# FACTORS INFLUENCING BREASTFEEDING BEYOND ONE YEAR BY HIV POSITIVE MOTHERS ATTENDING MOTHER BABY CARE POINT CLINIC.

## CASE STUDY: MUBENDE REGIONAL REFERRAL HOSPITAL

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# FACTORS INFLUENCING BREASTFEEDING BEYOND ONE YEAR BY HIV POSITIVE MOTHERS ATTENDING MOTHER BABY CARE POINT CLINIC. CASE STUDY: MUBENDE REGIONAL REFERRAL HOSPITAL

**A postgraduate dissertation**

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**the award of degree**

**Master of public health in population and reproductive health.**

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## DEDICATION

To my children; Mary Barbra, Ian Stephen, Tendo Stephans, Kirabo Katrinah for the patience, comfort, care, social and spiritual support they offered and my freind Mr. Taasi Geoffrey who supported me financially. This enabled me organise this work successfully for submission to Uganda Martys University and for the memory of my late father, Godfrey Kikomeko who showed me the value of education.

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## LIST OF ABBREVIATIONS AND ACRONYMS

| | | |
|---|---|---|
| ART | : | Anti-Retroviral Therapy |
| AVERT | : | Anti-Virus Emergency Response Team |
| CSA | : | Central Statistical Agency |
| EBF | : | Exclusive Breast Feeding |
| EMTCT | : | Elimination of Mother To Child Transmission |
| HCA | : | HIV Cohort Analysis |
| HMIS | : | Health Management Information System |
| MBCP | : | Mother Baby Care Point |
| MOH | : | Ministry of Health |
| PCR | : | Polymerase Chain Reaction |
| SSA | : | Sub Saharan Africa |
| UDHS | : | Uganda Demographic and Health Survey |
| UNAIDS | : | United Nations Program on HIV and AIDS |
| UNDP | : | United Nations Development Program |
| WHO | : | World Health Organization |

## OPERATIONAL DEFINITION OF TERMS

**Exclusive Breast Feeding**: -is feeding an infant with breast milk only for 6 months without any additional liquids or solids apart from prescribed medicine.

**Mixed feeding**:-is giving an infant less than 6 months breast milk or app roved replacement feeds with additional liquids and solids.

**Prevention of Mother to Child Transmission**:-is the prevention of infection with HIV to a child from the mother during pregnancy, delivery and postnatal by taking ARV prophylaxis, safe delivery and use of recommended infant feeding practices.

**Replacement Feeding**:-is giving infant approved commercial infant formula milk for 6 months without introducing breast milk or any other liquids and solids apart from prescribed medicine.

## ABSTRACT

**Background:** It is a requirement that HIV-positive mothers don't breastfeed their babies beyond one year of age. However, in Mubende Regional Referral Hospital, some HIV-positive mothers don't heed this recommendation and instead continue breastfeeding their babies beyond one year.

**Objective:** This study was conducted among 101 HIV-positive mothers attending the mother-baby care point at Mubende Regional Referral Hospital to explore individual, socio cultural and health related factors influencing breastfeeding beyond one year by HIV positive mothers attending mother baby care point in mubende regional referral hospital.

**Methodology:** A descriptive and an analytical cross sectional study design used for the assessment. Data was collected using interviews and focused group discussions, using interviewer-administered questionnaires and interview guides respectively.

**Results:** Slightly more than a half, 52(51.5%) of study participants were aged 25 – 34 years, 48(47.5%) had primary level education, 55(54.5%), and were Peasant farmers, 53(52.5%). Majority, 82(81.2%) were aware about mother-to-child transmission of HIV through breastfeeding, and 52(51.5%) were aware about increased through breastfeeding beyond. On statistical analysis, the individual factors that were found to be influencing HIV-positive mothers to breastfeed their babies beyond one year were occupation ($p = 0.004$), income ($p = 0.023$), disclosure of HIV serostatus ($p = 0.02$), and age of the child ($p = 0.014$). The only socio-cultural factor influencing HIV-positive mothers breastfeeding their babies for beyond one year was stigma ($p = 0.04$), and the only health service-related factor was constant supplies of ARVs ($p = 0.03$).

**Conclusion:** It can be concluded from the study findings that HIV-positive mothers shall continue breastfeeding their babies beyond one year provided their individual, socio-cultural, as well health facility factors that lead to that are not addressed.

**Recommendation:** Health workers together with local leaders should improve and or design new awareness approaches aimed at tracking stigma targeted at HIV mothers who want to feed their HIV exposed babies safely.

# CHAPTER ONE

# GENERAL INTRODUCTION

This chapter provides background information on overview of the study topic. It also provides details on statement of the problem, justification, research questions, research objectives, significance, purpose of the study scope of the study and the conceptual frame work.

## 1.1 Introduction

Worldwide, infection with Human Immunodeficiency Virus (HIV) is a huge public health problem (AVERT, 2016). Currently approximately 36.7 million people are estimated to be living with HIV globally, and of the estimate, 2.1 million are children less than 15 years old. In the Sub-Saharan Africa, 25.5 million people were reported to have been living with HIV in 2016, while new infections stood at 2.1 million people and of these 160,000 were children less than 15 years old (United Nations program on HIV and AIDS (UNAIDS), 2016; AVERT, 2016). In Uganda approximately 1.4 million people are estimated to be living with HIV, and among the estimate 20,000 children get infected with HIV through mother to child transmission (MTCT). The increased child-infection rates have mainly been attributed to the higher incidence of HIV-infected women of child-bearing age (Rivera & Frye, 2016).

To reduce the risk of MTCT, the World Health Organization (WHO) introduced Prevention of Mother to Child transmission Option B plus (PMTCT-B+) in 2012 and was adopted and implemented in Uganda in 2014. This option requires HIV-exposed infants to be exclusively breast-fed for the first six months of life. However, the option B+ also recommends that after the initiation of complementary feeding breastfeeding should cease at one year (WHO, 2016). However, according to current data from (HMIS 106) shows that adoption of PMTCT-option B+ has been low in Mubende district (52%), which could be attributed to social, cultural,

economic and health service factors as suggested by( Laar, et al.,2009) and (Laar and Govender, 2011). This motivated this study to determine factors influencing breast feeding beyond one year by HIV-positive post-partum mothers that attend mother baby care point at Mubende Regional Referral Hospital.

### 1.2 Background to the Study

One of the ways children get infected with HIV is through breast-feeding by HIV-positive post-partum mothers, before 2010, the WHO HIV-infant-feeding guidelines included exclusive breastfeeding and early cessation of breastfeeding. Formula-feeding was only recommended as an alternative to breast-feeding of HIV-exposed infants when it is found to be affordable, feasible, acceptable, sustainable and safe (AFASS). Adoption of these guidelines, however, caused high child-mortality rates due to diarrhea, malnutrition and other diseases in non-breastfed children than breastfed ones (UNICEF, 2016). As a result, WHO formulated new guidelines PMTCT-option B+, which requires HIV-exposed infants to exclusively breast-feed during the first six months, to initiate complementary feeding at six months and to stop breastfeeding at one year. Uganda introduced PMTCT-option B+ practice in 2014 and rolled it out to the entire country (Kahungu et al., 2018).

