ACCEPTABILITY OF OPTION B+ AMONG HIV POSITIVE WOMEN RECEIVING ANTENATAL AND POSTNATAL CARE SERVICES AT THE UNIVERSITY TEACHING HOSPITAL AND LUSAKA URBAN CITY CLINICS

By

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DECLARATION

I, **Bridget Chomba Chanda** hereby declare that this dissertation being submitted for the Master of Public Health in Population Studies is an original piece of work produced by myself except for the references or quotations indicated where possible. It has not been submitted either wholly or in part for any other degree and is not being currently submitted for any other degree at this or another University.

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This dissertation of **Chanda C. Bridget** has been approved as fulfilling the requirements or partial fulfilment of the requirements for the award of Master of Public Health in Population Studies.

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ABSTRACT

In 2013, Zambia accepted the immediate operationalization of Option B+, a policy used to try and eliminate mother to child transmission. This policy requires all HIV-positive pregnant and breastfeeding women to initiate antiretroviral treatment for life regardless of CD4 count. However, not all HIV positive women accept treatment for life. This study aimed to investigate acceptability of lifelong ART (Option B+) among HIV positive women receiving antenatal and postnatal services at the university teaching hospital and Lusaka urban city clinics.

This was a cross sectional study conducted in November, 2016 to March 2017 at the University Teaching Hospital (Department of Obstetrics and Gynecology) and four clinics (Chawama, Kalingalinga, Matero Reference and Chilenje). The overall sample size was 427 and the study population comprised of HIV positive women in their reproductive age (15-49 years). A Structured questionnaire was used to collect data in a face to face interview with the participants. Data was entered in EpiData version 3.1 and analysed using Stata version 13. Multivariate logistic regression analysis was performed to determine predictors of acceptability.

Overall, 427 women participated in this study. Their mean age was 30 years. Of the 427, over half (54%) had inadequate knowledge and about 30% of the women in the study still experience stigma and discrimination. 63.2% of the women had good attitude towards Option B+ and overall, the majority (77.8%) were willing to accept antiretroviral therapy for life. Multivariate analysis showed that only women with good attitude were 9.4 times more likely to accept Option B+ than those with a bad attitude [OR: 9.4: 95%CI, 5.8-15.2)].

This study showed that in general, women accepted initiation of Option B+. However, there is still a gap in the level of knowledge of Option B+ as well as stigma and discrimination in some communities, hence there is need to intensify programs that are aimed at educating the community on the importance of ART for life, combat stigma and discrimination and consequently promote acceptability of Option B+.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
EMTCT	Elimination of mother-to-child transmission (of HIV)
FGDs	Focus Group Discussions
GNP+	Global Network of People Living with HIV
HIV	Human immunodeficiency virus
IATT	Interagency Task Team
ICW	International Community of Women Living with HIV/AIDS
MTCT	Mother to Child Transmission
PMTCT	Prevention of mother-to-child transmission of HIV
PVT	Prevention of vertical transmission
UTH	University Teaching Hospital
UNAIDS	Joint United Nations Program on HIV/AIDS
UNICEF	United Nations Children's Fund
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1 Background

HIV is one of the greatest health crises the world faces today. An estimated 36.7 million people were living with HIV in 2016 of which around 53% [39–65%] of all people living with HIV had access to treatment (UNAIDS, 2017).

Every year, there are an estimated 1.5 million pregnant women living with HIV and HIV infection among children has mainly been through Mother-To-Child-Transmission (MTCT).While pregnant women's access to antiretroviral therapy (ART) for their own health is increasing, it is still lower than that of other adults. Additionally, only 62% of pregnant women living with HIV worldwide currently receive antiretroviral medicines (ARVs) to prevent HIV transmission to their infant. Without any interventions, 15 to 45% of children born to these women will acquire HIV (WHO, 2013). Antiretroviral therapy offers the best chance of preventing HIV transmission. However, not all HIV positive women are willing to accept ART (Fox Mazimba et al, 2010). Acceptability of ART by individuals is dependent on several factors which eventually affect the way in which ARVs are taken by patients eligible for treatment.

In 2011, UNAIDS came up with a global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive. This plan focuses on reaching pregnant women living with HIV and their children from the time of pregnancy until the mother stops breastfeeding. Prior to pregnancy, and after breastfeeding ends, HIV prevention and treatment needs of mothers and children will be met within the existing continuum of comprehensive programmes to provide HIV prevention, treatment, care and support for all who need it (UNAIDS, 2011).

This plan covers all low- and middle-income countries, but focuses on the 22 countries with the highest estimated numbers of pregnant women living with HIV, specifically India, Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Uganda, United Republic of Tanzania, Swaziland, Zambia and Zimbabwe. For the first time, all these countries have guidelines officially endorsing the more efficacious antiretroviral medicines

(Option B or B+) and the phasing out of Option A, which is no longer recommended by the World Health Organization (UNAIDS, 2011).

Option B+, the new approach now being used to try and eliminate mother to child transmission is the recommendation by World Health Organization (WHO) to health providers in HIV-affected countries to initiate all HIV-positive pregnant and breastfeeding women on ART for life regardless of CD4 count. The guidelines also call for expanded paediatric treatment, including immediate initiation of ART for all HIV-positive children younger than five. Previous PMTCT guidelines (Option A and B) recommended varying treatment regimens for HIV-positive pregnant and lactating women depending on their HIV viral load levels and did not include a recommendation to remain on treatment for life (Bond, 2015).

Currently, the updated guidelines (Option B+) are implemented across India with programmatic data from three states showing tremendous progress: more than 90% of HIV-infected pregnant women were enrolled on lifelong ART (PEPFAR, 2015).

In Sub-Saharan Africa, Option B+ was first piloted and then widely implemented in Malawi. In Malawi, Option B+ was envisioned to be easier to implement because of its simple "one size fits all" approach as it would enable women to access ART at high levels even in settings with poor access to CD4 testing (UNICEF, 2012). Studies conducted in Malawi on the acceptability of option B+ reviewed that women reported difficulty in learning their HIV status and initiating ART on the same day. They needed time to think about ART initiation and wanted to first discuss with their partners before committing to lifelong treatment. Disclosure had both a positive and negative effect. According to the women, knowing other women who had a positive experience with Option B+ made it easier to initiate (Katirayi et al, 2014).

In Zimbabwe, studies demonstrated that pregnant and lactating women find it easy to accept lifelong therapy because it is similar to taking medication for diabetics or birth control. Some women reported having trouble accepting their status immediately (on the same day) after testing. It was also discovered that some women refuse to initiate on Option B+ if they have not disclosed their status to their husbands (Tumbare et al, 2015).

With HIV prevalence among women aged 15 to 49 years of 16.1%, Zambia is one of the 22 priority countries of the Global Plan to eliminate new HIV infection among children by 2015 (UNAIDS, 2011). Zambia adopted Option A in 2010 and has been making effort to further expand PMTCT services. In 2011, 96.7% of pregnant women who attended antenatal care were tested for HIV, 74.9% of HIV-infected pregnant women received ARV prophylaxis or ART based on Option A, and 35.8% of HIV exposed infants received NVP prophylaxis. Zambia decided to shift from Option A to Option B+ in January 2013 and started the development of an implementation plan (MOH, 2012).

The choice of option B+, as opposed to options A and B offers the advantage of not only providing the same triple ARV drugs to all HIV-infected pregnant women beginning in the antenatal clinic setting but also continuing this therapy for all of these women for life. There is no need to stop ART after the birth of the baby or after the cessation of breastfeeding and risk of mother to child transmission has ceased. Option B+ ensures that women are already receiving ART for subsequent pregnancies, covering the initial weeks and maintaining a higher CD4 count. Several studies have demonstrated that the lowest risk of transmission is among women who have initiated ART before conception in comparison with those who initiate ART during pregnancy. The reduced risk of transmission is believed to be as a result of reducing the risk of early in utero transmission (Besada et al, 2015).

Nonetheless, many implementation challenges remain, and chief among them is ensuring that high proportions of women and children in need of ART can access it. Global access to ART among pregnant women in need was lower than access among adults in the general population at 34% vs. 47% in 2010, far from the Global Plan target of 90% ART access by 2015. Low access of pregnant women to ART exists despite the fact that coverage of HIV testing is generally much higher in pregnant women than other adult populations. While poor ART access for pregnant women is a pervasive problem for many PMTCT programs, it disproportionately affects women and children living in areas far from ART sites or in settings with weak health systems (UNICEF, 2012).

