STUDY OF FACTORS AFFECTING UPTAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

BY

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ABSTRACT

The main objectives of this study were to (i) to determine if educational level affect Uptake of exclusive breastfeeding among HIV positive postnatal mothers. (ii) to establish whether lack of decision making powers affect Uptake of exclusive breastfeeding among HIV positive postnatal mothers. (iii) to establish if social cultural stigma affects Uptake of exclusive breastfeeding among HIV positive postnatal mothers. This was a descriptive study and was conducted in all the clinics, which have implemented the PMTCT programme in Kitwe urban district.

Data was collected using a Survey Questionnaire and One to One In - depth interviews. Qualitative data was analysed using Content analysis w the help of the N vivo software version 2.2. Quantitative data was analysed selecting univariate and bivariate analysis. Simple random sampling was used to sample the mothers.

The study came up with the following findings; there was an association between education level and uptake of exclusive breastfeeding. The results were statistically significant (X^2 4.99; p value 0.025). Mothers with high education took up exclusive breastfeeding more than mothers with low cation. However, there was no association between decision making and uptake of exclusive breastfeeding. The two were statistically different (X^2 2.87; p value 0.237). As for social cultural stigma, the study's findings were that there was an association between social cultural stigma and uptake of exclusive breastfeeding. The observed differences were statistically significant (X^2 10.74; p value 0.001).

In conclusion, the factors affecting uptake of exclusive noted to be level of education of mothers and social cultura igma.

DEDICATION

This dissertation is dedicated to my husband Bestone Kabushi Chileya, our children Natasha and Lisa for their patience and understanding. I also dedicate it to all HIV positive postnatal mothers in Zambia.

DECLARATION

This dissertation is the original work of Lizzie Chileya Sishwashwa. It has been prepared in accordance with the guidelines for Masters in Public Health (MPH) dissertations of the University of Zambia. It has not submitted elsewhere for a degree at this or another university.

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I have read this dissertation and approved it for examination.

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CERTIFICATE OF APPROVAL

This dissertation of Lizzie Chileya Sishwashwa is approved as part of the fulfillment of the requirements of the award of the degree of Master of Public Health by the University of Zambia.

Examiners' signatures	Date
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LIST OF ABBREVIATIONS

AFASS	Acceptable, Feasible, Affordable, Sustainable & Safe.
AIDS	Acquired Immune-deficiency Syndrome.
BF	Breast Feeding.
EBF	Exclusive Breast Feeding.
HIV	Human Immunodeficiency Virus.
IFO	Infant Feeding Options.
KDHMT	Kitwe District Health Management Team.
MF	Mixed Feeding.
MTCT	Mother to Child Transmission.
PMTCT	Prevention of Mother to Child Transmission.
RF	Replacement Feeding.
UFC	Under Five Clinic.
UNICEF	United Nations International Children Emergency Fund.
WHO	World Health Organization

CHAPTER ONE - BACKGROUND

1.0 Introduction

HIV/AIDS is a global pandemic and a major health problem in many countries. The epidemic's grip on Africa has been by far the deadliest, and sub Saharan Africa remains the epidemic's epicenter. As a result, it has since become one of the leading cause of death in sub Saharan Africa. According to 2001 estimates, there were 28.5 million people living with AIDS in Africa comprising 70% of the world's HIV infected population (UNAIDS/WHO, 2008; a, b, d).

Global

HIV/AIDS has been reported in all regions of the world, however, most people living with the disease (more than 95%) reside in low middle income countries, where most new HIV infections and AIDS related deaths occur. Sub Saharan African countries have been hardest hit, follo by the Caribean; Eastern Europe and Asia. World wide, HIV is transmitted through heterosexually, although risk factors may vary within and across populations. In regions of the world, homosexuals, drug users and sex workers account for significant proportions of infections (UNAIDS/WHO, 2008 a,b,c,d).

Sub Saharan Africa

UNAIDS, (2008) reports that in Africa, about 2.5 million children under 15 years live with HIV and nearly 90% are in the sub Saharan Africa. Sub Saharan Africa, is the hardest hit region and is home to 2/3 (67%) of living with HIV/AIDS or 22.0 million people, but only 11-12% of the world's population. Most of the children with HIV/AIDS (90%) live in this region. Almost all countries in this region have generalized HIV/AIDS epidemics. This entails that their national HIV prevalence rate is greater than 1%. In 9 countries, more than 10% of adults are already estimated to be HIV positive. South Africa is estimated to have 5.7

million people living with HIV/AIDS, and almost one in five South African adults is HIV positive. Swaziland has the highest prevalence rate in the world (26.1%).

Zambia

In a report done by UNAIDS, (2008) it is estimated that in 2007, 420,000 children under 15 years lived with HIV and were likely to die before their second birthday. A further 290, 000 children under 5 years died from HIV related diseases in 2007. The report further reveals that Zambia, one of the countries in southern Africa, is said to have one of the world's most devastating HIV/AIDS epidemic, estimated to have 14.3% for adults aged 15 - 49 years. The number of Zambians living with HIV/AIDS by 2007 was said to be 980,000, of these about 57% cases of HIV occurred among women of ages between 15 - 40 years by 2007.

In Zambia, the discovery that HIV can be transmitted through breast milk has led to the up scaling of PMTCT programme. The programme emphasizes exclusive breastfeeding as the preferred infant feeding option a ong HIV positive postnatal mothers whose conditions are not acceptable, feasible, affordable, sustainable and safe (AFASS) (WHO,2006; MOH, 2007). Prevention of mother-to-child transmission (PMTCT) of Human Immunodeficiency Virus (HIV) plays an important role in the global fight against Acquired Immune-deficiency Syndrome (AIDS) especially, among HIV positive mothers.

Transmission of HIV from mother to child can occur in the womb, during delivery, or through breastfeeding. The risk of transmitting HIV through breastfeeding is thought to be about 5% in the first six months, 10% over the first 12 months, and 15–20% if the baby is breast-fed for 24 months. Transmission may continue for as long as a child is breastfed (Miotti, 1999). In their study findings Dunn *et al.,* (1992) revealed that a recent HIV infection increases the risk mother to child transmission through breastfeeding to approximately 29%.

The HIV prevalence among pregnant women in Zambia, is stimated to be 14 % with an estimation of 500, 000 deliveries every year. It is estimated that about 97,000 women with HIV give birth annually and 30% of these will transmit HIV to their children without any intervention (UNICEF, UNAIDS, WHO, 2008). Furthermore, 40,000 children were estimated to have been born HIV positive in Zambia in 2007. More than that WHO, (2003) revealed that about 20% of infants born to HIV-infected mothers acquire the virus from breast milk.

Exclusive Breast Feeding

Exclusive breastfeeding has been noted to be an alien concept in most African cultures (Magoni and Gulliano, 2005). However, this form of feeding is rare, the common one being mixed feeding. In some sub Saharan African countries, mixed feeding for up to 2 years and beyond is considered a norm. In these settings, breast-feeding is culturally entrenched and deeply valued; hence, failure to breast-feed may be tacit disclosure of HIV status (Coutsoudis *et al.*,, 2005). In settings where breastfeeding is a cultural norm, mother to child transmission through breastfeeding may be responsible for one third to one-half of HIV infections in infants and young children (UNICEF/UNAIDS/WHO/UNFPA, 2007).

The protective effects of exclusive breastfeeding against morbidity and mortality associated with gastrointestinal and respiratory diseases are well established. In their study, Shapiro *et al.,* (2003) have noted that exclusive breastfeeding exposes the child to fewer bacterial contaminants and a more restricted range of food antigens, which may in turn reduce immune activation in the gastrointestinal tract than mixed feeding. Exclusive breastfeeding protects the integrity of the lining of the gut, and as with intact skin, an intact gut epithelium could effectively protect against the HIV virus gainin entry to the blood system. Conversely, the ingestion of foreign proteins such as ows' milk protein as found in formula milk, might stimulate the large numbers of mmune receptors that

ordinarily line the gut and thereby facilitate virus adherence to the gut and entry into the underlying tissues.

Exclusive breastfeeding is also associated with a lower amount of HIV virus in the milk compared to when the mother mix breastfeeds. hen mothers mix breastfeed, the breast is not entirely emptied of all lk and the residual milk triggers a low level of inflammation that results in higher levels of virus in the milk. Finally breast milk naturally contains several anti-HIV substances that can inhibit virus growth. While more breast milk will present more virus, it also equates to more of these substances reaching the infant.

The importance of this feeding option cannot be overstated, other than protecting against HIV transmission, exclusive breastfeeding is a critical intervention for child survival. For the majority of women in sub Saharan Africa who do not have all the resources and support to safely formula feed, option of exclusive breastfeeding offers a very high chance of the infant surviving and also being HIV uninfected (Coovadia *et al.*, 2007). Furthermore, mixed feeding is associated with an average of about 3 fold increase in postnatal HIV transmission by 6 months of age (Wellcome Trust, 2007; Iliff 2008). This is because findings from a number of studies have shown a consistent lower risk postnatal HIV transmission from mother to infant of about 4% among exclusively breastfed infants as compared to non exclusively breastfed infants by the age of six months (Kuhn *et al.* 2007; Wellcome Trust, 2007; Iliff 2008). Cesar *et al*.,' s study (1999) revealed that exclusive breastfeeding is a counterintuitive means to reduce the risk of HIV transmission.