Conceptually, the choice to adopt PMTCT-option B+ could be attributed to several factors. (Senah, 2003) for example, asserted that factors which promote good-health and those that precipitate ill-health were not exclusively biological but also took social, economic, and cultural dimensions. These dynamics could be linked to decision-making processes HIV-positive post-partum mothers make regarding what to feed their infants, which decision appear not only to be linked to knowledge of medical risks of MTCT of HIV through breast-feeding but could be influenced by socio-cultural nuances of the community (Leshaberi et al., 2007; de Jager et al., 2013). However, awareness's of socio-cultural dimensions in each

locality are, therefore, critical in the success of development and implementation of healthcare-interventions (Jager et al., 2013).

Previous studies have indicated that barriers to exclusive replacement feeding by HIV-positive post-partum mothers include cultural and familial influences, socio-economic factors (including cost of infant formula, lack of access to fridges, clean water and fuel) (Laar and Govender, 2011; Wilium, 2016). Interventions designed to promote safer infant feeding among HIV-positive post-partum mothers therefore, need to be cognizant of these barriers that HIV-positive mothers face. Unless policy makers and implementers incorporate these concerns in design of risk-reduction care interventions, then disparities are bound to occur between well-intended policies and programs and actual practices of HIV-positive post-partum mothers as it appears to be the case with PMTCT-option B+.

In the Ugandan context, to streamline PMTCT-option B+, the Ministry of Health (MoH) formulated a policy on elimination of mother to child transmission (eMTCT) policy in line with WHO guidelines in 2014. The policy recommends HIV-positive pregnant and post-partum mothers to be initiated on life-long Anti-retroviral Treatment (ART) while infants should receive Anti-retroviral (ARV) prophylaxis for six weeks' and to breast-feed for up to one year (MOH, 2014). This is to reduce the duration of exposure of the child to MTCT of HIV while at the same time providing the child with the full benefits of breast-feeding (WHO, 2014). This practice has, however, not been widely adopted by HIV post-partum mothers in Mubende district as it appears to be unpopular, whereby 48% of the lactating mothers they continued breastfeeding beyond one year. Which has motivated this study that seeks to determine factors influencing breastfeeding beyond by HIV positive mothers attending mother baby care point clinic at Mubende Regional Referral Hospital. (HMIS 106a, 2016)

Among the interventions the Government of Uganda implemented to reduce the risk of MTCT of HIV included increased male involvement in PMTCT services from 23 % in 2014 to 28% in June 2016 (GoU Nov, 2016), to enhance support to their spouse during the period of breast feeding, and in African culture they are the decision makers in the households. The national PMTCT option B+ strategy included expansion of PMTCT services to all districts, and introduction of facility-level mother-baby care points (MBCP). MBCP it's an integrated service delivery model where HIV positive women and their exposed infants are cared for throughout the PMTCT cascade This was done to improve adherence and retention of the mother-baby pairs across the continuum of PMTCT, and led to increase of maternal ART coverage (65% in 2012 to 87% in 2014) (MOH 2014). This attributed to decline in HIV infections among exposed infants from about 8.6% in 2012 to 4.9% by August 2015 - slightly below the national target of five percent (Walakira et al, 2016).

### 1.3 Statement of the Problem

The Government of Uganda together with its implementing partners have put enormous effort to reduce MTCT of HIV. One of the key yielding successful areas is prevention of mother to child transmission termed as PMTCT option-B+ which was scaled-up in all districts of Uganda. This has led to reduced HIV infection rates among HIV-exposed infants from about 8.6% in 2012 to 4.9% by August 2015 (Walakira et al., 2016; MoH, 2016). Despite these efforts however, adoption of the practice by HIV-positive breastfeeding mothers in Mubende hospital has been very low at 52% (HMIS 106a, 2016). This leaves 48% of the HIV positive breastfeeding mothers continuing to breastfeed beyond one year despite several counseling sessions given to them. And among the 48% of those continued breast feeding past one year 4% of the infants turned HIV positive(HMIS 012,2016). Compared to those who stopped at one year the positivity rate was less than 2%. The apparent unpopularity of this practice may be influenced by socio-cultural factors as socio-cultural norms which are deeply rooted in

communities of Western Uganda (Atugonza, 2017). Additionally, poverty rates in Uganda have remained relatively high as up to 22% of children (4.4 million) still live in income-poor households (GoU, 2015; MGLSD & UNICEF, 2015) which may also hamper HIV-positive breastfeeding mothers'/ household's economic access to safe replacement feeds that could make them fail to comply with PMTCT-option B+ guidelines.

With this situation Uganda may fail to achieve the Sustainable Development Goals (SDG) for health especially SDG 3 targets 2 and 3. It will similarly constrain attainment of the National Development Plan (NDP) II Goal of reducing the Infant mortality rate per 1,000 live births from 54 to 44 and reducing the under-five mortality rate per 1,000 live births from 90 to 51 by 2030 (MoH, 2013; GoU NDP II, 2015). Interventions to address any health problem require contextual understanding of the problem in question. However, there is limited literature on the possible drivers of low PMTCT- option B+ coverage. This motivated the researcher to conduct this study on the factors influencing breast-feeding beyond one year by HIV-positive mothers attending mother baby care point at Mubende Regional Referral Hospital in Mubende District, Central Uganda.

## 1.4 Objectives of the Study

### 1.4.1 General Objective

To determine the factors influencing breastfeeding beyond one year by HIV-positive mothers attending mother baby care point at Mubende Regional Referral Hospital.

### 1.4.2 Specific Objectives

1. To determine individual factors that influence breastfeeding beyond one year by HIV-positive mothers.
2. To determine the socio-cultural factors influencing breast feeding beyond one year by HIV positive mothers.

3. To determine the health service related factors influencing breast feeding beyond one year by HIV positive mothers.

### 1.5 Research Questions

1. What individual factors influence breastfeeding beyond 1-year by HIV-positive mothers?
2. What socio-cultural factors influence breastfeeding beyond one year by HIV-positive mothers?
3. What health services related factors influence breastfeeding beyond one year?

### 1.6 Scope of the Study

Geographically, this study was conducted from Mubende Regional Referral Hospital, which is located in the Central part of Uganda, at a distance of about 215 KM to the North-West of Kampala Capital City. This study was aimed at determining the factors influencing breastfeeding beyond one year among HIV-positive mothers attending mother baby care point at the hospital. Specifically, the study identified individual factors, socio-cultural factors, and health service related factors influencing breast feeding beyond one year by HIV positive mothers attending the hospital. The research process took duration of about one year from September 2017 to August 2018.