Understanding why mothers choose to be enrolled on lifelong ART (Option B+) or to opt out is important to achieving the World Health Organization (WHO) ideal goal

of elimination of new HIV infections among children by 2015 and keeping their mothers alive. Currently, little is known about what prevents mothers from accepting enrolment on option B+ even when it is given for free in many government clinics and hospitals. It is because of the above background that this study seeks to determine the acceptability of lifelong ART (Option B+) among HIV positive women receiving antenatal and postnatal services at the university teaching hospital and Lusaka urban city clinics.

1.2 Problem Statement

Zambia is among the 25 countries with highest estimated numbers of pregnant women living with HIV who are in need of antiretrovirals to prevent mother-to-child transmission of HIV and the corresponding number of children who are in need of ART. Prevention of mother-to-child transmission of HIV (PMTCT) is a key strategy to reduce paediatric HIV infections. Without the provision of prevention of Mother-to-Child transmission services, an estimated 40,000 out of the 500,000 babies born annually will acquire HIV infection (ZDHS, 2007). In 2013, Zambia accepted the immediate operationalization of Option B+ to provide free life-long ART to pregnant women living with HIV, regardless of their CD4 count (IATT, 2013).

Option B+ is now provided for free at every government-owned health facility that offers ART in Zambia. Despite the availability of this service in different clinics and hospitals, not all HIV positive mothers are willing to accept ART for life. With Option B+, we expect to see 100 % of HIV positive women on ART but this is not the case (MOH, 2014). According to The Interagency Task Team (2014), Zambia had a total of 64,000 HIV positive pregnant women who delivered in 2014, of which those receiving ART were about 66%.

There is also concern over knowledge about antiretroviral treatment among pregnant women and new mothers in Zambia, as only 43% are still taking their treatment when breastfeeding (UNAIDS, 2014). A study on barriers to ART initiation in Swaziland among pregnant women who did and did not accept ART and among health care workers identified crucial factors in acceptance of ART among eligible women. Although all women faced similar barriers of stigma and disclosure, distance to the facility, cost of transport, lack of knowledge about ART, and anxiety about lifetime commitment, health care workers who were more skilled in counselling

reported that their clients were better able to overcome those barriers and initiate ART. In this same study, pregnant women reported being "scared" and "traumatized" by the seriousness of the commitment to lifelong ART and that acceptance of ARV prophylaxis only was easier. In a Malawi study, women diagnosed with HIV and offered ART initiation on the same day reported feeling overwhelmed with having to cope with the HIV diagnosis, disclosure to their partner or family, and having to initiate lifelong ART. Women in both studies who disclosed to their partner or family felt supported to initiate and adhere to ART (Mary Pat Kieffer et al, 2014)

Competing remedies to ARVs such as traditional medicine pose a challenge to correct and quick management of HIV/AIDs (Munthali, 2010). WHO estimates that about 80% of the population in developing countries depends on traditional medicine for their primary health care needs. For thousands of years, traditional medicine has been an important source of health care for much of the world, and many populations use and value traditional medicine not only as their primary health care but also as part of their spiritual and cultural systems. A study conducted in Zambia reviewed that Use of traditional medicine during pregnancy is common, stigmatized, and may be associated with nonadherence to antiretroviral regimens (Banda et al, 2007).

Overall, the evidence regarding how women's experiences in PMTCT option B+ services affect their subsequent care-seeking behaviour remains sparse. This appears particularly true with regard to the uptake of both long-term HIV care and treatment for the woman's own HIV infection and infant HIV testing and related services. However, women's experiences of and perspectives on current and proposed interventions and how these influence subsequent care-seeking behaviour needed better understood to ensure that an appropriate and acceptable package of services could be offered and that the virtual elimination of mother-to-child HIV transmission become an attainable goal (Tadesse, 2015).

Therefore, this study was conducted to understand why HIV positive women receiving antenatal and postnatal care either opt out of care or are unable to opt in. This could help in understanding why the country is not achieving the 100% HIV positive pregnant and lactating women on lifelong ART.

1.3 Conceptual Framework

Study theme: Factors determining the acceptability of Option B+ treatment.

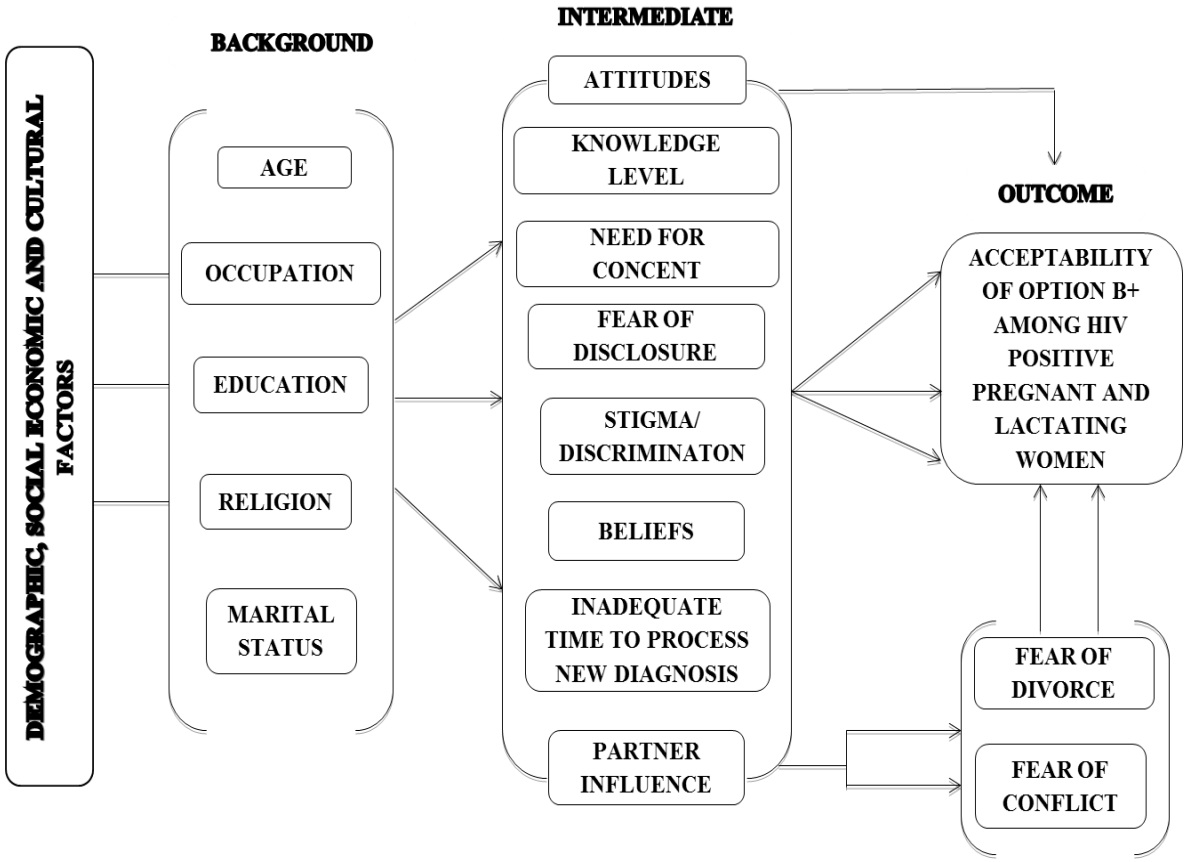

Figure 1: Conceptual framework showing factors determining the acceptability of Option B+ treatment.

The above framework aids the study in fully understanding the factors that determine acceptability of Option B+ treatment. Option B+ is offered at every government owned health facility that offers ART; however, there are factors that determine acceptability of Option B+. The background characteristics of an individual e.g. educational status, occupation, marital status and religion indicate the position a person has in society which could influence their daily attitudes, beliefs and their physical environment. Intermediate factors such as knowledge levels, need for consent, disclosure, beliefs, Influence from partners, stigma and discrimination help to understand care seeking behaviors in individuals and adherence to a medical regimen. These factors can either encourage or discourage individuals to seek ART for life, for instance fear of divorce or conflict when partner finds out that a woman is on ART may discourage women from accepting Option B+.

1.4 Rationale

Women are the key to the HIV response and all women have a right to be treated for HIV infection, not simply because they are bearing a child. All women living with HIV who are eligible for ART need to have access to it. Unfortunately, too many women are still lost along the prevention cascade and never get the care or treatment they need and deserve (Gutin, 2015). Thus a better understanding of Option B+ treatment and how HIV positive women are accepting treatment is beneficial due to ARV medication becoming available and lifelong. Option B+ will enhance protection against mother-to-child transmission in future pregnancies and it also brings about prevention benefit against sexual transmission to serodiscordant partners (UNICEF, 2012).

