐ [2] No ☐

STIGMA

18 .My friends would avoid me if they knew I was HIV Positive [FRAVOID]

[1] Yes ☐ [2] No ☐

19. My church would discriminate against me if they knew I was HIV positive. [CHDISC]

[1]Yes ☐ No ☐

E. **MYTHS / MISCONCEPTIONS [MYTMIS]**

20. ZT/NVP given to pregnant woman can cause abnormality to child after birth. [NOTNORM].

[1] Yes ☐ [2] No ☐

21 ZT/NVP given to pregnant woman will cause delivery complications [NVPCOM].

[1] Yes ☐ [2] No ☐

22.A baby born after the mother has taken AZT/NVP will consequently die [BABDIE]

[1] Yes ☐ [2] No ☐

23. HIV / AIDS is punishment from God [GODPUN]

[1] True ☐ [2] False ☐

24. Took AZT/NVP [LASPREG]

[1]Yes ☐ [2] No ☐