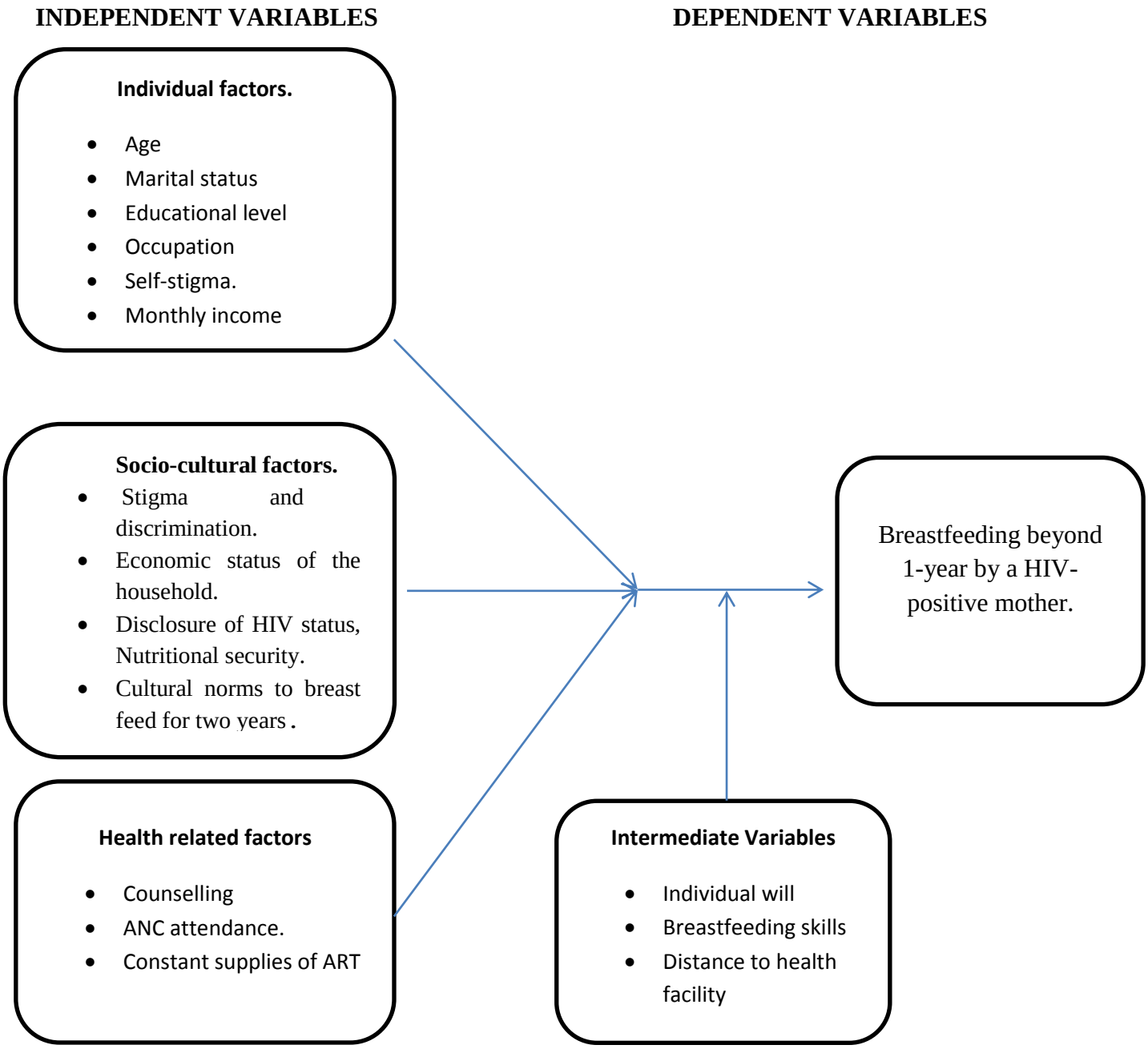
### 1.7 Significance of the Study

EMTCT is now a top goal on both global and national health agenda (UNAIDS 2016). To end the global HIV epidemic, elimination of HIV transmission during pregnancy, labor or delivery and breastfeeding is very critical. However timely cessation of breastfeeding ensures that HIV exposed infants are not infected with HIV/AIDS during breastfeeding period. This assures long term survival and improved quality of life.

By gaining an understanding on factors influencing breastfeeding beyond 1-year among HIV-positive postpartum mothers, health providers will be in position to design evidence-based and specific HIV prevention and counseling messages for postpartum mothers. This will help to ensure timely cessation of breastfeeding at 1-year. Secondly, the findings of this study shall inform the Hospital and district HIV/AIDS task force to design and disseminate local guidelines on breastfeeding in the context of HIV/AIDS as opposed to HIV-negative state. Further, the study will make a contribution to literature base for future researchers, and may be relevant for making contributions to address policies, gaps for further studies, improving the care of people living with HIV, reducing MTCT, for Health education, improve quality of care.

### 1.8 Study Justification

While records at Mubende Regional Referral Hospital indicate that the number of HIV-positive mothers who breastfeed their babies beyond one year, against ministry of health and world health organization recommendations is increasing, there is no record of a study carried out to explore the factors leading to this. Hence this study shall be conducted to identify such factors so as to inform policy and other guidelines in the order to reduce the risk of exposure to mother-to-child transmission of HIV in children born to HIV-positive mothers.