A study on the acceptability of Option B+ among HIV positive pregnant and lactating women is of supreme value in understanding the factors that inhibit enrolment on lifelong ART. During the implementation of different regimens for PMTCT, the efficacy of a regimen is not the only important aspect to consider but the way in which the people accept it will determine how well or how poorly it will work. Therefore, it is very important to get the views of HIV positive mothers themselves regarding Option B+ and whether they would rather choose to or not to accept ART for life. Study findings on the acceptability of Option B+ among Zambian women are limited. Therefore, this study was conducted to help establish factors associated with the acceptability of Option B+. The information generated from the study will aid policymakers and HIV caregivers in improving programmes aimed at encouraging the uptake of ART for life and improve maternal health.

1.5 Research Question

What influences HIV positive mothers to either accept or reject option B+?

1.6 Research Objectives

1.6.1 General Objective

To determine the acceptability of Option B+ and associated factors among HIV positive women receiving antenatal and postnatal care services at UTH and Lusaka Urban City Clinics

1.6.2 Specific Objectives

1. To determine the acceptability of Option B+ treatment among HIV positive pregnant and lactating women
2. To determine the level of knowledge on Option B+ treatment among HIV positive women accessing antenatal and postnatal services
3. To determine whether attitude, social-demographic and cultural characteristics may be associated with acceptability of Option B+

CHAPTER TWO: LITERATURE REVIEW

The literature reviewed presents the existing information on acceptability of Option B+ treatment. The different studies were searched using Pub-Med, Google and Google Scholar. The Zambian Ministry of Health, WHO, UNAIDS and UNICEF Websites were also consulted. The keywords used for the search were Option B+, acceptability, antiretroviral therapy, antiretroviral drugs, barriers, antenatal and postnatal mothers, HIV/AIDS, knowledge, attitudes, socio-economic, cultural and demographic factors.

2.1 Knowledge of Pregnant and Breastfeeding Women towards Option B+

One of the most important prerequisites for HIV prevention is accurate knowledge of how HIV is transmitted and of strategies for preventing transmission. Assessment of knowledge of HIV/AIDS within a population reflects the level of success of information, education and communication programmes and other activities around the promotion of knowledge of appropriate HIV prevention methods (Thorne, 2011).

A woman's knowledge of her HIV status is the first essential requirement for the application of PMTCT interventions. In a study conducted in Tanzania on antiretroviral treatment knowledge, respondents showed inadequate knowledge on treatment and prevention for HIV infected pregnant women: only 34% knew that HIV-infected pregnant woman could be on ART and 47% did not know that antiretroviral (ARV's) should be used throughout life (Abela et al, 2013).

A study done in Malawi, shows that knowledge about PMTCT option B+ was low, and women reported that counselling was overly biomedical with inadequate attention given to psychosocial issues, poverty, education, transport and food insecurity and shows 18-32% of women did not ascertain their HIV status prior to delivery, which is similar to national estimates of 17% of women. In a similar study in Jamaica, knowledge gaps were attributed to the limited counselling provided by health workers and to conflicting information from health workers, the internet, and other media. Similarly, a study in Benin reported that only half the study participants had been told how to protect their infants from HIV during pregnancy, delivery or postpartum (Besada et al, 2015).

A study conducted on understanding the perspectives and experience of women living with HIV regarding Option B+ in Uganda found that the level of understanding about Option B+ varies among the women but was generally limited. Only a few women and some men who attended the Option B+ launch knew it was called 'Option B+'. Women from urban areas in Uganda had different interpretations of what it consisted of. Some professional women confused Option B+ with treatment as prevention more broadly. Women living in rural areas and young women showed some level of understanding of Option B+ but still lacked clear information and often confused it with other PVT methods (GNP & ICW, 2013). These results are different from a study that was conducted in Ethiopia which showed that majority [58 %(110)] of the women had adequate knowledge of PMTCT Option B+ (Tsegaye, 2016).

2.2 Attitudes of Pregnant and Breastfeeding Women towards Option B+

A pregnant woman's attitude toward the PMTCT option B+ service utilization are a cornerstone for the enhancement of adherence and decrement of women lost to follow up after initiating ART. Women fear to come and test and very few disclose their HIV status to their partners. A study done in Jimma showed that 62.4 % of pregnant mothers had a good attitude towards PMTCT B+ option (Hailu, 2005).

A study conducted in Ethiopia reviewed that 76.3% of participants had a positive attitude while others had a poor attitude (Tsegaye, 2016). A similar study conducted in Dessie town reviewed that majority of the study participants 199(66.1%) had a positive attitude about PMTCT option B+ service (Tadesse, 2015).

2.3 Challenges of Option B+ Initiation

A study conducted in Ghana reviewed that a lower level of general education and poorer literacy may impact negatively on some patients' ability to adhere, and vice versa. Women with formal education were adequately knowledgeable about ART and PMTCT as compared to those without formal education. This could impact positively on their ability to adhere since they understand the ART, PMTCT and the need for them to adhere to ensure the effectiveness of the drug and also to prevent transmission to their babies when pregnant. This could be due to the fact that current educational packages are more understood and acceptable to the literate and they are also more able to read and understand educational materials. Most sensitization

media including billboards, TV adverts and leaflets as part of the social marketing campaign strategies are conducted in English language making it difficult for the illiterate in society to understand (Boateng, 2013).

Additionally, studies have suggested that more women who start ART for their own health remain in care than those who start for other reasons. Fear of divorce and physical violence has caused many women to decline treatment or hide their medications to prevent unintended disclosure (Matheson, 2015).

2.4 Religious Beliefs

Religious activities, communities, and beliefs frame the daily behaviours and attitudes of many people living in countries with high rates of HIV/AIDS. There is reason to believe that uptake, adherence and continuation of ARVs may be influenced by religious beliefs. A study conducted in Tanzania found that belief in the healing power of prayer was not significantly associated with a person's hypothetical willingness to begin ARV treatment if they became HIV-infected. This suggests that while a small fraction of people may decline ARV treatment because of their belief in the healing power of prayer, in the majority of cases religious beliefs about HIV pose no obstacle to the acceptance of medical treatment (Zou et al, 2008).

Furthermore, a study conducted in Ghana on women's health indicates that some respondents still held the opinion that HIV is a spiritual disease and therefore there is the need to seek spiritual interventions. Some defaulters cited "use of alternative medicines "as a reason for not going for antiretroviral and others sleep in prayer camps. This causes them to default most often. However as disease progression among these groups becomes rapid they return to the health facility to continue treatment with ARVs (Boateng, 2013).

2.5 Stigma/Discrimination

Stigma and discrimination are among the foremost barriers to HIV prevention, treatment, care and support. Specifically, research has shown that stigma and discrimination undermine HIV prevention efforts by making people afraid to seek HIV information, services and modalities to reduce their risk of infection and to adopt safer behaviour's lest these actions raise suspicion about their HIV status. Research has also shown that fear of stigma and discrimination, which can also be linked to fear of violence, discourages people living with HIV from disclosing their

status even to family members and sexual partners and undermines their ability and willingness to access and adhere to treatment (UNAIDS, 2014).

A study conducted in Tanzania reviewed that the respondents experienced various forms of discrimination, including relational discrimination, mistreatment by health care workers, blame and rejection by spouses, and workplace discrimination. Changes were observed in relationships when spouses, family members, friends, and neighbours discovered that a particular person was on ART (Mhode, 2016).

Findings from a study conducted in South Africa highlighted that stigma related to HIV infection doggedly persists in sub-Saharan Africa more than decades into the pandemic, despite high disease prevalence and widespread treatment availability. These findings expanded on earlier research suggesting that lack of disease disclosure and fear of accidental disclosure are substantial barriers to HIV-positive women continuing care after delivery but identify multiple facets of stigma that affect postpartum retention in care. First, the secrecy of postpartum HIV care, emerging from the persistent stigma of HIV and fear of disclosure, is a major deterrent to continued HIV care and highly troubling within the context of lifelong ART under Option B+ (Clouse et al, 2014).

It is disappointing and surprising to find that the degree of stigma remains so strong, over three decades into the HIV epidemic in Tanzania. HIV/ AIDS is still thought of as a punishment for sinning and sexual promiscuity. People living with HIV and even more so, those on ART, are often considered a threat to society and ‘‘dead-to-be’’ individuals who may intentionally transmit the virus to others. The impact of stigma manifests itself both at individual and community level and has been a major obstacle to the effective large-scale implementation of and adherence to PMTCT and ART. It is very clear from this study that the majorities of pregnant women living with HIV fear and experience both individual- and community-level stigma that clearly interferes with effective implementation of PMTCT and lifelong ART, Option B+ (Ngarina et al, 2014).