1.1 Statement of the Problems

Documentation that breast feeding is a source of HIV infection in babies born to HIV positive mothers has caused a public health dilemm especially, in poor resource settings where HIV prevalence rate is high an breastfeeding is the

norm and essential to child survival (De Kock *et al.,* 2000, WHO, 2003; Kuhn et al., 2004; Thairu *et al*., 2005). This has led to the attention and scaling up of exclusive breastfeeding programme in Zambia, by both the government and stakeholders. As a result, there is a big improvement exclusive breastfeeding Uptake among postnatal mothers in general, from the previous 41% in 2002 (CSO, 2002) to the current 60% (CSO, 2007).

However, statistics from the Central Data system of Ki e District Health Management Team, 1st Quarterly PMTCT unpublished report, January to May, 2008 indicate that only 572 HIV positive postnatal mothers took up exclusive breastfeeding out of 1,032 who were counselled, tested positive to HIV and were eligible for exclusive breastfeeding Uptake. About 460 HIV positive postnatal mothers did not take up exclusive breastfeeding representing 45%. The 2nd Quarterly PMTCT Report June to October, 2008 indicate that 910 HIV positive postnatal mothers were counseled, tested positive to H and were eligible for exclusive breastfeeding Uptake. Out of this number, 679 took up exclusive breastfeeding, leaving about 231 not taking up exclusive breastfeeding representing 25% (KDHMT 1st & 2nd Quarterly PMTCT unpublished reports, 2008). Both reports do not state the factors behind the mothers' failure to take up exclusive breast feeding. This definitely, entails an problem and must be cause for concern, especially, that HIV prevalence among pregnant women in Zambia is said to be among the highest at 14 % (UNICEF, UNAIDS, WHO, 2008).

1.2 Justification

The study is justified because the Up-take of exclusive breastfeeding is an important strategy in the prevention of mother to child transmission of HIV in poor resource settings like Zambia, where Acceptable, Feasible, Affordable, Sustainable and Safe (AFASS) conditions cannot easily met. In addition, insufficient information exists to determine factors affecting HIV positive postnatal

mothers from taking up exclusive breastfeeding. It is anticipated that the study will contribute to strategies, which will help better the Up-take of exclusive breastfeeding programme among HIV positive postnatal mothers in Kitwe urban district.

1.3 Ethical Consideration

This protocol together with all the tools for the survey were submitted to the University of Zambia Research Ethics Committee for approval and clearance prior to proceeding to do data collection. Ethical approval to carry out the research was obtained from the University of Zambia Research Ethics Committee at the School of Medicine, whilst, permission to carry out the study was obtained from Kitwe District Health Management Team. A written and signed informed consent was obtained from participants. The participant's participation in the study was entirely voluntary as participants were under no obligation to participate in the study.

Participants were free to refuse to take part or withdraw at anytime without affecting or jeopardizing their future medical care. Confidentiality was ensured, no names were used, instead participants were given codes for identification. Those participants who did not wish to be interviewed at the clinic, ideal locations to them were used and transport costs for both the participant and investigator were met by the investigator.

The participants were given a token of K10, 000 each to cover their transport fares. The collected data which was collected from the participants was handled with strict confidentiality and was only used for this particular research purpose, neither has it been given to any partner or project for any kind of use. Participants were informed about any risks that could have been involved and the extent of mitigation. Furthermore, they were informed out any direct or indirect benefits which could have arisen out of their participation in the study.

1.4 Research Question

Given the factors and lack of empirical data, this study seeks to answer the following research question:

- What factors affect Uptake of exclusive and non exclusive breastfeeding among HIV positive postnatal mothers in Kitwe urban district?

1.5 Hypothesis

- In this descriptive study there was no hypothesis.

1.6 General Objective

- To determine factors affecting the Uptake of exclusive breastfeeding among HIV positive postnatal mothers.

1.7 Specific Objective

- To determine if the educational level of mothers affect Uptake of exclusive breastfeeding among HIV positive postnatal mothers.
- To establish whether lack of decision making powers affect Uptake of exclusive breastfeeding among HIV positive postnatal mothers.
- To establish if social cultural stigma affects Uptake exclusive breastfeeding among HIV positive postnatal mothers.

1.8 DEFINITION OF KEY CONCEPTS

Below are definitions of key concepts that have been used in this study and will be operationalized as follows:

Exclusive Breast Feeding

Giving an infant no food or drink, not even water, other than breast milk, except for drops or syrups of vitamins, mineral supplements, or medicines (WHO, UNICEF, UNFPA and UNAIDS, 2003).

Age

Age as a measure of lived life was measured on interval scale as ages between 18 years to 47 years.

Level of Education

Education level as a measure of how far someone had gone in school was measured on ordinal scale as (i) Low education, (ii) high education.

Low Education

All those who have never been to school and those who have attained education from grade one to grade nine (9).

High Education

All those who have attained grade ten (10) education and above.

High Density Area

In this study, it was operationalized as, very densely populated area, whose majority residents are not in gainful employment and possessing only basic education or none at all.

Medium Density Area

In this study, it was operationalized as moderately populated area with the majority of residents belonging to the low middle class and an average education and income.

Social Cultural Stigma

In this study, Social cultural stigma, was operationalized as; a powerful and discrediting label that radically changes the way HIV women are viewed and how they view themselves, leading to discrimination on the basis of their HIV positive status or association with someone who is living with HIV/AIDS.

Self Stigma

In this study, self stigma was operationalized as, the way people living with HIV perceive themselves. This perception can hinder their efforts to address the AIDS epidemic by perpetuating the wall of silence and shame surrounding the epidemic.

Factors Affecting Exclusive Breast Feeding Up Take

Factors affecting exclusive breastfeeding will be operationalised as perceived difficulties which deter a mother from taking up exclusive breastfeeding once she has tested positive to HIV and is eligible to take up exclusive breastfeeding.

Mixed Feeding

This is breastfeeding combined with feeding other fluids, solid foods and/or non-human milk, such as infant formula or animal milks.

CHAPTER TWO - LITERATURE REVIEW

2.0 Introduction

This chapter reviewed some previous studies of literature related to factors affecting Up-take of exclusive breastfeeding among HIV positive postnatal mothers. Most of the literature discussed in this study were mainly based and informed by researches conducted in Africa. High Up-take of exclusive breastfeeding by HIV positive postnatal mothers is of mental importance to the prevention of mother to child transmission of HIV through breast feeding. This is especially so in some sub Saharan African countries like Zambia, where exclusive breastfeeding is considered an alien concept. Though the author is interested in factors which affect exclusive breastfeeding among HIV positive postnatal mothers only. Nevertheless, examples outside these areas are provided to show that the analytic framework offered can easily be applied to studies of exclusive breastfeeding from a wide range of disciplines.

2.1 Level of Education

Education has been said to be one of the key protective factors against the spread of HIV (Pridmore, 2005) hence, Boler, (2005) refers to it as the, “Social Vaccine” against Human Immunodeficiency Virus. Education increases the visibility of people with HIV/AIDS. It gives them hope, makes them less afraid of AIDS; they are more willing to be tested for HIV, to disclose their status, and to seek care if necessary as well as to choose the right feeding option in order to protect themselves and their children (Nobel, 2007).

A more educated population is more responsive to health promotion campaigns such as the importance of exclusive breastfeeding Up-take among others. Many mothers who have low education, decline to take up exclusive breastfeeding compared to those with high education. This has been a to their low

education which makes it difficult for them to understand appreciate the benefits of exclusive breastfeeding. Isiramen's study confirmed this when it revealed that mothers with more education were more likely to take up and practice exclusive breastfeeding than those with less. Worse still, some mothers with low education may not appreciate the fact that mixed feeding exposes their babies more than exclusive breastfeeding does. Hence, will not appreciate the need and importance to take up exclusive breastfeeding but choose mixed feeding.

Some mothers with low education too, find it difficult to assert their entitlements and rights to information or health care (Anonuevo, 2007), such as the Uptake of exclusive breastfeeding. A study in Zimbabwe, revealed that mothers with high school education were three times more likely to know HIV can be transmitted from mother to child compared to those with less education. In the same study, it is stated that high school education had a protective effect against HIV (Muko. *et al.* 2004). In Zambia, Nduati*, et al.,* (2000) revealed that young women with high school education were less likely to be HIV positive than those with basic education or no education at all.

An educated population is fundamental to national health. Better educated mothers are more likely in comparison with illiterate to take up exclusive breastfeeding, have stronger decision making and negot ills, have higher self esteem and possess higher energy to withstand stigma to mention but just a few. Education has a general preventive impact able to inform and equip women so as to make decisions concerning their own lives whi can bring about long term behavioural change. In his study, Anonuevo, (2007) argues that people with more years of schooling are more likely to change their behavior once information or risk behaviour has been transmitted.

In many cases, mothers with low education, may not have the skills to read and write, and are unable to fully appreciate what HIV is, how it is spread, how it is prevented and hence, unable to protect themselves and babies. Sometimes they may be given incorrect information verbally, but in no position to verify this with reliable printed information. Muko. *et al.* (2004) acknowledge that education is among the most powerful tools for reducing social vulnerability that exposes mothers to higher HIV/AIDS risks.

2.2 Decision Making

Traditionally, in most African settings, deciding on a mode of infant feeding by HIV infected mothers can be a big challenge. This is because most mothers cannot make their own decisions. They have to rely on s made for them by their spouses, partners, family or religious leaders. Spouses/partners or family' involvement around deciding the ideal infant feeding option in a typical African setting is regarded as a cultural mandate and therefore acceptable in that sense (de Paoli *et al.,* 2002). Husbands or guardians have great influence on a mother's decision to either take up exclusive breastfeeding or not since they provide financial resources in most cases and even if don't, they are heads of families hence, have the last say.