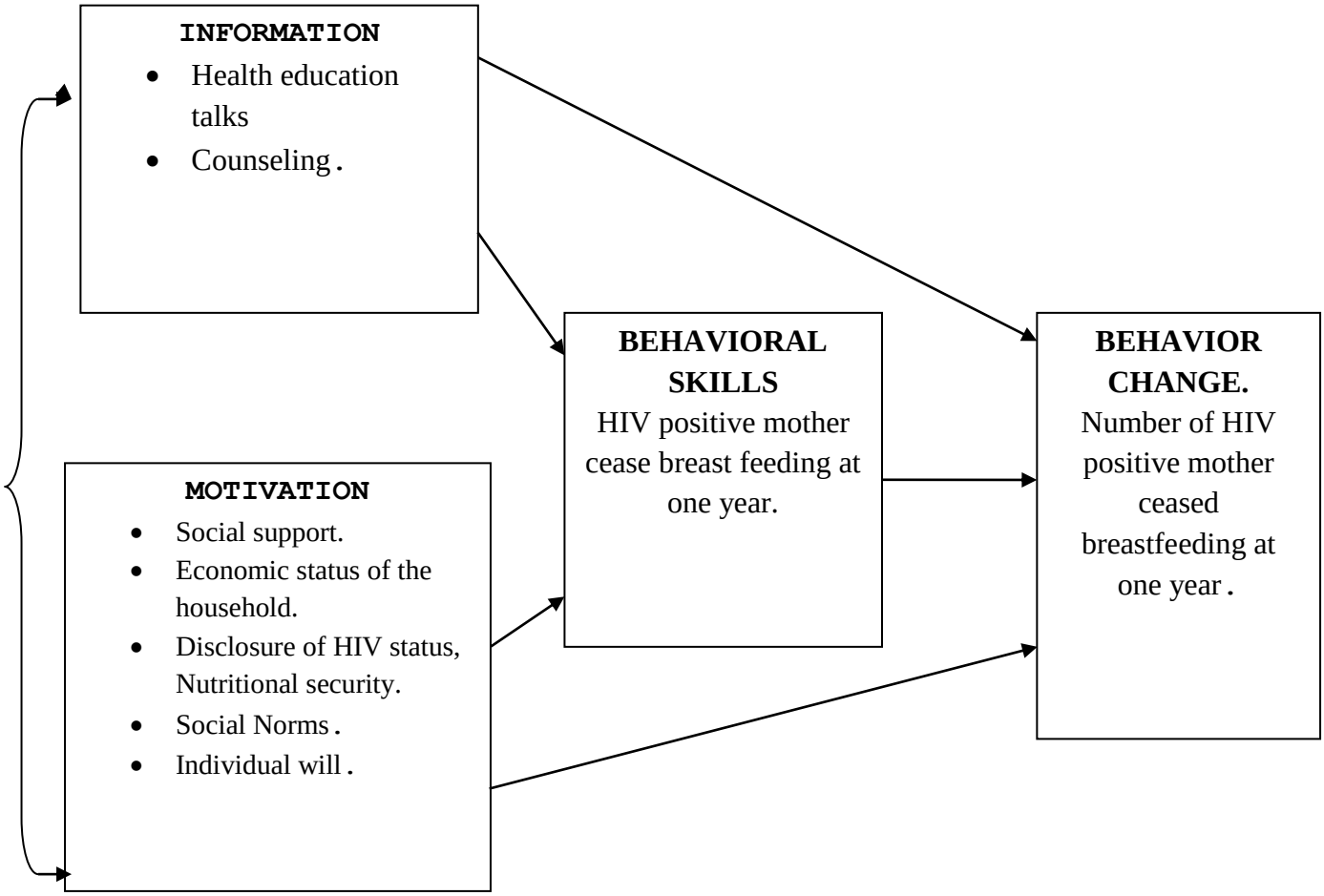

**1.9 Conceptual frame work**

The conceptual frame work has three independent variables. The first independent variable was individual factors such as: level of education, occupational status, monthly income, marital status, stigma and discrimination associated with breast feeding cessation, and knowledge of HIV transmission and prevention in the contest of eMTCT. The second independent variable was health services factors: use of antennal care during recent pregnancy, health education on eMTCT during ANC visits. The third independent variable

was the socio-cultural factors: social support, economic status of the house hold, disclosure of HIV status, nutritional security, and social norms.

The outcome variable was: breastfeeding beyond 1-year by a HIV-positive mother. This was because it depended on the different factors (the independent variables) and intermediate variables were: individual will, breastfeeding skills and distance to the health facility where they receive health services.

### 1.9.1 Theoretical Model




*Adopted with modification: IMB model of health behavior change (Fisher & Fisher, 1992).*

### 1.9.2 Theoretical model

The Information Motivation and Behavioral skill model (IMB) is esteemed by the researcher as a well-suited theoretical model for this study. The IMB model provides a straightforward,

theory-based framework that aims to address IMB deficits to promote behavior change. Specifically, this study will apply the IMB model with the aim of inhibiting factors influencing HIV positive mothers to breastfeed beyond one year, delivered using face to face interviewing techniques in a brief one-on-one and face-to-face counseling session.

The IMB model of health behavioral change by Fisher and Fisher (1992) builds from the theory of planned behavior and reasoned action to foster the adaptation of HIV preventive behaviors in high-risk populations (Fisher & Fisher, 1992). It asserts that the constructs of information and motivation work primarily through behavioral skills to influence preventive behavior. When applied to our target population, HIV-infected mothers who are well informed (they know that prolonged breast feeding exposes the infant at high risk of HIV transmission if practiced beyond 12 months) are well motivated (possess the desire of stopping breastfeed their infants at one year, if supported by their family both financially and mentally) are then likely to apply the necessary skills to engage in preventive behavior (ceasing breastfeeding at one year).

The IMB model offers direction to individual level behavioral change, including recognizing the impact of social normative support on personal motivation toward a behavior. However, should their exist the factors that negatively influence cessation of breast-feeding at one year by HIV-positive mothers such as mothers age, Level of maternal knowledge, economic Status of the mother, perception of mothers, culture and norms, social stigma and discrimination, family influence, disclosure of HIV status, beliefs , health workers, place of delivery, mode of delivery and knowledge of mothers be prohibitive to adopting (cessation breastfeeding at one year), Which makes unable to explain the relationships. If HIV-infected lactating mothers are provided with accurate knowledge, addressing their beliefs and social normative support and equipping them with the behavioral skills necessary to (cease breastfeeding at one year), it is reasonable that mothers may adopt ceasing breastfeeding at one year practice. This study

assesses the factors influencing breast-feeding beyond one year by HIV-positive mothers and then recommend possible ways of an innovative approach to inhibit its promotion (breastfeeding beyond one year).

# CHAPTER TWO

# LITERATURE REVIEW

## 2.0 Introduction

This chapter presents a critical review literature related to factors influencing breast-feeding beyond one year by HIV-positive mothers. Review of literature involves analysis of findings from other studies to identify gaps that the current study will address and how the theoretical model is related to it.

## 2.1 Overview of HIV & AIDS and infant feeding practices

Breastfeeding is the backbone of childhood survival initiatives worldwide. However, infant feeding in the context of human immunodeficiency virus (HIV) poses major dilemmas for both careers and health care workers (HCWs), particularly in resource poor settings where safe and affordable infant feeding options are limited (Hufton and Raven, 2016). Whilst breastfeeding carries some risk of vertical transmission (Wojcicki, 2017), breast milk alone is adequate in meeting the nutritional needs of the majority of infants under 6 months of age (WHO, 2011). It also provides over half of the energy and nutrient intake of infants.

For infants born to women living with HIV in resource limited settings, exclusive breastfeeding where infants receive only breast milk in the first 6 months, is recommended by the World Health Organization (WHO), as it reduces the risk of breast milk transmission of HIV 2–4 fold when compared to mixed feeding in the absence of other interventions (Diji et al., 2017).

Infant and young child feeding in the context of HIV poses significant challenges due to the risk of transmission of the virus via breastfeeding. Prior to WHO (2010) guidelines on HIV and infant feeding, avoidance or early cessation of breastfeeding seemed logical or

appropriate. However, the repercussions for the health and survival of the infants were serious, with studies showing much higher mortality rates due to diarrhea, malnutrition and other diseases in non-breastfed children.

WHO (2010) recommends mothers to safely breast feed exclusively for 6 months and continue breastfeeding until 12 months alongside complimentary feeding after 6 months provided that they or their infants receive ARV drugs during the breast feeding period. Exclusive breast feeding is where an infant receives only breast milk and no other liquids or solids, not even water, with the exception of drops or syrups consisting of vitamins, mineral supplements or medicines (Burgess et al., 2009).

The WHO (2010) recommendations are based on evidence of positive outcomes for HIV-free survival through provision of ARVs to breastfed HIV-exposed infants. Thus the focus is now firmly on ensuring HIV-free survival, not just on preventing transmission (UNAIDS, 2010).

Infant feeding practices vary with individuals in different communities. The comparative preferences are dependent on social, cultural and economic factors (Wojcicki JM, 2017). These include maternal willingness and freedom to choose preferred method, level of maternal knowledge on infant feeding, physical & social support provided during pregnancy, childbirth and postpartum experiences. These factors are, in turn, influenced by familial, medical, cultural attitudes & norms, demographic, economic conditions, commercial pressures, and national policies (Raven, 2016). Thus, to promote optimal breastfeeding and complementary feeding practices, interventions should target individual mothers and the context in which they live. Infant feeding is categorized into breast feeding and replacement feeding.

Replacement feeding involves feeding infants on commercial infant formula feeding, home prepared infant formula, modified breast feeding (expressed heat treated breast milk and wet nursing) and use of unsuitable breast milk substitutes (Oguta et al., 2001).