2.6 Conflict with Partners and Perceived Inequity

In a study conducted by Duff, non-disclosure of a client’s HIV-positive status was the second most cited barrier to enrolling in the programme and continuing treatment. Ten of the 53 respondents being interviewed said they had withheld their

HIV status from their sexual partners. The challenge of disclosure was reported to stem from their partners' reluctance to test for HIV. The women explained that they withheld their status from their partners out of fear of blame, domestic violence, abandonment, divorce and loss of economic support that might ensue (Duff, et al, 2010)

Rural women and urban women both reported the risk of increased domestic violence in association with disclosure and starting treatment if one partner starts before the other. If women are tested first, they are accused of bringing the virus into the home.

2.7 Inadequate Time to Process New Diagnosis

Testing and same-day initiation of treatment is a challenge to the uptake of ART under Option B+, as women are not given sufficient time or information to adjust to the idea of lifetime treatment. In Malawi, women who started ART on the day they were diagnosed were almost twice as likely to never return to the clinic as women who started Option B+ later. Qualitative research on client and healthcare worker perspectives on Option B+ in Malawi found that healthcare workers view clients as having difficulties in understanding immediate ART initiation. They view same-day testing and initiation on ART as "too fast" for clients to be able to process. Interviews with clients revealed that few were in any form of support group, though almost all of them said it would be a helpful component of care (Emily, 2014).

Another study by World Health Organization (2014) showed that some clients say they need time to prepare psychologically for Option B+, as they could be getting to know their status for the first time. Others argue that they need to discuss the results with their spouses or a relative before initiating treatment. As such, it was reported that some women accept drugs but never take them or return to the facility. Although thought to be limited in number, it is felt that this category of clients may be responsible for some of the cases of 'loss to follow-up.

CHAPTER THREE: METHODOLOGY

3.1 Study Design

This was a cross-sectional study that looked at the acceptability of Option B+ by HIV positive antenatal and postnatal mothers at UTH and Lusaka urban city clinics. The study followed a quantitative approach.

3.2 Study Site

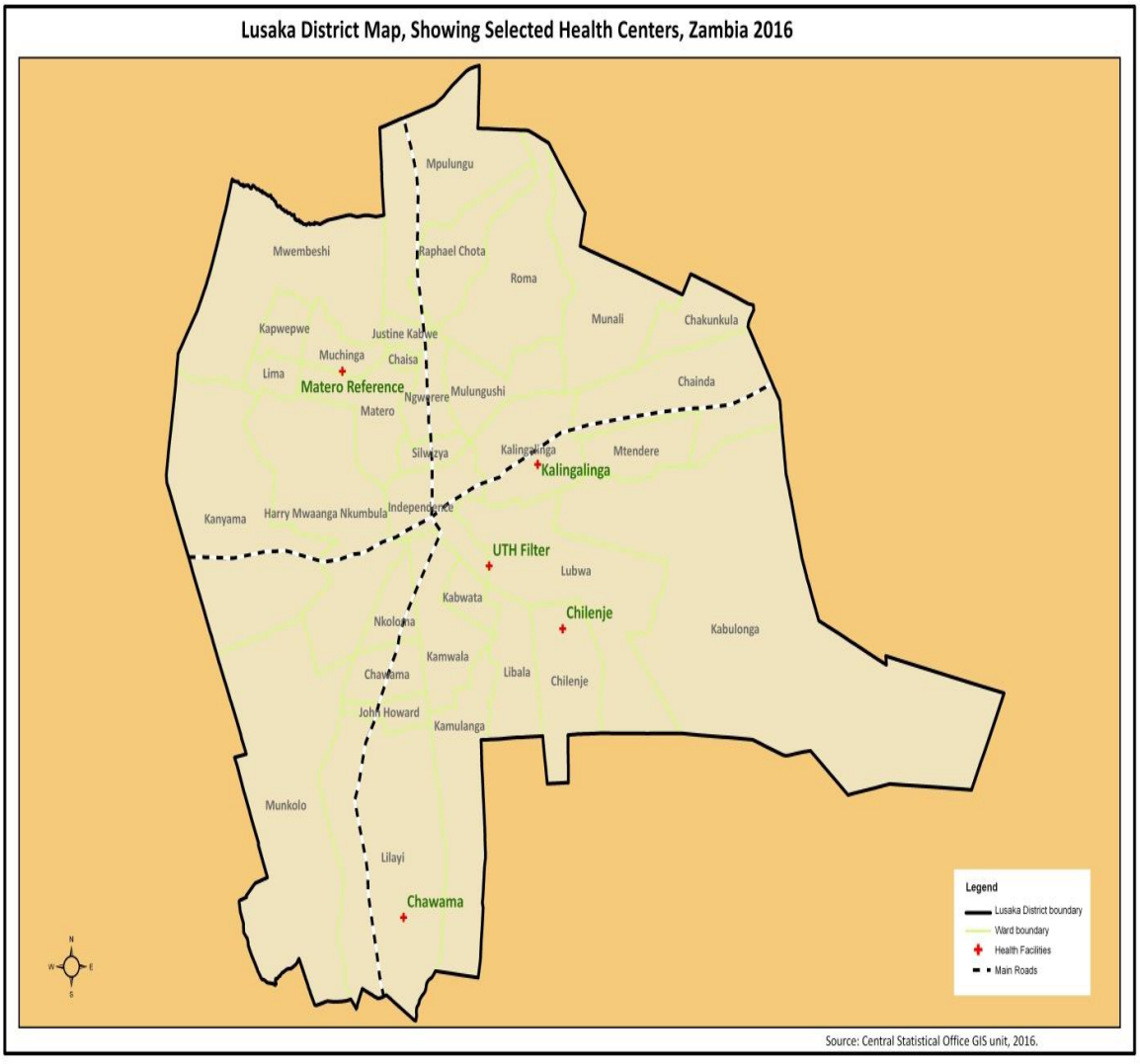

Figure 2: Study Site
Source: Central Statistical Office GIS Unit, 2016

Figure 2 shows the selected health centers in Lusaka district. As of the 2010 Zambian Census, the district had a population of 2, 191,225 people. Maternal Child Health (MCH) and PMTCT services are offered in 24 of the 28 health centers in Lusaka district and in all the health posts. Twelve district health facilities offer maternity services. The University Teaching Hospital (Department of Obstetrics and Gynecology) and four clinics (Chawama, Kalingalinga, Matero Reference and Chilenje) out of the 12 health facilities offering maternity services were purposively sampled. UTH was sampled because it is of high-density and it serves as a referral hospital. Chawama, Kalingalinga, Matero Reference and Chilenje clinics were sampled because they are located in very high density areas. These clinics also offer both in-patient and out-patient services.

3.3 Study Population

The study population comprised of HIV positive women who were attending antenatal and postnatal care services at UTH, Chawama, Kalingalinga, Matero Reference and Chilenje clinics. The target age group was women in the reproductive age (15-49).

3.3.1 Inclusion Criteria

- HIV positive women receiving antenatal and postnatal care (aged 15-49)

3.3.2 Exclusion Criteria

- HIV positive women with inability to communicate
- HIV positive women who refused to take part in the study
- All HIV negative women

3.4 Sampling

3.4.1 Sampling method

This study used Stratified Random Sampling. Drawing from a total of 12 government-owned delivery health facilities that reported their 2015 PMTCT annual program results to PEPFAR Zambia, 5 health facilities were purposively sampled. The chosen clinics and UTH were treated as strata's. Simple random sampling (SRS) was used to select HIV positive antenatal and postnatal women who were to take part in the study. The target population was selected from each health facility using a

sampling list (PMTCT Register), taking into account the inclusion and exclusion criteria. The women were identified by their hospital numbers. These numbers were written on separate pieces of paper, folded and mixed into a box to conduct a lottery.

3.4.2 Sample size determination

The following formula was used to calculate the overall sample size.

$$n = \frac{z^2 p(1-p)}{e^2}$$

n is the sample size

z is the statistic that defines the level of confidence, 1.96 in this case.

p is the proportion used in the estimation formula. In this study, 50% (0.5) was the estimated percentage of acceptability because the actual prevalence proportion was not known. The advantage of this choice is that it yields the maximum sample size.

e is a measure of precision, thus the margin of error. In this study, a precision of 5% (0.05) was tolerated.

Therefore, the estimated sample size was as follows:

$$n = \frac{1.96^2 0.5(1-0.5)}{0.05^2} = 384$$

Taking into account non-response rate (r) of 10%, a success rate of 90% was anticipated.