In their study Thairu, *et al;,* (2005) revealed how some HIV-positive postnatal mothers in Tanzania who enrolled in the PMTCT programme were beaten up by husbands/partners after it became known that they had sen to take up exclusive breastfeeding without their husbands/partners granting them permission. The report further states that, some mothers' decisions on infant feeding options like exclusive breastfeeding are influenced by advice from caretakers, their mothers, grand-mothers, mother-in-laws, husbands or partners and even traditional customs (Coutsoudis *et al.,* 2005).

Therefore, even when a mother understands and appreciates the benefits of exclusive breastfeeding, she cannot take up exclusive if the

spouse/partner or family do not favour the idea. A woman who depends on her spouse/partner or family for most of her needs cannot asily make a decision such as Up-take of exclusive breastfeeding independent of them.

2.3 Social Cultural Stigma

AIDS-related stigma has had a profound effect on the epidem 's course. World Health Organization (2003) cites fear of stigma and discrimination as the main reason why people are reluctant to be tested, to disclose HIV status or to take up exclusive breastfeeding and antiretroviral drugs. One study found that participants who reported high levels of stigma were more than four times more likely to report poor access to care. These factors all contribute to the expansion of the epidemic (as a reluctance to take up prevention of mother-to-child transmission programmes, determine HIV status or to discuss or practice safe sex means that people are more likely to infect others) resulting in a higher number of AIDS-related deaths.

Social cultural stigma remains the single most important barrier to public action. It is a main reason why too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of speaking about it, or taking easily available precautions. Stigma is a chief reason why the AIDS epidemic continues to devastate societies around the world (WHO, 2004).

The widespread fear of stigma is held accountable for the relatively low uptake of prevention of mother-to-child transmission (PMTCT) programmes in countries where treatment is free. In the case of Botswana, for example, despite the fa that the service is available at every antenatal centre in the country, only 26% of pregnant women availed themselves of the opportunity to protect their unborn children. Over half refused to take a test, and nearly half of those who tested positive did not go on to accept treatment let alone take up exclusive breastfeeding (Wolfe, W R *et al.,* 2008).

In settings where mixed feeding is the norm, Uptake of exclusive breastfeeding is a big challenge. This is attributed to the cessation of exclusive breastfeeding after only 6 months of life as alerting a woman's family or community that she is HIV positive, and may result in stigma or other negative repercussions " (Leshabari *et al., 2004).* This is what a participant had to say in a Tanzanian study:

> *"All good mothers breastfeed their babies, what reason will I give for not breast feeding?"; "It is the only way of avoiding people suspecting my HIV status."; "My husband and in-laws will not understand me if I stop breastfeeding my baby" (Leshabari et al., 2004).*

As a result, some mothers would not take up exclusive but rather opt for mixed feeding, thereby, exposing their infants to HIV even more.

The study suggested that HIV-related stigma and fear of rejection is a major condition when HIV positive mothers decide how to feed their infants. Women often end up breastfeeding despite their knowledge of risk of HIV transmission through breast milk. The cost of not breastfeeding including being ashamed and rejected by close kin and neighbours seems to be an even greater burden to carry (Leshabari, 2004). Social cultural stigma is a pervasive problem worldwide. HIV positive postnatal mothers every where, face stigma in a variety of contexts, including the household, community, workplace, and health are setting. This what a stigmatized mother from Zimbabwe narrated;

> *"Even a married woman who has been infected by her husband will be accused by her in-laws… In such a male-dominated society no-one ever accepts that the man is actually the one who did something wrong… It is even harder on women since it is seen as a fair result of their sexual misbehavior (Leshabari, 2004)."*

In the majority of developing countries families are the primary caregivers when somebody falls ill. There is clear evidence that famil play an important role in providing support and care for people living with HIV AIDS. However, not all family responses are positive. HIV-infected members of the family can find

themselves stigmatised and discriminated against within the ho This is what one mother had to say,

> "*When I was in hospital, my father came once. Then he shouted that I had AIDS. Everyone could hear. He said:" this is AIDS, she's a victim." With my brother and his wife I wasn't allowed to eat from the same plates, I got a plastic cup and plates and I had to sleep in the kitchen with my son. I was not even allowed to play with their kids* (de paoli *et l.,*1992)*."*

Research in India has shown that stigma against HIV-positive mothers is a major factor causing women to opt for mixed feeding and not breastfeeding. Hence, there is increased consensus that HIV/AIDS programs must tackle these issues directly. Researchers have yet to find an effective means of tracking changes in attitudes toward assisting mothers living with HIV, to take up exclusive breastfeeding especially, in poor resource settings (Becquet *et al.*, 2005). Research by the International Centre for Research on W men (ICRW, 2005) found the possible consequences of HIV-related stigma to be loss of marriage and choice of infant feeding options as one of the many challenges faced by HIV positive postnatal mothers (ICRW, 2005).

CHAPTER THREE - METHODOLOGY

3.0 Study Site

The study was conducted in Kitwe urban district of Zambia. The city of we is about 300 plus kilometer (km) north of Lusaka and 64 k west of Ndola on the Copperbelt. The entry points were the urban district c ics which have implemented the PMTCT programme. Socio-demographically, the health centres are different. Some are in moderately populated areas the majority of residents belonging to the low middle class and an average education and income. Whilst, the others belong to the low class and very densely populated areas with the majority of its residents, not in gainful employment and possessing only basic education or none at all.

3. 1 Study Design

This was a Cross Sectional population based study and took a mixed approach.

3. 2 Sampling and Sample Size

From the Central Data system of Kitwe District Health Management Team, there were 1,200 mothers who were HIV positive during the three months of data collection. Below is how the descriptive study was conducted using random sampling. The expected frequency was 60% whilst the worst expected was 55%.

Using Epi info for sample size calculation, the sample size was calculated as follows:

Population size:	1,200
Expected frequency:	60%
Worst acceptable:	55%

Using the Confidence Level of 95% the sample size of 294 was calculated. But adjusting our sample size for non responses our sample size came to 311.

3.3 Sampling Procedure

Both exclusively and non exclusive breastfeeding HIV positive postnatal mothers were recruited from clinics using PMTCT records. Recruitment was done at the Under Five clinic, targeting those who declined to take up exclusive breastfeeding between August - October, 2009 and those who opted to exclusively breastfeed in the same period.

3.4 Inclusion Criteria

- HIV positive postnatal mothers who were exclusively breastfeeding between August - October, 2009, aged between 18–47 years and attended Under Five clinic at all the PMTCT clinics in Kitwe urban district.
- HIV positive postnatal mothers who were not exclusively breastfeeding between August - October, 2009, aged between 18–47 years and attended Under Five clinic at all the PMTCT clinics in Kitwe urban district.

3.5 Exclusion Criteria

- Those who met the inclusion criteria but were too sick to answer either the questionnaire or the One to One In - depth interview questions were excluded from the study.
- Mothers who were exclusively breastfeeding before and after August 2009 and October, 2009.
- Mothers who were not exclusively breastfeeding before after August 2009 and October, 2009.
- Mothers who were not aged between 18–47 years and did not attend Under Five clinic at all the PMTCT clinics in Kitwe urban district.

3.6 Pilot Testing

The instruments were pre-tested using a convenience sample of 30 mothers at five clinics, which were selected randomly. Pre testing was done in order to ascertain the feasibility of the study and study tools and the validity of data to be collected in relation to the objectives. Pre-testing also helped the researcher modify some superfluous questions, which would not have been easily detected before. Thirty mothers participated both in the interviews and the test and retest of the questionnaire. As for the questionnaires, respondents were asked by the researcher to seek clarification in case of difficulties in understanding or interpreting items. After the retest, a qualitative analysis was done (not to aggregate the data) to compare individual responses on each item by looking for consistency between the responses. Some questions that gave inconsistent irrelevant and ambivalent responses were dropped whereas others were revised.

3.7 Data Collection

A Survey questionnaire was used to collect data and was supplemented by One to One In-depth interviews. Data collection was conducted two mo after ethical committee gave approval. The issue of confidentiality was carefully considered and informed consent was obtained before ea interview. In some cases a location considered neutral and conducive to the participants was used for in-depth interviews.

3.8 Data Analysis

The quantitative data was entered into a computer using Epi data software. Analysis was done using EPI info-statistical software to generate tables, pie charts and chi-squares was used to determine associations. Qualitative data was analysed using Content Analysis with the help of the N vivo version 2.2. The standard statistical package SPSS for WINDOWS (Version 14) was used to analyse the data.

3.9 Limitations

- Like all studies, this study has limitations. The smallness of the research seem to lack the robustness of larger national studies, hence, generalization of the results to the rest of Kitwe dis not to mention the whole country cannot apply.

- This was a descriptive study based on data available from a limited number of clients, therefore, weak associations and the sample size limited the control of confounding through multivariate analysis.

- The self reporting exclusive breastfeeding by mothers, possibility led to Courtesy bias on the side of participants, looking at the high rate of exclusive breastfeeding uptake finding in this study (80%) compared to the 45% reported by unpublished DHMT Quarterly Report (2008). Courtesy bias is the tendency to give polite answers to avoid hurting an interviewer's feelings. Therefore, a good number of participants may have claimed to be exclusively breastfeeding in order to avoid hurting the interviewer's feelings when they may have been on mixed feeding.