### 2.1.1 Current HIV and Infant Feeding Recommendations

In late 2009, the WHO reviewed significant programmatic experience and research emerging since the previous review in 2006 (WHO, UNICEF, UNAIDS, UNFPA, 2007). Updated guidelines were published In July 2010 (WHO, 2010) Showing for the first time that:

Provision of appropriate antiretroviral (ARV) interventions to either the HIV-infected breastfeeding mother or her infant can significantly:

- Reduce the mother's viral load, thereby improving her health and reducing her infectivity,
- Reduce the risk of postnatal transmission to the HIV-exposed infant.
- While replacement feeding unquestionably prevents all new postnatal infections, efforts to reduce transmission of HIV by suspending breastfeeding have resulted in increased risk of infant death from other causes. (WHO, 2010)
- The known benefits of breastfeeding to reduce mortality from other infections, justify an approach that strongly recommends the option of breastfeeding plus ARVs as the standard of care (UNICEF, 2011)

The WHO recommends two infant feeding options for HIV exposed infants which are either exclusive breastfeeding for 6 months and cease breast feeding at one year (UNICEF, 2011). Factors such as maternal age, level of education, and income level have been found to affect infant feeding practices (Ukegbu et al., 2011).

## 2.2 Individual Factors That Influence Breastfeeding beyond One Year Among HIV-Positive Mothers

HIV positive women face difficult choices about how to feed their infants, mostly due to inadequate information related to HIV and safe infant feeding (Latham & Preble, 2000), As its stated in. Information Motivation and Behavioral skill model (IMB), the basic principle of 'informed choice' requires that HIV positive women are provided with adequate information before making decision on appropriate infant feeding option (UNAIDS, 2014).

Some HIV-positive mothers decide to continue breastfeeding their babies beyond one year due to personal or individual factors. In a qualitative study of barriers to effectiveness of interventions to prevent mother-to-child transmission of HIV in Arba Minch Ethiopia (Adedimeji et al., 2012), study participants cited personal factors such as non-HIV disclosure, being married, income, and ignorance as potential contributors to breastfeeding beyond one year among HIV-positive mothers. In their arguments, participants were of the view that married HIV-positive mothers who haven't disclosed their HIV status to their spouses and close family members to suspect anything to do with their HIV status. This is more complicated for women who are not employed or those who depend on their spouses for financial support.

Such women hide their positive HIV sero status from their spouses because they fear unfavorable outcomes. In the process, they end up breastfeeding their children for more than one year (Adedimeji et al., 2012). In addition, according to this study (Adedimeji et al., 2012), some women are not aware that prolonged breastfeeding by HIV-positive mothers increases the chances of the mothers infecting her child with HIV. Such mothers continue breastfeeding at the risk of their children. Adedimeji et al., 2012s findings are shared by other findings from studies in other places. Thomas et al. (2011) reported in a study in Kisumu, Kenya that non-disclosure of HIV sero status increases the odds of breastfeeding for more

than one among HIV-positive mothers, more so among those with low economic status. However, Colombini et al., 2016 reported that the risks of partner violence following HIV status disclosure hinders adherence to stipulated infant feeding recommendations among low economic status women.

In another study, Thomas et al., 2011 re-echoes the challenge of ignorance of associated risks as a big contributor to continued breastfeeding among children born to HIV-positive mothers for periods longer than one year. The authors suggested scaling up sensitization programs on the need for cessation of breastfeeding at one year in children born to HIV-positive mothers (Thomas et al., 2011). Thomas et al., (2011) as well as Adedimeji et al., (2012), Colombini et al., (2016) and Maman et al., (2014) further emphasize the need for economic empowerment of women as well as empowering them to be in position to make autonomous decisions as means of promoting breastfeeding session at one year among HIV-positive mothers.

Similar measures as those suggested by Thomas et al in 2011 were also supported by Engebretsen et al. (2010) who reported that in several African settings, due to their poor economic standings in families and societies, women chose not to disclose their HIV status. However, this led to significant challenges as such women opt to continue breastfeeding their children beyond one for fear of reprisals if they do otherwise. Other factors that were highlighted by Engebretsen et al., (2010) are low education levels and marrying at a young age.

Another factor that has been identified as contributing to HIV-positive mother`s breastfeeding their babies for longer than one year is poor maternal knowledge. Maternal knowledge in this context refers to the extent to which HIV-positive mothers understand the risk of breastfeeding their babies beyond one year of age. According to the study by Maman et al., 2014, mothers, especially those with low or no formal education affects women's

capacity to appreciate the importance of breastfeeding cessation at one year among HIV-positive mothers, and this is not helped in case of young age of the mother who is bound to take information from other sources (usually elders and spouse), often times deviating from breastfeeding instructions provided by health personnel

Another challenge is in relation to maternal duties and responsibilities. According to Engebretsen et al., 2010, women experience conflicting roles as mothers, wives and sometimes wage earners. Therefore a woman's infant feeding decisions are influenced by her challenges, including her partner's views on breastfeeding. Women who feel unsupported by their partner with regard to their breastfeeding decisions are less likely to be successful in breastfeeding, just as those who, because of their several responsibilities end up continuing breastfeeding of their babies beyond one year as they might not have time to prepare other feeding options for their HIV-exposed children, in line with (Chaponda et al., 2017).

### 2.3 Socio-Cultural Factors Influencing Breast Feeding Beyond One Year Among HIV-Positive Mothers

Socio-cultural factors influence breastfeeding practices. As such they influence feeding even in the context of HIV. Analyses of the findings in the study in Kenya by (Kimani-Murage et al., 2015) indicate that feeding in children has both social and perspectives. HIV-infected mothers may choose to breastfeed their babies beyond simply because it is the norm in their community. Others do it because of the influence of significant others, especially the elderly like the maternal grandmothers (Kimani-Murage et al., 2015). Similarly, Engebretsen et al., 2010 reported in a study in Eastern Uganda that one factor that affect adherence to breastfeeding guidelines in HIV perspective is that sometimes families opt to follow children feeding norms in their societies of breastfeeding for up to two years.

As also reported in the Kimani-Murage et al., 2015 study, Engebretsen et al., 2010 asserts that some HIV-positive women fear being reprimanded for not breastfeeding according to long-held beliefs and practices in their society. This is supported by the finding in the study by Colombini et al., (2016) in which most participants reported to have learnt or observed their breastfeeding beliefs and practices from their parents, grandparents, spouses or older women in the community. Similarly, in agreement with IMB behavior skill theoretical model most of behaviors are learnt through observing or motivation from others. This therefore complicates breastfeeding in the context of preventing mother-to-child transmission of HIV. It even becomes more complicated in societies where infant feeding decision-making is made a different person instead of the affected HIV-positive mother (Murithi et al., 2015).

Conversely, according to Murithi et al., (2015), in some societies, child feeding among mothers living with HIV is constrained by lack of autonomy, stigma and poverty. Stigma implies that such mothers will do the wrong thing in order to escape reprimand from society and to fit within the social makeup. Further, according to another study, HIV-positive mothers were breastfeeding their babies for more than a year due to their lack of autonomy in infant feeding decision-making, despite being counselled on the best options for them (Sibeko et al., 2009). Similarly, in this society, the communal nature of childcare posed the risk that mothers with babies gather at a given place and time to breastfeed their children at the same times. This elevates the risk of vertical transmission in HIV-exposed children because HIV-positive mothers do not want to miss out on the community breastfeeding for fears of being targeted and reprimanded (Sibeko et al., 2009).