The sample size was then adjusted as follows:

$n_f = \frac{n}{r}$ Where;

n_f is the final sample size

r is the response rate in decimals

Therefore, the final sample size was as follows:

$$n_f = \frac{384}{0.90} \approx 427$$

The University Teaching Hospital recorded the highest number of HIV positive women compared to other clinics, therefore, the number of women to be included in each health facility was worked out in proportion to the population of HIV positive women as follows;

Table 1: Sample size determination

STRATA	**POPULATION**	**FORMULA**	**SAMPLE SIZE**	**PERCENTAGE**
UTH	21289	21289/36911*427	**246**	58%
Matero Ref	6570	6570/36911*427	**76**	18%
Chilenje	3889	3889/36911*427	**45**	11%
Kalingalinga	3570	3570/36911*427	**41**	10%
Chawama	1593	1593/36911*427	**18**	4%
Total	36911		**427**	100%

3.5 Variables

Table 2: Study Variables

Variable	Operational Definition	Indicator	Scale of measurement
Dependent Variable: Acceptability of Option B+	Willingness to be on antiretroviral therapy for life	Proportion of women accepting ART for life	Percent
Independent Variables			
Age	Age at last birthday	Number in years	Numerical
Marital Status	The state of being single, married, separated, divorced or widowed.	Single, Married, Divorced, Widowed	Nominal
Occupation	Job or profession	Employed, unemployed	Nominal
Education	School attendance in complete years	No education, Primary, Secondary, Tertiary	Ordinal
Religion	The belief in and worship of a superhuman controlling power, especially a personal God or gods.	Christianity, Hinduism, Islam, Buddhism, Atheist	Nominal
Fear of discrimination	The unjust or prejudicial treatment of different categories of people	Not discriminated, discriminated	Nominal
Need for consent	Permission for something to happen or agreement to do something.	Consent required, No consent required	Nominal
Knowledge	facts, information, and skills acquired through experience or education	Adequate knowledge, Inadequate knowledge	Nominal
Attitude	a settled way of thinking or feeling about something	Good, Bad	Nominal

3.6 Data Collection Tool and Technique

A Structured questionnaire was used to collect data in a face to face interview with the participants. The questionnaire was translated into local language for those that did not understand or speak English. The interviews were carried out at the

participant's point of preference in the clinic or hospital. Prior to administration of the questionnaire, a pilot study was conducted using a sample of 10 HIV positive women in order to check for appropriateness and average duration of administration. All questions not clear were revised. Data was recorded in the questionnaires, as they were administered to the participants.

3.7 Data Analysis

Data was entered in EpiData version 3.1 and analyzed using STATA version 13, errors related to inconsistency of data were checked and corrected during data cleaning. Independent factors associated with acceptability of Option B+ by the HIV positive antenatal and postnatal mothers were analyzed using logistic regression analysis. Chi square test was used to determine the association between categorical variables. The statistical significance in this study was set at 5% (0.05) and confidence interval at 95%.

3.8 Ethical Considerations

Ethical approval of the research proposal was obtained from the University of Zambia Research and Ethics Committee prior to conducting the research. Permission was also sought from the Ministry of Health as well as the Lusaka district medical office. Permission to conduct the study in the health facilities was sort from the Ministry of Health as well as the Lusaka District Medical Office. Detailed Explanation about the objective (purpose) and benefit of the study was described to the study participants and their full cooperation, verbal and written consent was taken. The study was of benefit to the participants in that it provided information that would help them make informed decisions on health issues concerning prevention of mother to child transmission and ART for life (Option B+). The study assured the respondents that no names will be attached to responses for confidentiality and that the information will be used strictly for academic purposes. Research participants had the right to abstain from further participation in the research irrespective of any legal or other obligation. Participants were interviewed separately and information submitted was treated with strict confidentiality except for the purpose of the study. Data presentation was made with no references to names of respondents.

CHAPTER FOUR: RESULTS

4.1 Description of the sample

The findings of the study are based on the analysis of responses from consenting pregnant and breastfeeding women between 15 and 49. The expected sample size of this study was 427 and all the 427 participants responded to the questionnaire yielding a response rate of 100 percent.

Socio-Demographic and Cultural Characteristics

Table 3: Socio-demographic and cultural characteristics of Participants

Demographic Factors		**Frequency**	**Percent**
Age	15-24	36	8.4
	25-34	208	48.7
	35-44	167	39.1
	45-49	16	3.7
Marital status	single	77	18
	married	320	74.9
	divorced	16	3.7
	widowed	14	3.3
Occupation	employed	108	25.3
	unemployed	319	74.7
Education	primary	115	26.9
	secondary	236	55.3
	tertiary	73	17.1
	none	3	0.7
Cultural Factors			
Religion	Christianity	421	98.6
	Other	6	1.4
Denomination	Pentecostal	126	29.9
	Catholic	82	19.4
	Adventist	57	13.5
	UCZ	51	12.1
	Jehovah's Witness	28	6.6
	other	78	18.5
Fear of partner discrimination	Yes	152	35.6
	No	275	64.4
Fear of family discrimination	Yes	134	31.4
	No	293	68.6
Needing consent to begin ART	Yes	134	31.4
	No	293	68.6
	Total	**427**	**100**

*Employed (formal employment)

It was observed that majority 208 (48.7%) of the women were within the age of 25-34 years. The mean age of the respondents was 30 years old. Majority, 320 (74.9%) were married at the time the research was being conducted. Regarding occupation, 319 (74.7%) of the respondents were not in formal employment, the rest 108 (25.3%) were employed at the time of the research. The educational levels of the respondents showed that most of them had reached secondary school [236 (55.3%)] and only [73(17.1%)] had obtained tertiary level education.

Regarding the socio-cultural factors, this study showed that most of the participants were Christian [421 (98.6%)] of which the majority belonged to Pentecostal churches [126 (29.9%)]. One hundred and fifty two [152 (35.6%)] participants expressed that their partners would discriminate them if they found out that they were on ART and 31.4 percent (134) of them expressed that their family members would discriminate them. Majority of the participants [293 (68.6%)] said they would not need any consent from their partners or family members before initiating ART and the other 31.4 percent (134) said they would need consent before initiating ART.

Level of knowledge on Option B+ treatment

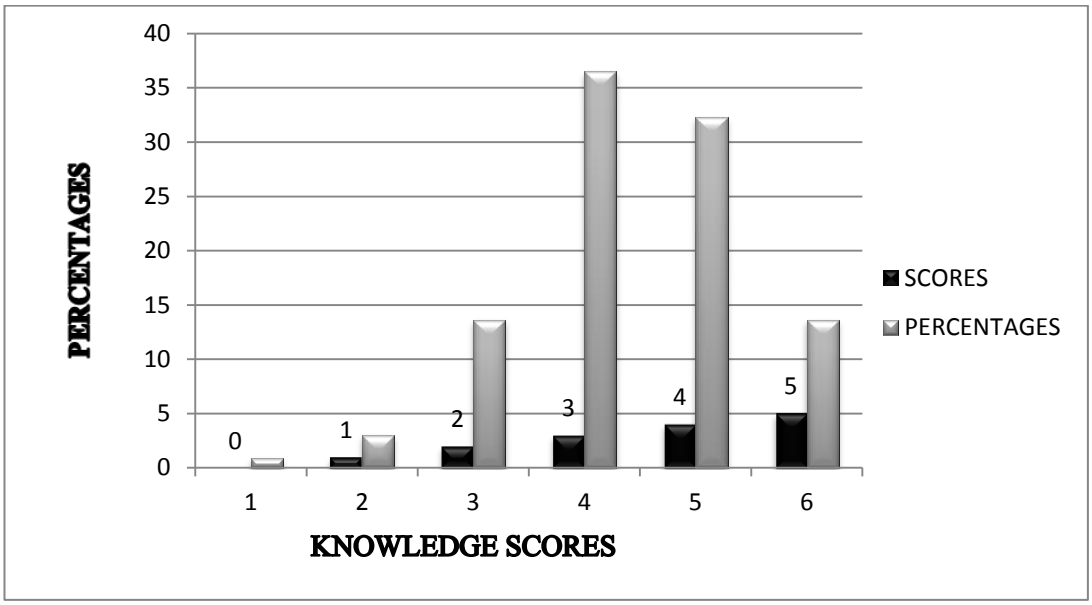

Figure 3: Knowledge scores of Option B+ among the participants

Figure 3 shows the knowledge scores of participants. The level of knowledge was measured from a score of five questions from the questionnaire, Q5 (can a pregnant women living with HIV/AIDS transmit the disease to her unborn baby), Q6 (Is there any means to avoid transmission of HIV from mother to her child), Q7 (Heard of Option B+), Q14 (How long should one be on Antiretroviral Therapy?) and Q15 (Being put on ART for life would lead to absolute cure of HIV?). A score of four and five was graded as adequate knowledge and any score from 0 to 3 was graded as inadequate knowledge.