CHAPTER FOUR – RESULTS

4.0 PRESENTATION OF RESULTS

4.1 Introduction

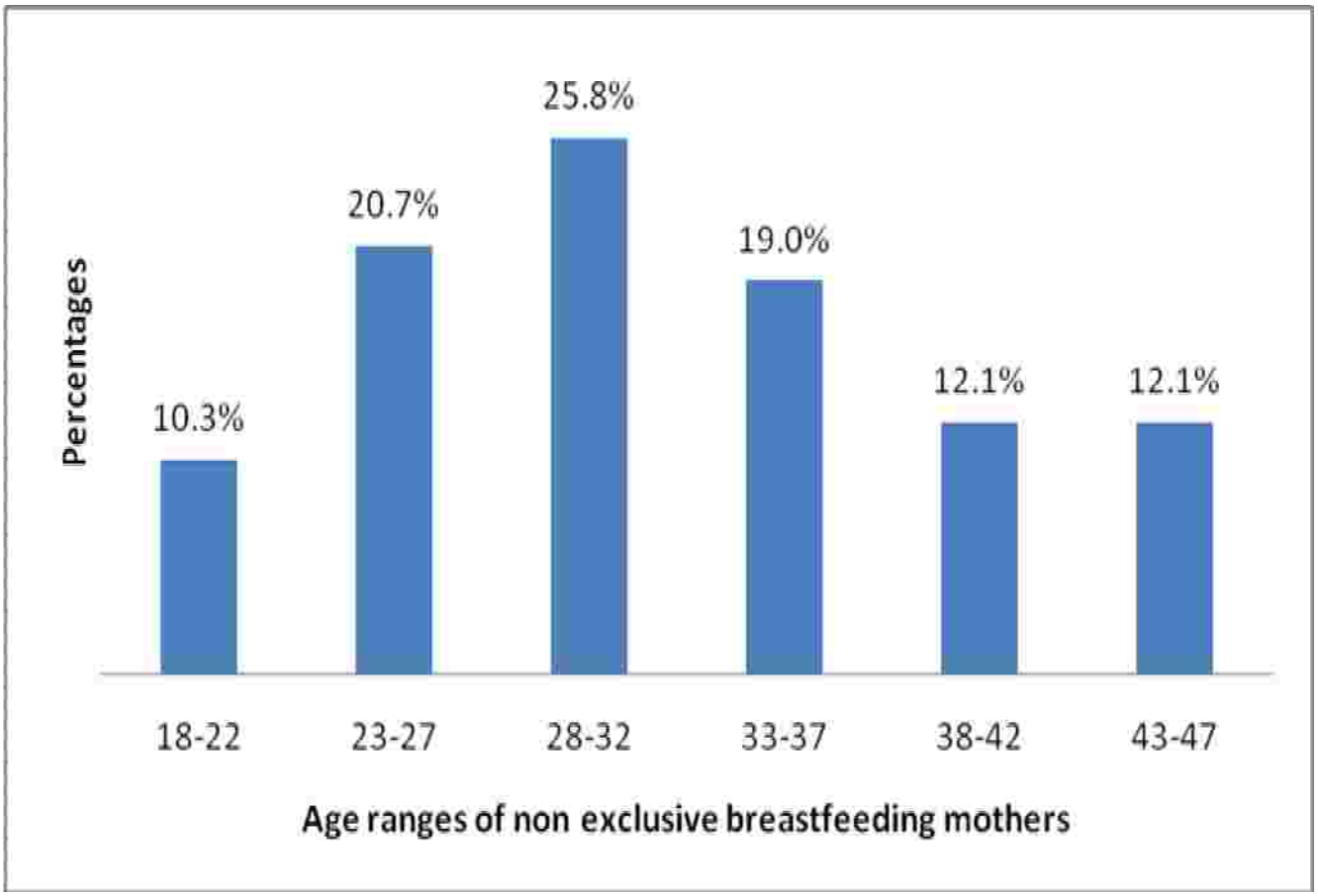
311 participants were interviewed using structured survey questionnaires. 17 were rejected, leaving 294. 9 from those who were not breastfeeding and 8 from those who were exclusively breastfeeding. Reasons for rejection were that some questionnaires were incomplete; others had pages missing whilst some participants withdrew from the study voluntarily. All the mothers were aged between 18-47 years, 75 were employed and 219 were unemployed. 195 were married and 99 were single.

Table 1: Age Ranges of Exclusively Breast Feeding Participants

AGE RANGES	EXCLUSIVELY BREASTFEEDING PARTICIPANTS
18 – 22	**19 (8.1%)**
23 – 27	**25 (10.6%)**
28 – 32	**58 (24.6%)**
33 – 37	**69 (29.2%)**
38 – 42	**44 (18.6%)**
43 – 47	**21(8.9%)**
TOTAL	**236 (80%)**

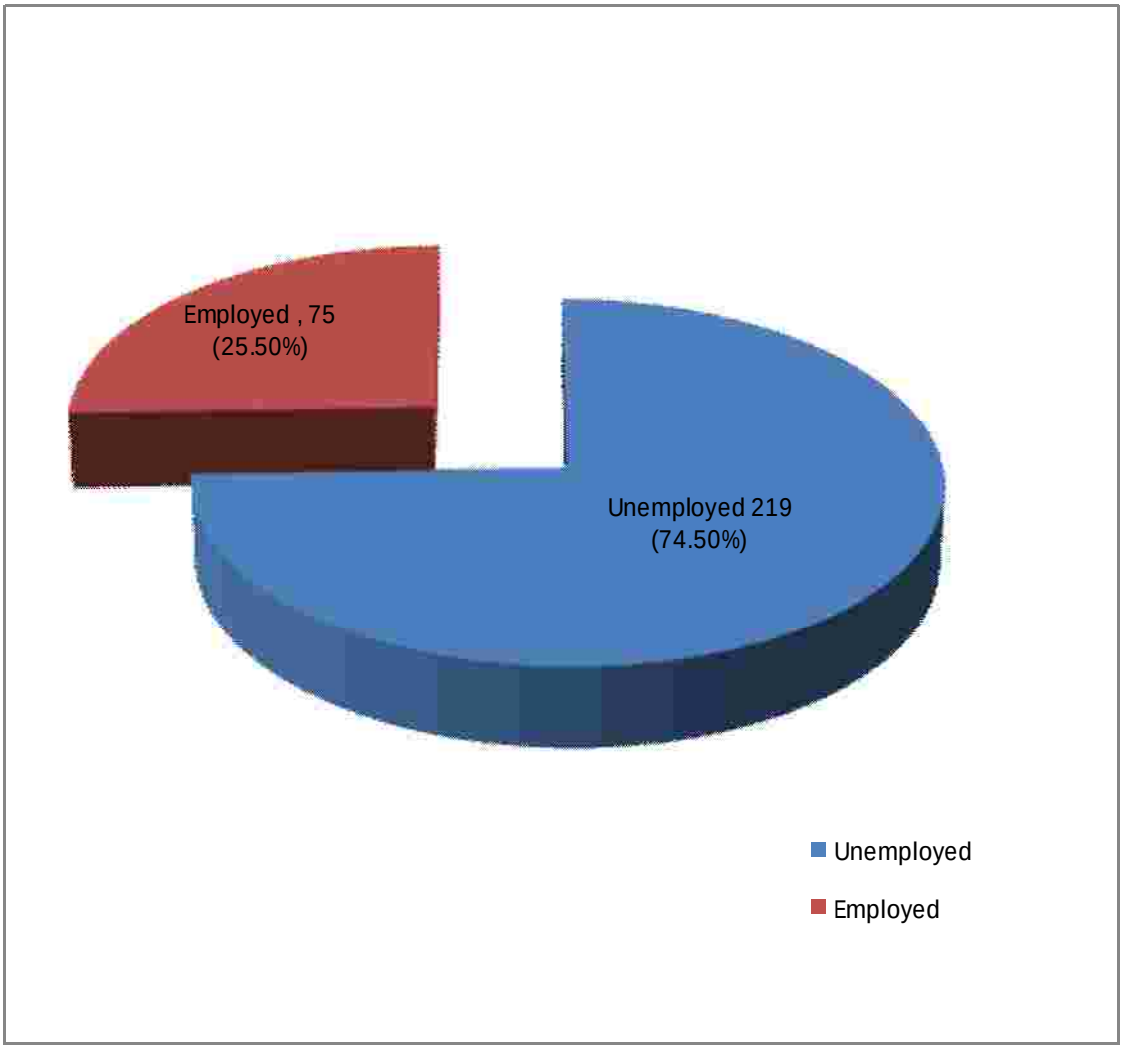
Out of 236 respondents who reported to practice exclusive breastfeeding, 69 (29.2%) were between the ages of 33-37 years old and 19 (8.1%) were between the ages of 18-22 years old.