However, support from significant others has also been reported to contribute to breastfeeding success in the perspective HIV, and this is the reason why HIV-positive infant feeding mothers are advised to belong to social help groups because they improve their morale for breastfeeding the rightly. No wonder HIV-positive women who belong to such

groups have been reported not to breastfeed their children beyond one year (Murithi et al., 2015). Further, according to the study by Murithi et al., (2015), it is difficult to stop breastfeeding at one year unless the value of it is known to community members, specifically family members.

The difficulty is reported to be worse among young or adolescent mothers who frequently depend on advice from families members to practice infant feeding, in addition, for adolescent mothers the opinions on infant feeding from families is highly valued especially in circumstances where they depend on the families for financial and emotional support. The study assert that it is difficult for adolescent mothers to decide on her own how to feed the baby by saying "when adolescent mothers express disagreement, families may insist on their own decisions or, less frequently, implement their preferred feeding practices without the mother's consent" Accommodating the family's wishes may be an adaptive coping strategy as adolescent mothers struggle with the enormous challenge of parenting in the midst of their own development (Murithi et al., 2015).

In a different study, McCoy et al., (2015) highlighted the impact of food insecurity in communities which force mothers, including those infected with HIV to breastfeed their children for longer than one year. According to study also (McCoy et al., 2015), food insecurity was reported to be a barrier to prevention of mother-to-child HIV transmission services, which was worsened by having many children. Because of this, mothers tend to prolong the feeding of their babies, even in the context of HIV infection. They prolong the breastfeeding of their children because they don't have adequate food to feed them on. Further, McCoy et al., (2015) reported poor antenatal attendance as a contributor to prolonged breastfeeding among HIV-positive mothers. Mothers who don't attend the antenatal clinic miss out on important information on prevention of mother-child transmission of HIV, including breastfeeding (McCoy et al., 2015).

Another social challenge HIV-positive mothers' face in regards to breastfeeding for just one year is that of family influence, especially in African countries where mothers tend to feed their infants in the same manner in which they themselves were fed and according to the norms and beliefs operational in her environment irrespective of their HIV status (Wojcicki, 2017). Infant breast feeding can be a difficult experience especially to first time mothers, thus social support is very helpful. Lack of social support therefore, has emerged as a key constraining factor on infant breast feeding choices. However in the context of HIV, social support tends to influence breastfeeding beyond one year (Salami et al., 2006). Relatives who generally have the new mother and infant's best interests at heart tend to encourage nursing mothers to breastfeed their infants for longer than one for fear of mothers being blamed for doing otherwise (Chaponda et al., 2017).

Infant feeding choices by HIV-positive mothers have revealed, for example, that breast-feeding as a fundamental cultural practice is highly valued (Laar et al., 2009). Among factors determining the choice of feeding options, barriers mothers encountered included cultural norms such as water supplementation. Davis et al., (2003) in their study in Ghana reported that, water is customarily given to infants shortly after birth since it is believed that following the birthing process, the infant is exhausted and thirsty and requires water to quench his or her thirst. Additionally, giving the infant water is also regarded as a cultural gesture to welcome the child into the world (Abiona et al., 2006; Sadoh et al., 2008). Cultural norms therefore appear to influence HIV-positive mothers feeding choices that could influence of practices like PMTCT-option B+ especially breastfeeding for longer than one year.

Most cultures in Sub-Saharan Africa, for example, tend to determine gender roles. In practice, gardening, looking after children and household chores are the preserve of women and girls. The challenges women face included lack of adequate time to access clean water and having to devote time for other activities including household chores (Atugonza, 2016).

This makes the mothers to prefer breastfeeding for longer than one year even in the HIV context because breastfeeding doesn't require a lot of preparation (Atugonza, 2016). Similarly, according to Laar et al., (2011), the challenges encountered in the preparation of infant replacement feeding (foods) were found to hinder breastfeeding for just one year as recommended in the HIV context. HIV positive mothers with limited time to fetch fire-wood and making fire and time to devote for other household chores prefer to breastfeed for more than one year because it is easier.

According to Kroeker and Beckwith (2011), new mothers may feel uncomfortable contradicting elders and may remain silence about recommendations received at the clinic, especially if they form part of a hierarchical family structure. For mothers living with HIV, studies have shown that going against community norms of feeding prompts questions about mothers' HIV status, unwanted disclosure and fear of stigma from partner's family. Thus, in addition to the threat that HIV poses to child survival, it also affects the cultural conditioning and social relationships of HIV- infected women (Chikonde, et al., 2012).

The 'environment' in which expectant and new mothers find themselves plays a significant role in the choice of feeding method. The people, economic circumstances and social circles that mothers are in contact with influence the well-being of the infant – therefore making breastfeeding a behavior that mothers learn (Chaponda et al., 2017). Social stigma is strongly associated with HIV and the relationship of choice of infant feeding mode (Oguta et al., 2001). In a community where breastfeeding is normative in the strongest sense of the word, choosing replacement feeding would seem abnormal, even prior to the advent of the HIV pandemic. Now there has been sufficient public discussion about transmission of the virus through breast milk that choosing to bottle feed is tantamount to announcing that one is HIV positive. As a consequence of negative community attitudes, women face a very difficult decision about whether to disclose their HIV status, when they learn they are infected.

According to Leshabari et al., (2007) the community in a social setting plays a leading role in adoption of health practices and determines the level of compliance. Health education efforts should, therefore, focus not only on narrowly promoting, for example, EBF up to six months then cease at one year amongst HIV-positive post-partum mothers but also on changing the knowledge, perception, understanding and attitudes of families and communities for such practiced to be adopted (ceasing breast feeding at one year). This social bias may leave the women with no other option but to breastfeed the infant thus increasing the risk of HIV through MTCT via breast milk (FANTA, 2004). According to Thairuet al., (2000), elderly mothers readily disclose their HIV status. Young are in denial of their status and more likely for a longer period compared to older adults (Campbell & MacPhail, 2002; Eaton et al., 2003).

In the context of HIV, Cai et al. (2012), Buskens et al. (2007), Kakute et al. (2005), Wells (2006), and Doherty et al. (2012) have all reported socio-cultural influences to breastfeeding for beyond one year. It could also help to identify cultural factors if any, that influences the adoption of PMTC-option B+ practice in Mubende district that this study sought to investigate. According to Magoni and Giuliano (2005) from the perspective of culture, it is difficult to adhere to exclusive breast feeding at one year because it is considered an alien conception African societies where feeding beyond one year is the norm. Studies have found that entrenched cultural norms have compelled HIV-positive mothers in developing countries, for example, to maintain breast feeding for at least two years feeding (Awumbila, 2003; Davis et al., 2003; Kiarie et al., 2004; Becquet et al., 2005a).

In addition, stigma has served as an additional factor influencing the continuation of breast feeding beyond one year and the failure of HIV-positive mothers to adhere to the guidelines to EMTCT. The advice given by counselors to HIV-positive mothers to either EBF, breastfeeding cessation at ones or ERF thus entails substantial worry for many mothers, as it

simply goes against the local norm of early supplementation of water, juice, herbal mixtures, porridge, and prolonged partial breast-feeding (Becquet et al., 2005b; Leshabari et al., 2007). In some cases, nursing mothers lack support from their spouses/partners, therefore it has been recommended that the involvement of a male partner in antenatal care be integrated into the public health system especially in regards to breastfeeding in the context of HIV (Piwoz et al., 2005).