Table 4: Level of knowledge of Option B+ among participants

Knowledge level	**Frequency**	**Percent**
Adequate Knowledge	196	45.9
Inadequate knowledge	231	54.1
Total	**427**	**100**

Out of the 427 participants, only 196 (45.9%) had adequate knowledge and the remaining 231(54.1%) had inadequate knowledge.

Attitudes towards Option B+

Table 5: Attitudes of participants towards Option B+

Attitude	**Frequency**	**Percent**
Good attitude	270	63.2
Bad attitude	157	36.8
Total	**427**	**100**

Attitude was measured from a score of three questions, Q18 (is it tiresome to be on ART every day?), Q19 (Being on ART benefits not only the mother but also the baby?) and Q20 (Starting ART earlier can help to improve quality of life and survival of the mother). A score of 3 was graded as good attitude and any score of 2 questions or less was graded as bad attitude. Majority of the participants in this study had good attitude [270 (63.2%)] towards Option B+. These participants did not find it tiresome to be on ART every day, they knew that being on ART benefits both the mother and the baby and that starting ART earlier can improve the quality of life and survival of the mother. The remaining 157 (36.8%) participants had bad attitude towards Option B+.

Overall acceptability of Option B+ (willingness to accept ART for life)

Table 6: Acceptability of Option B+ among participants

Acceptability	Frequency	Percent
yes	332	77.8
no	95	22.2
Total	**427**	**100**

Overall, even though the participants were not aware that lifelong ART for HIV positive pregnant and breastfeeding women is called Option B+, majority, 332 (77.8%) were willing to be on ART for life and 95 (22.2%) were not.

4.2 Determinants of acceptability of Option B+

4.2.1 Association of factors with acceptability using Chi-square test

Table 7: Associations of participant's socio- demographic characteristics with acceptability of Option B+

Demographic Characteristics		Acceptability of Lifelong ART (Option B+)	Total participants (n)	P-value
Age	15-24	7.20%	36	0.12
	25-34	47.90%	208	
	35-44	41.60%	167	
	45-49	3.30%	16	
Marital status	single	15.70%	77	0.06
	married	76.50%	320	
	divorced	3.90%	16	
	widowed	3.90%	14	
Occupation	employed	24.40%	108	0.42
	unemployed	75.60%	319	
Education	primary	25.60%	115	0.63
	secondary	56.00%	236	
	tertiary	17.80%	73	
	none	0.60%	3	
Total		**332**	**427**	

Table 7 shows that all the demographic characteristics (age, marital status, occupation and education) had no significant association with acceptability of Option

B+ among the women (p>0.05). Majority of the participants (47.9%) willing to accept ART for life were in the age range 25-34 years. The married women (76.5%) expressed more willingness to accept ART for life compared to the single women.

Table 8: Associations of participant's socio-cultural characteristics with acceptability of Option B+

Cultural Characteristics		**Acceptability of Lifelong ART (Option B+)**	**Total participants (n)**	**P-value**
Religion	Christianity	99.10%	421	0.1
	other	0.90%	6	
Denomination	Pentecostal	31.80%	126	0.794
	Roman Catholic	19.70%	82	
	Adventist	12.10%	57	
	UCZ	11.20%	51	
	Jehovah's Witness	5.80%	28	
	Other	19.50%	78	
Fear of Partner discrimination	Yes	31.90%	152	0.003
	No	68.10%	275	
Fear of family discrimination	Yes	28.90%	134	0.04
	no	71.10%	293	
Needing Consent to begin ART	yes	32.20%	134	0.48
	no	67.80%	293	
Total		**332**	**427**	

Table 8 shows that religion (p=0.100), denomination (p=0.794) and the need to get consent from family or partner (p=0.48) were not significantly associated with acceptability of Option B+. The fear of being discriminated by partner was associated with acceptability of Option B+ with a highly significant p-value of 0.003.

Association of Level of Knowledge and Attitudes with Acceptability of Option B+

Table 9: Association of knowledge and attitudes with Acceptability of Option B+

Level of Knowledge and Attitudes		Acceptability of Lifelong ART (Option B+)	Total Participants	P-value
Knowledge	Adequate Knowledge	84.20%	196	0.003
	Inadequate knowledge	72.30%	231	
Attitude	Good attitude	99.60%	270	<0.0001
	Bad attitude	40.10%	157	
Total		77.80%	427	

Table 9 shows that there was a strong association between knowledge and acceptability of Option B+ (p=0.003) with 165 (84.2%) participants with adequate knowledge willing to accept Option B+. A high association also existed between attitude and acceptability of Option B+ (p<0.0001). Those who had good attitude and were willing to accept Option B+ were 269 (99.6%) and they were the majority**.**

4.2.2 Determinants of acceptability using regression analysis

Logistic Regression analysis of Odds Ratio (OR) for Acceptability of Option B+ in relation to Potential Predictors

In order to measure the association between the dependent variable – acceptability of Option B+ on a number of independent variables, univariate and multivariate analysis were employed. All variables found to have an association in the univariate model were included for multivariate logistic regression analysis to control for confounders.

Table 10: Logistic regression analysis on acceptability of Option B+ in relation to socio-demographic factors

Predictor variable	COR (95% CI)	P-Value	AOR (95% CI)	P-Value
Employment status				
Employed	1		-	-
Unemployed	0.8(0.5-1.4)	0.427		
Marital status				
Single	1			
Married	1.9(1.1-3.2)	0.028		
Divorced	2.1(0.5-8.0)	0.284		
Widowed	6.25(0.8-50.5)	0.086	1.0(0.6-1.7)	0.903
Education level				
None	1			
Primary	1.4 (0.1-16.2)	0.779		
Secondary	1.86(0.17-20.9)	0.615	-	-
Tertiary	2.1(0.18-24.9)	0.554		
Age				
>=35	1			
15-34	0.6(0.3-1.1)	0.099	-	-

COR: Crude Odds Ratio (Unadjusted), AOR: Adjusted Odds Ratios

Table 10 shows the results of the logistic regression. Under the crude Odds ratios, Being married was associated with acceptability of Option B+ [OR: 1.9 (95%CI, 1.1-3.2)]. The married women were 1.9 more likely to accept option B+ than the single women. Furthermore, the widowed women accepted Option B+ up to 6.25 times more than the married, divorced and the single. When considered for multivariate analysis, all the socio-demographic characteristics (age, employment status, educational level, marital status) were not significantly associated with acceptability of Option B+.

Table 11: Logistic regression analysis on acceptability of Option B+ in relation to socio-cultural factors, knowledge and attitudes

Predictor variable	COR (95% CI)	P-Value	AOR (95% CI)	P-Value
Religion				
Other	1		-	-
Christianity	3.6(0.7–18.0)	0.122		
Denomination				
Catholics	1		-	-
Protestants	1.1(0.6–2.0)	0.794		
Fear of partner discrimination				
No	1			
Yes	0.7(0.2 –1.2)	0.003	1.0(0.5–2.0)	0.901
Fear of family discrimination				
No	1			
Yes	0.5(0.02–1.0)	0.041	0.7(0.4–1.4)	0.308
Needing Consent				
No	1		-	-
Yes	1.2(0.7-2.0)	0.481		
Knowledge				
Inadequate	1			
Adequate	2.1(1.3-3.3)	0.003	1.3(0.7-2.4)	0.356
Attitude				
Bad	1			
Good	9.4(5.8 –15.2)	0.0001	9.3(5.7-15.2)	0.0001

Table 11 shows that women who feared that their partners or families would discriminate them were less likely to accept Option B+ than those that believed that they would not be stigmatized or discriminated. Those with adequate knowledge were 2.1 more likely to accept Option B+ than those with inadequate knowledge [OR: 2.1 (95%CI, 1.3-3.3)]. This association was statistically significant. Attitude of women was observed to be statistically associated with acceptability with those with good attitude being 9.4 more likely to accept Option B+ than those with a bad attitude [OR: 9.4 (95%CI, 5.8-15.2)]. Religion, denomination and needing consent to

begin lifelong ART were not significantly associated with acceptability of Option B+.

When adjusted, the results show that attitudes of women were associated with acceptability of Option B+ [AOR: 9.2 (95%CI, 5.7-15.1)]. Participants with good attitude were 9.2 more likely to accept Option B+ than those with a bad attitude towards Option B+.

CHAPTER FIVE: DISCUSSION

This chapter discusses the key findings of this study in line with the specific objectives and compares the findings with other studies in an attempt to highlight similarities and differences observed.