Graph 1: Age Ranges of Non Exclusive Breastfeeding Participants



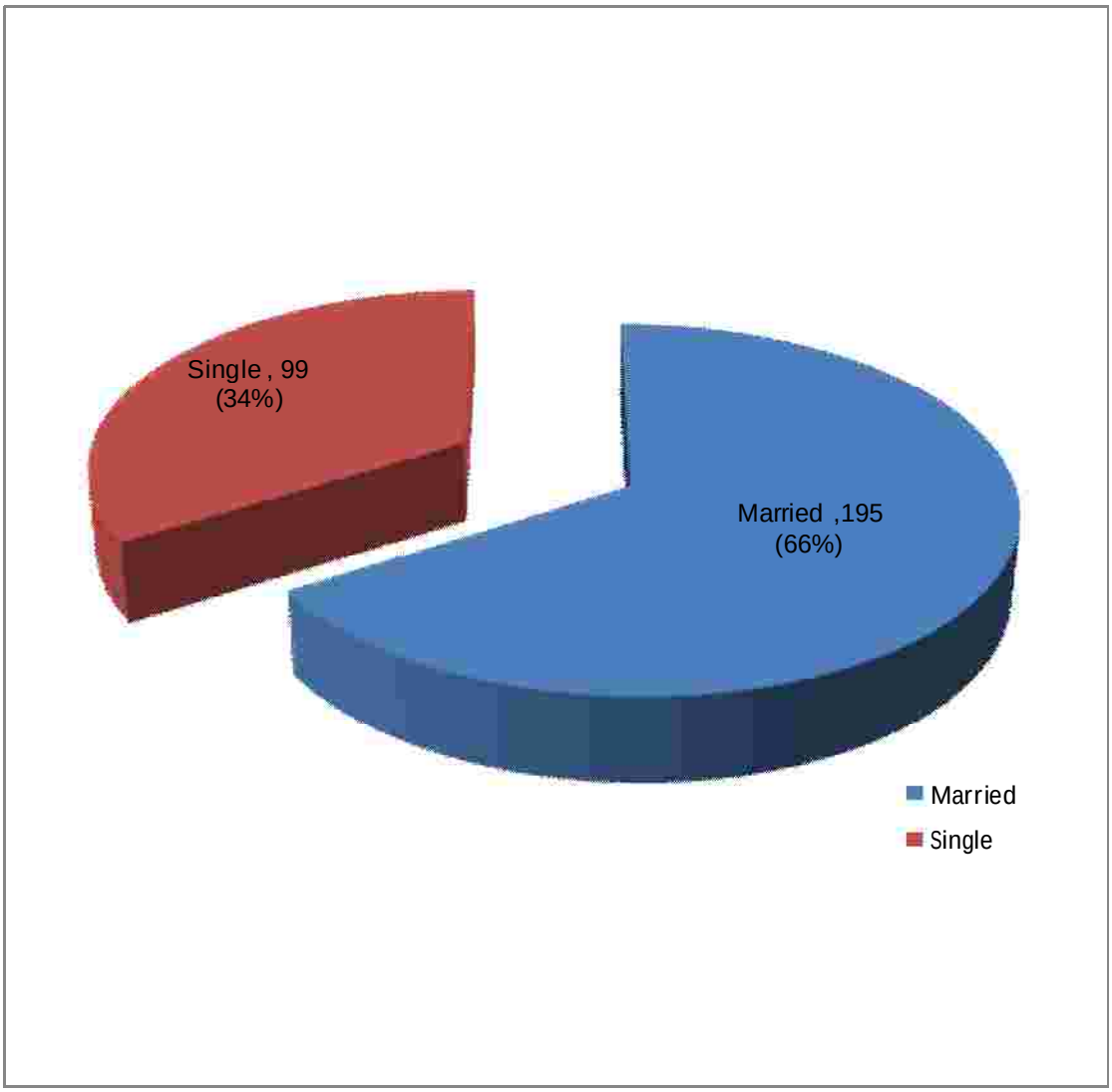
The Graph above shows mothers who were not exclusively breastfeeding. A total of 58 mothers did not take up exclusive breastfeeding and 15 (25.8%) of them were between the ages of 28-32 and 6 (10.3%) were between 18-22 years old.

Pie Chart 1: Employment Status of Participants



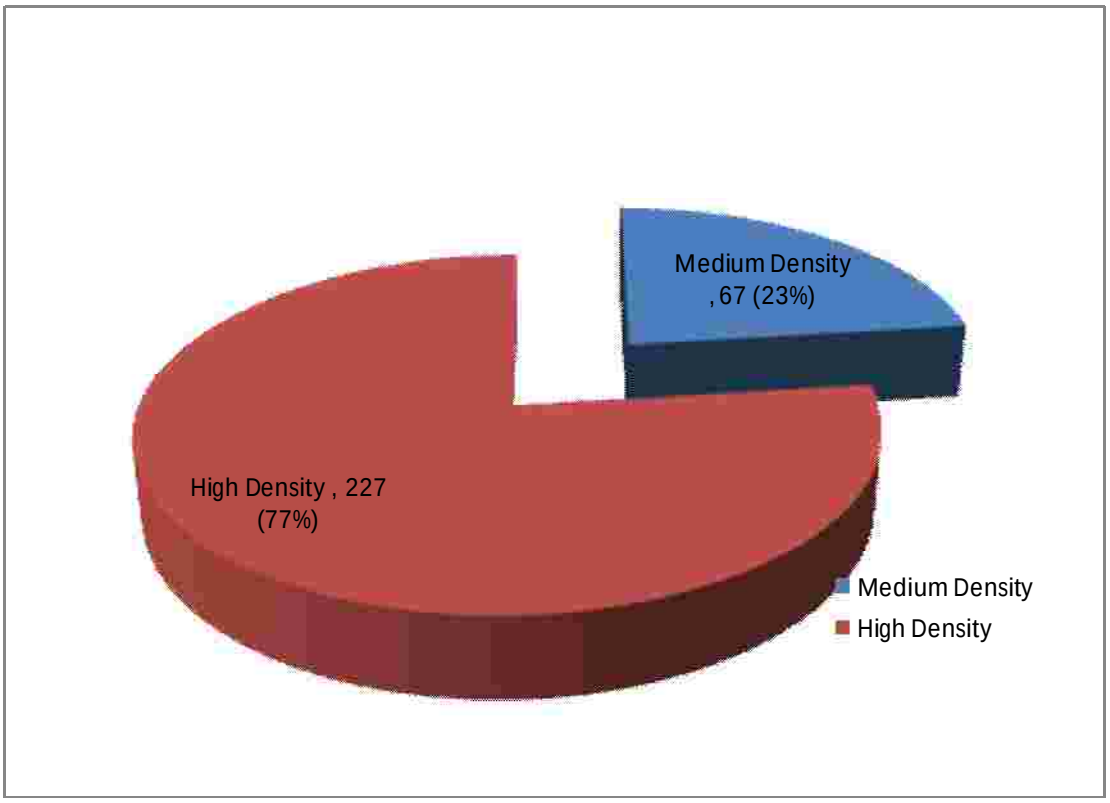
219 (74.5%) participants were unemployed compared to only 75 (25.5%) who were employed as shown in the Pie 1 chart above.

Pie Chart 2: Marital Status of Participants



Pie Chart 2 above shows that more participants were married, 195 (66%) compared to those who were single 99 (34%).

Pie Chart 3: Residential Area of Participants



27 (77%) participants resided in high density areas compared to 67 (23%) which resided in medium density area.

Table 2: Association between Level of Education and Uptake of Exclusive Breastfeeding

EDUCATION LEVEL	UPTAKE OF EXCLUSIVE BREASTFEEDING		TOTAL
	YES	NO	
Low Education	71 (30.1%)	49 (84.5%)	120
High Education	165 (69.9%)	9 (15.5%)	174
TOTAL	236 (100%)	58 (100%)	294

Table 2 above shows results of an association between education level and uptake of exclusive breastfeeding. The results were statistically significant (X^2 4.99; p value 0.025). Mothers with high education took up exclusive breastfeeding more than mothers with low education.

Table 3: Association between Decision Making and Uptake of Exclusive Breast Feeding

DECISION MAKING	UP TAKE OF EXCLUSIVE BREASTFEEDING		TOTAL
	YES	NO	
Family	193 (66%)	51 (17%)	244
Self	43 (18.2%)	7 (12.1%)	50
TOTAL	236 (100%)	58 (100%)	294

The observed difference in the uptake of exclusive breastfeeding for those decisions made by family and self were not statistically different (X^2 2.87; p value 0.237) as shown in table 3.

Table 4: Association between Social Cultural Stigma and Uptake of Exclusive Breast Feeding

SOCIAL CULTURAL STIGMA	UPTAKE OF EXCLUSIVE BREASTFEEDING		TOTAL
	YES	NO	
YES	213 (90.3%)	43 (74.1%)	256
NO	23 (9.7%)	15 (25.9%)	38
TOTAL	236 (100%)	58 (100%)	294

Exclusive breastfeeding mothers who reported to be experienci social cultural stigma were 213 (90.3%). Mothers who were not experiencing social cultural stigma and were practicing exclusive breastfeeding were 23 (9.7%). The observed differences between the two groups of mothers in the above table (table 4) were statistically significant (X^2 10.74; p value 0.001).

Table 5: Qualitative Data Responses on (some) reasons of fearing Social Cultural Stigma

SOME REASONS OF FEARING SOCIAL CULTURAL STIGMA	YES	NO	TOTAL
Being divorced or abandoned by spouse/partner.	9	3	12
Being slandered, gossiped and rejected.	11	1	12
Cessation of exclusive breastfeeding after only 6 months, evidence of an HIV positive status.	8	4	12

4.2 QUALITATIVE DATA ON FACTORS AFFECTING UPTAKE OF EXCLUSIVE BREAST FEEDING

Qualitative data findings from participants on Level of education, Decision making and Social cultural stigma factors and Uptake of Exclusive breastfeeding among HIV positive postnatal mothers.

4.3 Demographic Characteristics of Participants

All the 12 mothers who participated in the study were between18 – 41 years. 7 (58%) of these were exclusively breastfeeding whilst 5 (42%) were not. Only 1 (8%) out of 12 had high education and 11 (92%) had low education. 9 (75%) of the mothers were married, 3 (25%) were single. 8 (67%) out of 12 resided in the high density areas and only 4 (33%) resided in the middle density areas. Out of 12 mothers, 9 (75%) were unemployed whil 3 (25%) were employed.

4.4 Participants' Perceptions on Level of Education and Uptake of Exclusive Breast Feeding

All the mothers interviewed perceived that education was a very important factor in the uptake of exclusive breast feeding. 9 (75%) mothers viewed education as an important tool in the acquisition of knowledge not t on the uptake of exclusive breastfeeding but on all health issues. They alluded to the fact that, education empowered mothers with negotiation skills when confronted with various health issues which concern them and their children. A mother had low education, perceived that many mothers were hindered from taking up exclusive breastfeeding due to their low education which affected uptake of exclusive breastfeeding negatively.