According to Piwoz et al. (2005), non-disclosure of HIV status to spouse/sexual partner was found to influence breastfeeding for more than one year.

Studies indicate that some of HIV-positive mothers are knowledgeable about the risk of exclusive breast-feeding (de Paoli et al., 2002; Thailand, Talawat et al., 2002; and Thairu et al., 2005). However, while mothers were knowledgeable of infant formula as a replacement option, their knowledge in regards to exclusive breastfeeding was very limited. This was also reported other cross-country studies in Botswana, Kenya, Malawi and Uganda (Chopra and Rollins, 2008) and is common across PMTCT programmes (Koniz-Booher et al., 2004). In terms of practices, the study found that all infants born to the surveyed HIV-positive mothers had been breast-fed. This practice was found to be vital for bonding between a mother and a child and was important for the infants' health. This finding is similar to other studies in Ghana and Tanzania which found that breast-feeding is norm that is a culturally entrenched practice (Awumbila, 2003; Davis et al., 2003; Leshabari et al., 2007).

Studies conducted in a number of African countries have highlighted the important roles influential people in families like grandmothers could play in particular to introduce other liquids and foods to infants early (Bezner et al., 2008; Buskens et al., 2007; Doherty et al., 2006a; Ijumba et al., 2014) and that pressure from ill-informed family and friends may lead to the early cessation of breast-feeding (Ghuman et al., 2009; Kakute et al., 2005; Mamabolo et al., 2004; Mushapi et al., 2008; Sibeko et al., 2005). Traditional advice from family

members have for example, been found to create conflicts with instructions from health care workers (Fjeld et al., 2008; Ostergaard&Bula, 2010).

Empirical studies have found that perception of stigma related to complementary feeding were significant predictors of exclusive breast-feeding of infants (Laar et al, 2009). Unless efforts are made to address such barriers then practices that could reduce the risks of MTCT of HIV will not be easily adopted. Disclosure of a mother's HIV status to a community and even to a husband, for example, appears to be potential causes of problems to HIV-positive postpartum mothers as it could provoke scorn from the community.

Social discrimination appears to be another dimension that could influence failure to stop breastfeeding at one year especially where an object of discrimination is involved. Discrimination in relation to HIV/AIDS is, for example, widespread in Ghana where only 15% of men and 8% of women were found to have accepting attitudes towards people with HIV/AIDS (NACP, 2009). As knowledge of HIV transmission through breast-feeding is disseminated into local communities, a woman opting for replacement feeding was carefully watched (Leshabari et al., 2007). It is not surprising then that women who choose to formula feed did so in secret. Similar studies in Uganda and Tanzania have confirmed that HIV-positive mothers who succeeded in adhering to replacement feeding had disclosed their status to the family members and received support (Leshabari et al., 2007; Matovu et al., 2002).

### 2.4 Health services related factors and breastfeeding beyond one year among HIV positive mothers

Beyond personal factors, and societal factors such as the decision-making processes at the household/community level, health system related factors have been reported to impact infant feeding choices by HIV positive mothers. Murithi et al., (2015) reported that HIV infected mothers express the value that they derive from a health facility-initiated peer group that help

to mitigate the challenges that they experience with adhering to the infant feeding guidance. Similarly, according to Sibeko et al., (2009), health facility-initiated peer support groups are a very useful strategy for channeling prevention of vertical transmission recommendations to communities whilst providing psychosocial support for HIV infected mothers. Further, according to this study, mothers report that their interaction with healthcare workers is beneficial in helping them make informed choices and in enhanced adherence to the infant feeding recommendations (Murithi et al., 2015).

In agreement with IMB theoretical model in health service related factors, motivation is seen as the key factor in adoption of a health practice .In another study, Lunney et al., (2008), healthcare workers are an important influence on HIV-positive mothers' breastfeeding practices. Healthcare workers are mandated to health educate on eMTCT, provide antiretroviral therapy, and infant HIV diagnosis. Therefore, adhering to recommended breastfeeding guidelines is always dependent on the information HIV infected mothers get from healthcare workers (Lunney et al., 2008; Murithi et al., 2015). However, some studies suggests that mothers might not adhere to the infant feeding counseling in the antenatal and postnatal clinics due to the constraints that we have already stated above. Nonetheless, Sibeko et al., (2009) contends that health workers are greatly responsible for the success of failure of breastfeeding expectations of HIV infected mothers. Moreover, clinicians can also potentially improve women's breastfeeding behavior by making them aware of current national or international goals for breastfeeding duration (Engebretsen et al., 2010).

Another factor that influence extended breastfeeding by HIV infected mothers is delays in turnaround time for the results of the infant HIV polymerase chain reaction (PCR) (Adedimeji et al., 2012). This was blamed for limiting the autonomy of some mothers cease from breastfeeding at one year before the results are out (Adedimeji et al., 2012). Without these results, the mothers in the study often opted to continue exclusive breastfeeding for fear

that cessation would increase the chances of their children becoming infected with the virus (Adedimeji et al., 2012). These revelations therefore highlight the need for health care workers to utilize a more empathic approach to the issue of early infant diagnosis, to ensure result come out early so as to give the mothers confidence of reduced risk of transmitting HIV to their children.

In most circumstances, primary health practitioners advise mothers according to formal guidelines without being adequately aware of the mothers' preferences, skills and home circumstances. It is therefore imperative for health care programs and providers to better understand mothers' social circumstances, their beliefs, motivations and behaviors in order to intervene in ways that permit mothers to 'hear' and respond. Customarily, the baby is put to the breast within a short time after delivery. In subsequent weeks breast feeding is used as a comforter/pacifier. The success of reducing HIV transmission through breast milk depends on its ability to change strongly held cultural beliefs and practices (Wojcicki, 2017).

Health care professionals can positively or negatively influence breastfeeding success. Of particular significance are the midwives who al1 too often double up as lactation specialists, and who may be the only entry and exit to health care for the nursing mother. They should be encouraged to acquire knowledge, skills and attitudes necessary to enable mothers make informed choice on infant feeding (Smith and Forrester, 2013).

The role of the health care professional can be very critical in providing women with the information they need to make the decision on how to feed their babies (Ukegbu et al., 2011). Health personnel can inadvertently because of hospital routines such as allowing the mother to rest after a long and difficult labor hinder successful latching and duration of breastfeeding.

Due to increased ART efficacy and access to treatment during the antenatal and delivery period, it is estimated that half of all vertical transmissions occur postpartum through breastfeeding (UNAIDS, 2015). Therefore, effective support programs targeting EBF and medication adherence during the postpartum period are needed to reduce HIV transmissions during this time. The problem of mother-to-child transmission is especially acute in South Africa where Acquired Immune Deficiency Syndrome (AIDS) is the major cause of death in women and children in South Africa, with more than half (53%) of HIV-infected infants dying before 18 months of age (Rollins et al., 2008). In contrast, only 4% of HIV-free South African infants die before 18 months of age (Rollins et al., 2008).