The study aimed at determining the acceptability of Option B+ and associated factors among HIV positive women receiving antenatal and postnatal care services at UTH and Lusaka Urban City Clinics. The results show that over half (54%) of the women in the health facilities had inadequate knowledge of Option B+. It is also evident that stigma and discrimination still exist in some of the communities, for instance, about 30% of the women stated that they would not accept being on treatment for life for fear of being discriminated by either their partner or family at large. There is reason to believe that uptake and continuation of ART for life is dependent on one's religious beliefs. However, this study found that religious beliefs do not pose any obstacle to the acceptance of ART for life. Regarding the women's attitudes towards Option B+, 63.2% had good attitude and overall, the majority (77.8%) were willing to accept antiretroviral therapy for life.

5.1 Acceptability of Option B+ (Willingness among participants)

This study overall found that 77.8 % of the HIV-positive women receiving antenatal and postnatal care in this setting accepted lifelong treatment. Studies from Zimbabwe on acceptability of Option B+ among pregnant and breastfeeding women showed similar results, which is in general, women accepted ART for life. The high acceptance observed in this study could be that the study sites (UTH and Lusaka Urban clinics) lie in the urban part of Lusaka which makes it easier for women to have access to information on HIV/AIDS and ART. The other contributing factor could be the introduction of intervention programs such as free ART in government owned health facilities in as early as 2005 (MOH 2008).

5.2 Acceptability of Option B+ by Demographic Characteristics

The socio-demographic characteristics of the women in this study are similar to those observed in a study conducted in Ethiopia (Gurmu et al., 2014), characterised by a low level of education and high levels of unemployment. No association was found between education and acceptability of Option B+. The differences in the level of

education among the women did not affect acceptability; both the educated and uneducated recorded a high willingness to accept Option B+. However, education plays a key role in the understanding of ART for life. A study conducted in Ghana reviewed that a lower level of general education and poorer literacy may impact negatively on some patients' ability to adhere, and vice versa. Women with formal education were adequately knowledgeable about ART and PMTCT as compared to those without formal education. This could impact positively on their ability to adhere since they understand the ART, PMTCT and the need for them to adhere to ensure the effectiveness of the drug and also to prevent transmission to their babies when pregnant (Boateng, 2013).

Majority of the women in this study were married. The widowed women accepted Option B+ up to 6.25 times more than the married. This indicates that married women may reject ART for fear of the partner knowing their HIV status. Those without partners are able to make decisions regarding their health without having to worry about partner reactions. Additionally, studies have suggested that more women who start ART for their own health remain in care than those who start for other reasons. Fear of divorce and physical violence has caused many women to decline treatment or hide their medications to prevent unintended disclosure (Matheson, 2015).

5.3 Knowledge of Option B+ among Participants

This study assessed the knowledge of HIV positive pregnant and breastfeeding women on Option B+. Over half of the participants (54.1%) had inadequate knowledge, only (45.9%) had adequate knowledge. These findings were consistent with study findings from Malawi and Tanzania. The Malawi study showed that knowledge about PMTCT option B+ was low, and women reported that counselling was overly biomedical. In a study conducted in Tanzania on antiretroviral treatment knowledge, respondents showed inadequate knowledge on treatment and prevention for HIV infected pregnant women: only 34% knew that HIV-infected pregnant woman could be on ART and 47% did not know that antiretroviral (ARVs) should be used throughout life (Abela et al, 2013). A similar study from Ethiopia shows contradicting results. That was most of the participants (58 %) had adequate knowledge of PMTCT Option B+ (Tsegaye, 2016).

A woman's knowledge and practice on HIV/AIDS influences her motivation, acceptance and uptake of ART for the prevention of mother to child transmission. The women with inadequate knowledge in this study were less likely to accept Option B+ compared to those with adequate knowledge. This suggests that women who did not accept Option B+ did so because they lacked information about the benefits of being on ART for life. The lack of knowledge is very serious, because it reflects lost opportunities to save mothers' lives and to avert infections in children (Abela, 2013).The results highlight a clear need for sharing more information about ART for life to the general population, women at health facilities as well as the benefits of initiating ART for life.

5.4 Attitudes of Participants and their Influence on Acceptability of Option B+

Pregnant woman's attitudes toward the PMTCT option B+ service utilization are a cornerstone for the enhancement of adherence and decrement of women lost follow up after initiating ART (Tadesse, 2015).

The attitudes of women in this study were generally good. Thou being put on ART for life can be a burden; most of the women (63%) felt that they would not have problems with initiating ART for life. The good attitudes found among the women could be attributed to the hope that ART can help improve the quality of life, survival and also benefit their children. This hope has helped change the negative attitudes towards lifelong treatment. Furthermore, the women with good attitude accepted Option B+ 9 times more than the women with a bad attitude. This shows that the more the women develop a good attitude towards Option B+, the more the willingness to accept it.

These findings were consistent with other research findings that have also shown that majority of the study participants 199(66.1%) had positive attitude about PMTCT option B+ service (Tadesse, 2015). A similar study conducted in Ethiopia reviewed that 76.3% of participants had positive attitude while others had poor attitude (Tsegaye, 2016).

5.5 Social-Cultural Influences on Acceptability of Option B+

Religious activities, communities, and beliefs frame the daily behaviours and attitudes of many people living in countries with high rates of HIV/AIDS. There is reason to believe that uptake, adherence and continuation of ARVs may be influenced by religious beliefs (Zou et al, 2008).

In this study most of the participants were Christian (98.6%) who belonged to different Christian denominations (i.e. Pentecostal, Adventists, Baptists, UCZ, Jehovah's Witness) other than being Roman Catholic (19.4%). No association was observed between religion and denomination with willingness to accept Option B+. This is in line with a study that was conducted in Tanzania which found that belief in the healing power of prayer was not significantly associated with a person's hypothetical willingness to begin ARV treatment if they became HIV-infected. This suggests that while a small fraction of people may decline ARV treatment because of their belief in the healing power of prayer, in the majority of cases, religious beliefs about HIV pose no obstacle to the acceptance of medical treatment (Zou et al, 2008).

Results also show that women still fear stigma and discrimination by their partner/family. These findings are in line with other studies that also show that the respondents experienced various forms of discrimination, including relational discrimination, mistreatment by health care workers, blame and rejection by spouses, and workplace discrimination. Changes were observed in relationships when spouses, family members, friends, and neighbours discovered that a particular person was on ART (Mhode, 2016).

This study indicates that despite high levels of HIV awareness in Zambia, stigma and discrimination still exists in some communities. This may negatively affect acceptability of Option B+. "HIV/ AIDS are still thought of as a punishment for sinning and sexual promiscuity. People living with HIV and even more so, those on ART, are often considered a threat to society and ''dead-to-be'' individuals who may intentionally transmit the virus to others. The impact of stigma manifests itself both at individual and community level and has been a major obstacle to the effective large-scale implementation of and adherence to PMTCT and ART. It is very clear from this study that the majorities of women living with HIV fear and experience

both individual- and community-level stigma that clearly interferes with effective implementation of PMTCT and lifelong ART ,Option B+ (Ngarina et al, 2014)."

Getting consent from partners or family was not significantly associated with acceptability of Option B+ in this study. Most of the participants (68.6%) said they would not need any consent from their partners or family members before initiating ART for life and the other 31.4% expressed needing consent before initiating ART for life. The lack of association between needing consent and acceptability implies that most women would not reject ART for life due to failure to get consent from partner/family. On the contrary, a study conducted in Malawi on Acceptability of lifelong treatment (Option B+) found that the women were overwhelmed with the information, needed time to think about ART initiation and wanted to first discuss with their partners before committing to lifelong treatment (Katirayi, 2014).

5.6 Study Limitations

This study was based on a cross-sectional design which does not show causal relationships. Secondly, generalization of the study findings was limited to selected health facilities of Lusaka District hence future studies should involve health facilities across the country.

5.7 Conclusion

The main objective of this study was to determine acceptability of Option B+ and associated factors among HIV positive women receiving antenatal and postnatal care services at UTH and Lusaka Urban City Clinics. This study revealed that majority of the participants in this setting accepted the lifelong treatment of Option B+. Their attitudes towards it were generally good. However, the study found inadequacies on the level of knowledge of Option B+ which suggests need for efforts to help individuals and the broader communities have a better understanding of Option B+ as a preventive measure for HIV among women and their unborn children. The study also found stigma and discrimination existing in some of the communities which can negatively affect acceptability of Option B+ hence the need to intensify HIV/AIDS sensitization programmes.