Yet another mother revealed that as long as people were illiterate, total uptake of exclusive breast feeding would not easily be realised. One elderly married mother who has practiced mixed feeding on all her five children and has never been to school had this to say; *"Where I come from, it is believed that if a woman does not breast feed her young for a long time, her wo would shrink leading to infertility."*

This participant admitted that she feared to take up exclusive breastfeeding because she would have been required to cease breastfeeding after only 6 months and feared that this would have resulted in her being barren.

4.5 Responses of Mothers on Decision Making and Uptake of Exclusive Breast Feeding

7 (58%) out of 12 mothers interviewed perceived that they did not experience a lot of difficulties when deciding to take up exclusive breastfeeding from their spouses/partners or family. Some mothers explained that, decision making on this issue was not a problem because their spouses/partners or family had little knowledge about exclusive breast feeding due to the fa that they did not attend the counselling sessions. Yet other participants attributed this to the exclusive

breastfeeding initiatives by the PMTCT programme and other stakeholders such as, drama plays performed in their residential areas every so often, radio and T.V. health programmes on the need to breastfeed exclusively. These testified to the fact that, the campaign initiatives influenced the spouses to allow them to take up exclusive breastfeeding.

4.6 Responses of Mothers on How Social Cultural Stigma Affects Uptake of Exclusive Breast Feeding

Social cultural stigma was perceived to be a major factor affecting uptake of exclusive breast feeding. 11 (92%) mothers who participated in the interviews alluded to this fact. Even mothers who were exclusively breastfeeding perceived that they still experienced social cultural stigma in way or the other, despite, breastfeeding exclusively. This is especially so among their family members, spouses/partners and close friends. One participant had this to say,

> *"My husband accuses me of being a prostitute (ilihule) simply because I learned of my HIV positive status earlier than him. He refuses to go for VCT and maintains he and his lover are still negative….."*

In another instance, one mother revealed that she did disclose her HIV positive status to anyone, not even her spouse or mother because she believes her husband could have divorced her if she had revealed her positive status first before him. In her own words, this is what she narrated, *"I could not bring myself to disclose my HIV positive status to that man first. Knowing his violent nature, he would have definitely divorced me."*

1 (17%) mothers who were living in an extended family made up of her in- laws, narrated how she feared to disclose her HIV status to m due to social cultural stigma. She perceived a great amount of gossip, slander, and rejection from her husband and in-laws. Many of the responses were very similar and one could almost guess what a mother was going to say.

CHAPTER FIVE – DISCUSSION

5.0 Introduction

In this study, factors which were analysed were level of education, decision making, social cultural stigma on one hand and Uptake of exclusive breastfeeding on the other. However, it is important to note that the findings of is study indicate a high rate of exclusive breastfeeding of 80% compared to the 45% reported by unpublished DHMT Quarterly Report (2008). This may have been caused by self reporting of exclusive breastfeeding by mothers, which may have led to Courtesy bias on the side of participants. Courtesy bias is the tendency to give polite answers to avoid hurting an interviewer's ings. Therefore, a good number of participants may have claimed to be exclusively breastfeeding in order to avoid hurting the interviewer's feelings by claiming to be on exclusive breastfeeding when in actual fact, they may have been practicing a different infant feeding option.

5.1 Association between Level of Education and Uptake of Exclusive Breast Feeding

This study has established that there was significant sociation between one's level of education and uptake of exclusive breastfeeding among HIV positive postnatal mothers. The results were statistically significant (X^2 4.99; p value 0.025). Mothers with high education took up exclusive ing more than mothers with low education. In their classic study Anonuevo, (2007) also found the same association between education level and uptake of exclusive breastfeeding. This was also revealed by Isramen's study (2002) in Nigeria.

The association could be explained by the fact that educated mothers could be more knowledgeable and have better understanding of the benefits of exclusive breastfeeding compared to mothers with less education, whilst, those with less education could be inhibited by their lack of reading writing skills, which hinders them from acquiring information on their own, cerning the benefits of

exclusive breastfeeding and the dangers of mixed feeding which most of them opt for.

5.2 Association between Decision Making and Uptake of Exclusive Breast Feeding

This study found no association between decision making and uptake of exclusive breastfeeding. The two were not statistically different (X^2 2.87; p value 0.237). This however, contrasts with other studies which have vealed that men are traditionally mandated to make decisions over matters concerning their children and spouses (Sowell *et al.*, 1996). Our study's findings contrasts Leshabari *et al.,*' study (2004) and Coutsoudis *et al.*, (2005) which revealed that there was an association between decision making and uptake of exclusive breastfeeding.

The explanation for our study's findings could be attributed to the fact that, the non attendance of participants' spouses/partners or fa ly during the counselling sessions, incapacitated them from making a decision against exclusive breastfeeding, possibly, due to ignorance on matters of uptake of exclusive breastfeeding. The other likely cause for this finding could be the different settings in which the studies were done. Our study took place in an urban setting compared to Leshabari *et al.,*' study's (2004) which took place in a rural Tanzanian setting.

Generally, in an urban setting, health education massages such as the importance of exclusive breastfeeding, are easily amen through different activities and initiatives i.e. drama performances, radio and T.V. health programmes by the PMTCT programme and other stakeholders. This may impact on decision making by the powers that be. However, there is need for more studies as most publications indicate that spouse/partners have a traditional mandate to make decisions over matters con their children and spouses including the uptake of exclusive breastfeeding (Coutsoudis., 2005).

5.3 Association between Social Cultural Stigma and Uptake of Exclusive Breast Feeding

Our study's findings found significant association bet stigma and uptake of exclusive breastfeeding. Those participants who took up exclusive breastfeeding and reported to be experiencing social cultural stigma were 213 (90.3%) of the total mothers who were practicing exclusive breastfeeding. Participants who were not experiencing social cultural stigma and were practicing exclusive breastfeeding were 23 (9.7%). The observed differences between the two groups of mothers in the above table (Table 4) were statistically significant (X^2 10.74; p value 0.001). These findings agree with many other studies done in other parts of the sub Saharan African countries which state that stigma is still a major factor affecting uptake of exclusive breastfeeding among HIV sitive postnatal mothers *(*de Paoli *et al.,* 2002; Dunnet *al.,* 1996; Rollins *et al.,* 2002).

Below is a discussion based on qualitative data on reasons (Table 5: on social cultural stigma) why mothers feared to take up exclusive breast feeding:

5.4 Fear of being divorced or abandoned by spouse/partner and Uptake of exclusive breastfeeding

The findings from participants' responses revealed that mothers were afraid of being divorced or abandoned by spouse/partner and family, hence, they shunned Uptake of exclusive breastfeeding. 5 (42%) out of 12 mothers interviewed, indicated that they could not opt for exclusive breastfeeding due to fear of being divorced, abandoned or rejected by their spouses/partners and family. The explanation for this, could be that most of these mothers are economically, culturally and socially disadvantaged, resulting in their total dependence on their spouses/partners and family. Therefore, rejection could result in untold suffering for them (Jenni Fredrickson *et al.,* 2005) and Leshabari *et al.,* 2004).

5.5 Cessation of Exclusive Breastfeeding as evidence of

being HIV positive and Uptake of Exclusive Breastfeeding

8 (67%) out of 12 mothers perceived cessation of exclusive breastfeeding as evidence of being HIV positive, hence, may have hindered mothers from taking up exclusive breastfeeding. The explanation for this could be that, opting for mixed feeding is one way of avoiding people from suspecting mother of being HIV positive. This agrees with Rollins *et al.*, study (2002) which indicates that cessation of exclusive breastfeeding after only 6 months of life alerts a woman's family or community that she is HIV positive, and may lt in stigma or other negative repercussions.

5.6 Fear of being Slandered, Gossiped and Rejected and Up Take of Exclusive Breast Feeding

In our study, 11 (92%) out of 12 mothers admitted being scared of being slandered, gossiped, rejected by their family, friends and community. Some mothers admitted that this influenced them to opt for ixed feeding despite knowing the deadly consequences of their actions. One mother revealed that, even some of those mothers who breastfed exclusively, experienced gossip, slander and rejection from their spouses, family and the community at large. This revelation was also confirmed by de paoli *et al.*, s study (2002) in which it was stated that there was an association between fear of being slandered, rejected and discriminated against and uptake of exclusive breast feeding.

CHAPTER SIX - CONCLUSION

6.0 Conclusion

1. There was an association between level of education and uptake of exclusive breastfeeding. Mothers with high education took up exclusive breastfeeding more than mothers with low education.

3. There was no significant association between decision making and uptake of exclusive breastfeeding as the two were not statistically different (X^2 2.87; p value 0.237).

2. There was significant association between Social Cultural Stigma and Up take of exclusive breastfeeding.

In conclusion, according to the findings of this study, only level of education and social cultural stigma, affect uptake of exclusive breast feeding among HIV positive postnatal mothers in Kitwe urban district. However, much work remains to be done. There is need to do similar researches in other parts of the country so that the picture that can be obtained elsewhere can be compared to these findings. Especially, that data on factors affecting uptake of exclusive breastfeeding among HIV positive postnatal mothers in ia is also still very insufficient.

REFERENCES

Anonuevo *et al.,* (2007). Making the Connections: Why Literacy Matters for HIV Prevention. UNESCO.

Becquet, R., Ekouevi, D. K.,Viho, I., Sakarovitch, C.,Toure, H., Castetbon, K., *et al.* (2005). Acceptability of exclusive breast-feeding with early cessation to prevent HIV transmission through breast m k, *ANRS* 1201/1202 Ditrame Plus, Abidjan, Cote d'Ivoire. Journal of Acquired Immune Deficiency Syndrome, 40(5), 600-608.

Boler, T. *et al;,* (2005). Deadly Inertia. A Country – Country Study of Educational Responses To HIV/AIDS, Global Campaign for Education: Brussels.

Central Statistical Office (2007). Zambia Demographic Health Survey, Macro Int./USAID, MOH, Lusaka, Zambia

Central Statistical Office (2002). Zambia Demographic Health Survey, Macro Int./USAID, MOH, Lusaka, Zambia.

Cesar J. A, Victora CG, Barros FC, Santos IS, Flores JA. (1999). Impact of breast feeding on admission for pneumonia during the postnatal period in Brazil: nested case-control study. BMJ;318:1316–20.

Coovadia HM *et al.* (2007). Mother-to-child transmission of HIV infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study. Lancet, 369(9567):1107-1116.

Coutsoudis, A., Coovadia, H. M., & Newell, M. L. (2005). Reply to 'Mode of infant feeding and HIV infection in children in a program for prevention of mother-to-child transmission in Uganda' by Magoni et al. AIDS, 19(15), 1718-1719; author reply 1720-1711.

ICRW (2005), 'HIV-related stigma across contexts: common at its core.'

De Kock KM, Fowler MG, Mercier E, de Vincenzi I, Saba J, Hoff E (2000). Prevention of mother-to-child HIV transmission in resource poor countries. *Journal of the American Medical Association*, 283:1175-1185.

de Paoli, Manongi, R., Helsing, E., & Klepp, K. I. (2001). Exclusive breastfeeding in the era of AIDS. Journal of Human Lactation, 17(4), 313-320.

de Paoli, Manongi R, Klepp KI: Counsellors' perspectives on antenatal HIV testing and infant feeding dilemmas facing women with in northern Tanzania. *Reproductive Health Matters* (2002), 10(20)**:**144-156. Dunn DT et al., (1992). Risk of human immunodeficiency virus type 1 transmission through breastfeeding, Lancet, 340 (8819): 585-588

Freedberg, K. *et al.,* (1998). Disclosure of HIV-positive status to partners. Archives of international medicine, 158,253-257.

Iliff PJ, Piwoz EG, Tavengwa NV, Zunguza CD, Marinda E Nathoo KJ, Moulton LH, Ward BJ, Humphrey JH (2008). Early exclusive breastfeeding reduces the risk of postnatal HIV-1 transmission and increases HIV-free survival, ZVITAMBO Project, Borrowdale, Harare, Zimbabwe.

Isiramen V. MSc dissertation: *"Early and Abrupt Cessation of Breastfeeding In The Nigerian Context: Is This An Option For HIV Positive Women?" Institute of Child Health, University College, London; Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria. August* 2002.

Jenni Fredrickson & Anabel Kanabus (2005). HIV/AIDS Stigma and AIDS.

Kuhn L, Stein Z, Susser M (2004). Preventing mother-to-child transmission in the new millennium: the challenge of breast feeding. *Paediatric and Perinatal Epidemiology.* 18:10-16.

Kuhn L. *et al.* (2007). *High uptake of Exclusive Breastfeeding and Reduced Early Post-Natal HIV Transmission.* Public Library of Sciences ONE. 2(12): e1363

Leshabari SC, Blystad A. Moland (2007). *Difficult choices: Infant feeding experiences of HIV-positive mothers in Northern Tanzania,* Journal of Social Aspects of HIV/AIDS, Vol. 4 No. 1 May

Magoni, M., & Giuliano,M. (2005). Authors' response to *'HIV and infant feeding: a complex issue in resource-limited settings*' by Becquet and Leroy, to the letter to the editors by Coutsoudis et al., and to 'Increased risk of infant HIV infection with early mixed feeding' by Piwoz and Humphrey. AIDS.

Sowell. R.L. *et al.,* (1996). Barriers to health seeking behaviours for women infected with HIV. Nursing connections, 9, 5-17/

Miotti PG, Taha TET, Kumwenda NI, Broadhead R, Mtimavalye LAR, Van der Hoeven L, Chiphangwi JD, Liomba G & Biggar RJ (1999). HIV transmission through breastfeeding: a study in Malawi. Journal of the American Medical Association Miranda.

Ministry of Health, (2007). Recommendations for Infant and Young Child Feeding in the context of HIV for Zambia, Lusaka : Zambia

MOH, (2008). DHMT Unpublished Quarterly Report.

Muko *et al.* 2004. Preventing MTCT: Factors affecting mother's choice of feeding: A case study from Cameroon, Journal of Social Aspects of HIV/AIDs Vol 1 No. 3

Nduati R, John G, Mbori-Ngacha D, Richardson B, Overbaugh J, Mwatha A, et al. Effect of breastfeeding and formula feeding on transmission of HIV-1: a randomized clinical trial. JAM 2000;283:1167-74.

Pridmore, P*. et al*;, (2005). Combating AIDS IN South Africa and Mozambique: The Role of Open, Distance, and Flexible Learning. London: UK.

Nobel, R. (2007). Preventing Mother ot Child Transmission (PMTCT) worldwide. AIDS and HIV information.AVERT.org.June 2007.

Rollins, Bland RM, Thairu L, Coovadia HM: (2002). Counselling HIV-infected women on infant feeding choices in rural South Africa. In *A Compilation of Programmatic Evidence, 2004 (pp 54-55) USAID, UNICEF* & QAP-URC (full text: wwhivgovgy/edocs/compilation_hivinfantfeedingpdf) Edited by: P. Koniz-Booher BBAWPIJW.

Shapiro R, Lockman S, Thior I, Stocking L, Kebaabetswe P, Wester C, Peter T, Marlink R, Essex M, Heymann S. (2003). Concerns regarding adherence to recommended infant feeding strategies among HIV-infected women*:* results from the pilot phase of a randomized trial to mother-to-child transmission in Botswana. In press (AIDS Education and Prevention).

Smith MM, Kuhn L. (2000). Exclusive breast-feeding: does it have the potential to reduce breast-feeding transmission of HIV-1?

Thairu LN, Pelto GH, Rollins NC, Bland RM, Ntchangase (2005). Socio cultural influences on infant feeding decisions among HIV-infected women in rural Kwa-Zulu Natal, South Africa. *Maternal and Child* Nutrition, 1:2-10

UNAIDS (2001) 'India: HIV and AIDS-related stigmatization, discrimination and denial [PDF]

UNAIDS (2008). Report on the globa*l AIDS epidemic*.

UNICEF/UNAIDS/WHO/UNFPA. (2003). HIV and infant feeding: Guidelines for decision - makers. Geneva: The World Health Organization.

UNICEF/UNAIDS/WHO/UNFPA. (2008). Children and AIDS. Geneva: WHO.

Wellcome Trust (2007, March 30). Exclusive Breastfeeding Reduces HIV Transmission Risk for Infant. Science Daily. Retrieved October 29, 2008,WHO. (2001). The optimal duration of exclusive breastfeeding. Report of an Expert Group (28-30 March). Geneva, Switzerland. Report no.:WHO/NHD/01.09,WHO/FCH/CAH/01.24. 2001.

WHO. (2003). Global Strategy on Infant and Young Child Feeding. Geneva.

WHO, (2004). HIV transmission through breastfeeding: A review of available evidence. Geneva, World Health Organisation.

WHO, (2006). Consensus statement. WHO HIV and infant feeding techni l consultation held on behalf of the inter-agency task team (IATT) on prevention of HIV infections in pregnant women, mother and their infants.

WHO. *et al.* (2007). HIV Transmission Through Breastfeeding: A review of available evidence, WHO Press, France.

UNAIDS/WHO, (2008a). Report on the Global AIDS Epidemic; July, 2008.

UNAIDS/WHO, (2008b). Report on the Global AIDS Epidemic; July, 2008.

UNAIDS/WHO, (2008c). Core slides: Global Summary of the HIV.AIDS Epidemic;

UNAIDS/WHO, (2008d). Understanding the latest estimates of the 2008 Report on the Global AIDS Epidemic; July, 2008.

Wolfe, W. R *et al* (2008). 'The impact of Universal access to antiretroviral therapy on HIV stigma in Botswana.'

APPENDIX I - GANTT CHART

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

ACTIVITY	Jun'09	Jul'09	Oct'09	Nov'09	Dec'09	Jan'10	Fe'10	Mar'10	Ap' 10
Proposal Writing									
Grand Forum Approval									
Ethics Approval									
Data Collection									
Data Analysis									
Report writing & Submission.									

APPENDIX II - BUDGET

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN URBAN KITWE DISTRICT

BUDGET FOR THE RESEARCH PROPOSAL				
NATURE OF EXPENDITURE	**QUANTITY**	**UNIT COST**	**COST (ZMK)**	**TOTAL COST (ZMK)**
Stationery:			0	
Bond paper	2	20,000	40,000	
Toner	1	350,000	350,000	
Staples	1	50,000	50,000	
Spring Files	3	35,000	105,000	
Pens and Pencils	6	10,000	60,000	
				605,000
Secretary Services:				
Photocopying of data collection tools	100	2,000	200,000	
Proposal Printing	100	2,000	200,000	
Proposal Binding	4	30,000	120,000	
				520,000
Travel Expenses:				
Carrying Bags	3	75,000	225,000	
Transport	25	10,000	250,000	
Fuel and Oils	4	300,000	1,200,000	
				1,675,000
Food Expenses:				
Lunch	75	50,000	3,750,000	
Drinks and Snacks	75	10,000	750,000	
				4,500,000
Other Expenses:				
Recording Machine	1	1,000,000	1,000,000	
Contingent at 10%	1	830,000	830,000	
				1,830,000
GRAND TOTAL COST				**9,130,000**

APPENDIX III – PARTICIPANT INFORMATION SHEET

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

Introduction

The information is being provided to you on the study of factors which affect up take of exclusive breastfeeding among HIV positive postnatal mothers in Kitwe district. To enable you give voluntary and informed consent, kindly read it carefully or have it read to you by someone else before signing the Consent form.