5.8 Recommendations

i. Most educational interventions in Zambia including T.V adverts, brochures and posters are conducted and written in English. Redesigning of educational interventions on PMTCT and ART for life into local language in order to target both the literate and illiterate is required to improve the knowledge of ART among women.

ii. Community programs involving both male and females should be encouraged to promote willingness among women who were less likely to accept Option B+

iii. Intensifying widespread IEC programs using relevant materials on antiretroviral therapy is required to create more awareness and importance of lifelong ART. A good understanding of the kind of treatment one is being put on increases the likelihood of individuals remaining on treatment

iv. As seen in the study, women are still experiencing stigma and discrimination hence there is need for the government and non-governmental organizations to intensify sensitization programmes in order to successfully combat stigma and discrimination

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APPENDICES

Appendix I: Information Sheet

Topic: Acceptability of Option B+ Among HIV Positive Women Receiving Antenatal and Postnatal Care Services at the University Teaching Hospital and Lusaka Urban City Clinics

Introduction

I am Chanda Chomba Bridget, a student at the University of Zambia in the School of Medicine under the Department of Public Health. I am kindly inviting you to participate in a study on the acceptability of Life-long Antiretroviral Therapy (Option B+ treatment), the new regimen used for the prevention of mother to child transmission. The information being collected may be used to help improve Antiretroviral Therapy services for the prevention of mother to child transmission in the future. Before you decide whether or not you will take part in this study, detailed explanation of the purpose, potential risks and benefits will be explained to you.

Purpose of the Study

This study is being conducted in order to collect information on the acceptability of Option B+ treatment by HIV positive pregnant and breastfeeding women. This information will be used to aid policymakers and HIV caregivers in improving programmes aimed at encouraging the uptake of ART for life and improve maternal health.

Procedure

The potential participants of this study are HIV positive women receiving antenatal and postnatal care at the University Teaching Hospital and Lusaka Urban City Clinics. If you agree to take part in this study, the enumerator will conduct a face to face interview using a structured questionnaire. After signing the consent form, the enumerator will proceed to ask you the relevant questions. You will also be allowed to ask any questions relating to this research.

Risks and Discomforts

There is no direct risk to the participant in this research. However, HIV related topics may be sensitive and you may find some questions uncomfortable. You do not need to answer any question you are not comfortable with and your participation in this study is voluntary. You are free to withdraw from this study at any point.

Benefits

The benefits you get from participating in the study are that you will receive information that will help you make informed decisions on health issues concerning prevention of mother to child transmission and ART for life (Option B+). Furthermore, the information that this study will generate will help direct policy makers and other stakeholders into making informed decision with regards to the prevention of mother to child transmission and ART for life.

Voluntariness

Your participation in this study is voluntary. If you agree to take part in this study, you may withdraw at any time without consequences of any kind.

Payment/Compensation for participation

You will not receive any payment for your participation in this research.

Confidentiality

All the information you provide will be strictly confidential, and your name will not be recorded on the questionnaire. Instead, your questionnaire will contain an identification number that is known only by the interviewer. The Ministry of Health, University of Zambia Research Ethics Committee may review your records under this study under strict confidentiality.

CONTACTS FOR FURTHER CLARIFICATIONS

1. Ms Chanda C. Bridget. The University Teaching Hospital-HIV/AIDS Program, Paediatric Centre of Excellency. Department of Paediatric and Child Health. P.O Box 50440, Lusaka. Cell 0976 043160/ 0966 344293

   Email: chandabridget@gmail.com

2. The Chairperson, Biomedical Research Ethics Committee, Ridgeway Campus. P.O Box 50110, Lusaka, Zambia. Tel: 260-1-256067

   Email: unzarec@unza.zm

Appendix II: Consent form.

Dear participant, having been explained to the nature and purpose of the study, risks, benefits and confidentiality, you may sign below to declare your participation as voluntary and not forced.

Signature/Thumbprint of participant Date

……. ……...

Signature of Researcher Date

……. ……...

CONTACT PERSONS FOR ANY QUERIES OR INFORMATION RELATED TO THE STUDY.

1. Ms Chanda C. Bridget. The University Teaching Hospital-HIV/AIDS Program, Paediatric Centre of Excellency. Department of Paediatric and Child Health. P.O Box 50440, Lusaka. Cell 0976 043160/ 0966 344293

   Email: chandabridget@gmail.com

2. The Chairperson, Biomedical Research Ethics Committee, Ridgeway Campus. P.O Box 50110, Lusaka, Zambia. Tel: 260-1-256067

   Email: unzarec@unza.zm

Appendix III: Questionnaire

THE UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF PUBLIC HEALTH

Title: Acceptability of Option B+ Among HIV Positive Women Receiving Antenatal and Postnatal Care Services at the University Teaching Hospital and Lusaka Urban City Clinics

Dear respondent,

My name is Bridget Chanda. I am a student in the School of Medicine at the University of Zambia in the department of Public Health. I am conducting a study on the acceptability of Option B+ among women receiving antenatal and postnatal care services at UTH and Lusaka Urban Clinics.

The main objectives for my study are:

1. To determine the level of acceptability of Option B+ treatment among HIV positive pregnant and lactating women
2. To determine the level of knowledge on Option B+ treatment among HIV positive women accessing antenatal and postnatal services
3. To determine whether attitude, social-demographic and cultural characteristics may be associated with acceptability of Option B+

You have been randomly selected to take part in this study. Your participation is voluntary and all the information you will provide will be treated with strict confidentiality. I assure you that your views shall not be used in any way that might damage or destroy your reputation. For any clarification or help please feel free to contact my supervisors Dr Likwa and Ms. Jacoobs, School of Medicine, Department of Public Health; University of Zambia, P.O Box 32379.

Lusaka Your cooperation will be highly appreciated.

Yours sincerely

Chanda Bridget.

QUESTIONNAIRE NUMBER

SECTION A: SOCAL DEMOGRAPHIC CHARACTERISTICS

1) Age at last Birthday

_____

2) What is your marital status

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

3) What is your occupation

1. Employed
2. Unemployed

4) What is your level of education

1. Primary
2. Secondary
3. Tertiary
4. Non

SECTION B: KNOWLEDGE ON OPTION B+

5) Can a pregnant women living with HIV/AIDS transmit the disease to her unborn baby?

1. Yes
2. No
3. I don't know

6) Is there any means to avoid transmission of HIV from mother to her child?

1. Yes
2. No
3. I don't know

7) Have you ever heard of Option B+?

1. Yes
2. No

8) When did you first hear of it?

1. Less than a year ago
2. 2 years ago
3. Never

9) What was the source of information?

1. Media
2. School
3. Relatives
4. Hospital
5. Clinic
6. Friends

10) Who is supposed to be put on Option B+

1. Pregnant women
2. Breastfeeding women
3. Both pregnant and breastfeeding women
4. Men
5. Both men and women
6. I don't know

11) What is Option B+ used for?

1. Malaria prevention
2. Prevention of mother to child transmission
3. Cholera
4. I don't know

12) Are you on antiretroviral therapy?

1. Yes
2. No

13) How long have you been on antiretroviral therapy?

1. Less than a year
2. More than a year
3. Less than 5 years
4. Never

14) How long should one be on therapy?

1. 1 year
2. 5 years
3. Lifelong
4. 10 years
5. I don't know

15) Being put on ART for life would lead to absolute cure of HIV?

1. True
2. False
3. I don't know

SECTION C: ATTITUDE CHARACTERISTICS

16) Would you accept Life-long ART (Option B+)

1. Yes
2. No
3. I don't know

17) If no to Q16, what are the reasons?

1. ART doesn't help
2. I can't manage
3. It is harmful
4. I don't know

18) Is it tiresome to be on ART every day?

1. Yes
2. No
3. I don't know

19) Being on ART (Option B+) benefits not only the mother but also the baby

1. True
2. False
3. I don't know

20) Starting ART (Option B+) earlier can help to improve quality of life and survival of the mother

1. True
2. False
3. I don't know

SECTION D: SOCAL CULTURAL CHARACTERISTICS

21) What is your religion?

1. Christianity
2. Hinduism
3. Islam
4. Buddhism
5. Atheist

22) If the answer to Q17 was Christianity, What is your denomination?

1. Pentecost
2. Jehovah's witness
3. Seventh day Adventist
4. United church Zambia
5. Roman catholic
6. New apostolic
7. Dutch; Reformed Church
8. Other ——————————

23) What do you think your partner/family would do if they found you were on ART?

1. Divorce you
2. Discriminate you
3. Help you
4. Chase you

24) Do you need to get permission from your partner/family before starting ART?

1. Yes
2. No

25) Would you need any assistance to begin your ARV treatment?

1. Yes
2. No

THANK YOU FOR PARTICIPATING