Title of Study

"Study of Factors Affecting Up-take Of Exclusive Breastfeeding Among HIV Positive Postnatal Mothers."

Purpose

HIV/AIDS is one of the leading killer diseases in Zambia. Prevention of mother-to-child transmission (PMTCT) of Human Immunodeficiency Virus (HIV) plays an important role in the global fight against Acquired Immune-deficiency Syndrome (AIDS), among HIV positive women. HIV prevalence among pregnant women is said to be at 14% with an estimation of 500, 000 deliveries every year. Therefore, the purpose of this study is to determine some factors whi affect the Uptake of exclusive breastfeeding among HIV positive postnatal mothers in Kitwe district.

Procedure

After you have signed the Consent form and have had a hance to ask questions, you will be asked questions concerning the factors whi affect the Up-take of exclusive breast feeding among HIV positive postnatal ers with the help of a questionnaire. You may also be asked to participate in a One to One In – depth interview.

Volunteerism

Your participation in this study is entirely voluntary you are under no obligation to participate. You can choose to refuse or to withdraw f m the study at any time and

this will not mean that you will be treated differently from other people who remain in the study when you come to seek medical care from the inic.

Benefits

There may not be any direct benefits to you, however, our participation in this study may help generate relevant information towards improving or strengthening programmes that are seeking to reduce or control the factors affecting Up-take of exclusive breastfeeding faced by people like you.

Risks

There are no real risks involved. However, specialized counseling will be provided, should you experience any trauma.

Reimbursement

You will be paid K10, 000 for the time that you will take answering the questionnaire or your participation in the In - depth interview.

Confidentiality

Both the questionnaire answers and interview discussio with you will be kept in confidence and will only be used for this particular r earch purposes. Your identity too, will be kept confidential in so far as the law allows. Codes will be allocated for identification. The information given will not be given to any project person for any kind of use.

Right to refuse or withdraw

Your participation in the study is entirely voluntary, and you are free to refuse to take part or withdraw at anytime without affecting or jeopardizing your future medical care.

APPENDIX IV - CONSENT FORM

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

You are requested to carefully read or have the Inform n Sheet read to you on the above study before signing this consent form. By signing this consent form you are indicating your voluntary willingness to participate in the study. However, you may withdraw fro the study at any point without giving any reason for not participating in the study. Should you have any questions about your participation in the study, kindly feel free to contact the chairman at the following address:

The Chairman, Research Ethics Committee, UNZA Ridgeway Campus, Nationalist Road, P.O. Box 5110, Lusaka. Phone: 01 -256-067/0978 801373.

In the event that you have any problem or questions to be answered concerned the research, you should immediately contact the investigator at the following address: The Principal Investigator, Lizzie Chileya, University of Zambia, Department of Community Medicine, P.O. BOX 5110, Lusaka.

DECLARATION

I understand what the study is all about and what is expected of me if I participate in the study.

Interviewee's name……

Signature/Thumb……

Witness's name……..

Signature/Thumb……

Appendix iii

APPENDIX V - SURVEY QUESTIONNAIRE

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

Introduction

The Researcher is a student pursuing a Masters Degree n Public Health. She is undertaking a study on, "Factors Affecting Up-take of Exclusive Breastfeeding among HIV positive postnatal mothers in Kitwe District." The purpose of the research is to come up with findings which will help the researcher establish the factors affecting Up-take of exclusive breast feeding among HIV positive postnatal mothers here in Kitwe. Therefore, you are kindly asked to answ this questionnaire **freely** and **honestly.**

Date……..

Code No……..

INSTRUCTIONS

1. Do not write your name on the questionnaire.
2. Answer the questions by ticking against the answer in e box provided.
3. Feel free to respond to the questions, as the informat on obtained will be treated with **STRICT CONFIDENTIALITY.**

PARTICIPANT NUMBER: …… DATE:……

The Researcher is a student pursuing a Masters Degree n Public Health. She is undertaking a study on, "Factors Affecting Up-take of Exclusive Breastfeeding among HIV positive postnatal mothers in Kitwe District." The purpose of the research is to come up with findings which will help the researcher establish the factors affecting Up-take of exclusive breast feeding among HIV positive postnatal mothers here in Kitwe. Therefore, you are kindly asked to answ this questionnaire freely and **honestly.**

Date:……..

Code No:..……

INSTRUCTIONS

4. Do not write your name on the questionnaire.
5. Answer the questions by ticking against the answer in e box provided.
6. Feel free to respond to the questions, as the informat on obtained will be treated with **STRICT CONFIDENTIALITY**.

PARTICIPANT NUMBER: …… DATE ……

(*Tick where applicable in the box provided only*).

1. Age range:
   (a) 18 years.
   (b) 18 - 47years.

2. Residential area:
   (a) High density
   (b) Medium density

3. Level of education:
   (a) Low education
   (b) High education

4. Marital status:
   (a) Married
   (b) Single

5. Employment status:
   (a) Employed
   (b) Unemployed

6. Do you know and understand what exclusive breastfeedin is?
   (a) Yes.
   (b) No.

7. If No, is it due to:
   (a) Level of education
   (b) Decision making.
   (c) Social cultural stigma

8. What stopped you from taking up exclusive breast feedi g?
   (a) level of education.
   (b) Decision making.
   (c) Fear of stigma.

9. Who did you disclose your HIV positive status to?
   (a) Spouse/partner.
   (b) Family.
   (c) Church leaders
   (d) No one

10. If you were stigmatized, who stigmatized you?
   (a) Spouse/partner.
   (b) Family.
   (c) Community
   (d) Self

11. What type of infant feeding option did you use before ou became sero-positive?
    (a) Mixed feeding.
    (b) Exclusive breastfeeding.
    (c) Replacement feeding.

12. Who made the decision not to take up exclusive breastfeeding?
    (a) My spouse/partner.
    (b) Myself.
    (c) My family

13. If you are practicing mixed feeding, do you know and u erstand the dangers of mixed feeding?
    (a) Yes.
    (b) No.

14. What form of infant feeding have you practiced with th her children?
    (a) Mixed feeding.
    (b) Replacement feeding
    (c) Exclusive feeding.

15. If you had the power to make decisions, would you have liked to take up exclusive breast feeding on your next child?
    (a) Yes.
    (b) No.

16. Did your low education make it difficult for you to un erstand exclusive breast feeding?
    (a) Yes.
    (b) No.

17. Do you think that if you were more educated, deciding take up exclusive breastfeeding would have been much easier for you than it is now?
    (a) Yes.
    (b) No

16. Did your level of education contribute to your declini g to take up exclusive breast feeding?
    (a) Yes.
    (b) No.

17. Did your fear for social cultural stigma contribute to your declining to take up exclusive breast feeding?
    (a) Yes.
    (b) No.

18. Did your lack of decision making powers contribute to r none up take of exclusive breast feeding?
    (a) Yes.
    (b) No.

19. Do you regret that you are not exclusively breast feed ng?
    (a) Yes
    (b) No

20. Are you happy that you have taken up exclusive breasti g?
    (a) Yes
    (b) No

THANK YOU SO MUCH!!!

APPENDIX VI - ONE TO ONE IN – DEPTH INTERVIEW GUIDE

STUDY OF FACTORS AFFECTING UP-TAKE OF EXCLUSIVE BREASTFEEDING AMONG HIV POSITIVE POSTNATAL MOTHERS IN KITWE URBAN DISTRICT

Instruction

1. Introduce yourself and the topic.
2. Explain the purpose of the discussion.
3. Do not ask for names and addresses of respondents.

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Themes for Discussion with Participants

Theme I: **Participant's knowledge of HIV/AIDS and exclusive breast feeding.**

1. Tell me a bit about yourself i.e your age, where you reside, your marital and employment status.
2. What do you know about exclusive breastfeeding?
3. What factors affected your choice of exclusive breastfeeding?
4. Given an opportunity would you take up exclusive breastfeeding?

Theme II: **Participants' perception on level of education and upt e of exclusive breast feeding.**

1. Tell me about your education level, how far did you go in your education?.
2. Do you think education is important in order for you t be able to understand and appreciate health issues like HIV/AIDS, exclusive breastfeeding to mention but a few.

3. Do you think if you were highly educated you would have taken up exclusive breastfeeding and why?

Theme III: Participants' perceptions on decision making and uptake of exclusive breast feeding.

1. Who made the decision for you to/not to breast feed exclusively?
2. Did you have the freedom to take up exclusive breastfeeding?
3. Are you happy with the decision taken?

Theme IV: Participants' perceptions on social cultural stigma and uptake of exclusive breast feeding.

1. What do you know about social cultural stigma?
2. Did you experience any negative reactions such as gossip, slander, rejection or discrimination from your spouse/partner, family or community?
3. What in particular have you experienced yourself?
4. Did your experience cause you to decline taking up exclusive breastfeeding?
5. What in your opinion, would you like to be done concerning these factors which affect the uptake of exclusive breast feeding?

THANK YOU SO MUCH!!