Increasing EBF rates and maintaining ART adherence during the postpartum period is critical to ensuring optimal infant health. The baby friendly initiative and other widespread breastfeeding promotion efforts have been successful is raising breastfeeding throughout the last decade, and continues to play a key role in infant and child feeding (Rollins et al., 2008).

The health services and advice from healthcare providers also tend to influence feeding decisions at key moments that may help maintain recommended practices (Labbok & Taylor, 2008). Practical factors such as travelling away from home, separation from the infant and available formula or food supplies also plays an important role in determining feeding practices (Coutsoudis et al., 2008; Goosen et al., 2014; Sheehan et al., 2010). According to Smith (2004), breast-feeding tends to compete with women's other paid and unpaid work activities, and with commercially marketed baby food products, for maternal time and money resources. There is a real need for societal sharing of the time costs of EBF and infant care in order to relieve time pressures on new mothers within households (Smith & Forrester, 2013).

According to Alade (2013), hospitals through counselors play a major role in advocating recommended infant feeding practices and has been found to be of paramount importance

during antennal visits and mostly soon after delivery in assisting women in their intended feeding choice, decision making as well as actual practice, which lead to lowered risk of mixed feeding. However, Doherty et al., 2017 reports lack of inadequate support from health workers which result in women to change from their intended feeding option as a challenge faced by HIV positive women in sustaining exclusive breastfeeding.

# CHAPTER THREE

# METHODOLOGY

## 3.0 Introduction

This chapter provides a description of the methods that were used in the study. It specifies the study are, study design, the study population, the sample size and selection process to be used, sampling techniques and procedure, data collection methods and instruments, pre-testing, procedure of data collection, data analysis and measurement of variables.

## 3.1 Study Area

The study was conducted at Mubende regional referral hospital in Mubende district and purposively selected .Mubende regional referral hospital has a heavy volume mother baby care point clinic. Mubende regional referral Hospital is a large Public Hospital that serves 684,348 people in the district. It renders outpatient department general care, inpatient department general care, antenatal care, postnatal care, nutrition services, general medical care, pediatric care and intrapartum care among others.

## 3.2 Study Design

A descriptive and an analytical cross sectional study design were used for the assessment. This study design employs a single point of data collection. It proves to be convenient, cheap and not complex and therefore best for the assessment. The assessment also employed both qualitative and quantitative approaches in generation of the desired data. Using this arrangement, the elements of biases and subjectivity from the different methods were greatly minimized given the fact that each research design compliments the other (Barifaijo et al., 2010).

### 3.3 Study Population

The study population was HIV-positive mothers with a recent delivery of at least 1-year duration and above who were attending mother baby care point in Mubende Regional Referral Hospital, Mubende district.

#### 3.3.1 Inclusion Criteria

The respondents who were eligible to participate in the study included mothers who were HIV positive, had a child aged 12 months and above, who were attending mother baby care point in Mubende regional referral hospital, and had consented to participate in the study.

#### 3.3.2 Exclusion criteria

Ineligible respondents included mothers who were mentally ill. Respondents and or their children who were sick and unable to participate in the interview were excluded. And those who refused to consent.

### 3.4 Sample size estimation

The sample size for this study was determined using the

Yamane (1967) formula:

$$n = \frac{N}{1 + N(e)2}$$

Where: *n is sample size*

*N is target population*

*e is coefficient error (taken to be 0.05)*

*10% non- response error rate.*

According to the records at the study area, by March 2018, there were 135 HIV positive mothers with infant`s who were one year old and above (actively participating in clinic activities). Therefore, N for this study was taken to be 116.

Substituting in the formula

$$N = \frac{116}{1+116(0.05*0.05)}$$

= 89.92+11.6 non- response error rate

Then n=101.52

Hence, the sample size for this study was 101 primary respondents.

### 3.5 Sampling Method

Sampling was done using the simple random sampling method, based on the clinic register as the sampling frame. According to Mubende Regional Referral Hospital records there were 116 HIV-positive mothers with infants one year and above. Therefore, by simple random sampling method, the names of all these mothers were written on small pieces of paper of the same size, color and texture in order to ensure uniformity. Thereafter the pieces of paper were placed in a small box. The box was shaken, and a research assistant asked to pick one piece of paper from the box. Without returning, the box was shaken again and another piece of paper picked. This process was repeated until 101 pieces of paper were picked (according to the sample size). The names on the picked pieces of paper represented the mothers who had been sampled to participate in this study as primary respondents.

### 3.6 Study variables

#### 3.6.1 Dependent variable

The outcome variable was: breastfeeding beyond 1-year by a HIV-positive mother. This was because it depended on the different factors (the independent variables).

#### 3.6.2 Independent Variable

The study had three independent variables. The first independent variable was individual factors such as: level of education, occupational status, monthly earnings, household income,

marital status, stigma and discrimination associated with breast feeding cessation, and knowledge of HIV transmission and prevention in the contest of eMTCT. The second independent variable was health services factors: use of antennal care during recent pregnancy, health education on eMTCT during ANC visits. The third independent variable was the socio-cultural factors: social support, economic status of the house hold, disclosure of HIV status, nutritional security, and social norms.

### 3.7 Data source

Data was collected through primary sources, through interviews and focused group discussions.

### 3.8 Data Collection Methods and Tools

Data was collected by a mix of both qualitative and quantitative methods.

#### 3.8.1 Focused Group Discussions (FGD)

This was conducted using a FGD guide, three groups of lactating mothers comprising of 8-12 members. This helped to explore lived experiences regarding breastfeeding in the context of EMCT. The results were considered to be useful in complementing quantitative findings.

#### 3.8.2 Interviewer - Administered Questionnaires

According to Amin (2005), a questionnaire is a self-report instrument used for gathering information about the variables of interest under investigation. The tool is designed to collect information or data using both open and closed ended questions. The researcher prepared a set of interrelated questions about the subject based on the objectives and research questions. Closed ended questions were used because they give specific answers and shorten the interview process, compared to open ended questions. Interviewer – administered questionnaires were used because the respondents were not comfortable with reading and

writing in English language. Therefore translations were made during the interviews with the interviewer asking the questions and then recording the respondent's answers.

### 3.8.4 Data Collection Instruments

These were the tools used to gather data from the selected participants. The researcher used interviewer - administered questionnaires for individual interviews, and interview guide for focus group discussions.

### 3.8.5 Validity and Reliability

The quality of data was ensured by subjecting the data collection instruments to validity and reliability tests. Validity perceived as the extent to which data collection instruments collect or measure the data it is intended to collect or measure.

**Validity Measurements**

To assess the validity of the research questionnaire, researcher consulted research experts who assessed the relevance of each item on the instrument in relation to the set objectives of the study. Items were rated on the scale of: 1-Not relevant, 2- Somehow relevant, 3- Quite relevant, 4 – relevant, and 5- Very relevant. Computations for the content validity index (CVI) which is *CVI= [Number of items rated 4 [10 items] and 5 [13 items] by all experts] divided by [the total number of items on questionnaire]* was done. In this study, the total number of items in questionnaire declared valid by research experts in the current study was 137. The total number of items in the questionnaire was 115.

$$CVI = \frac{105}{115} = 0.913$$

Therefore given that CVI of 0.913 was higher than the recommended CVI of 0.7(Kathuri et al., 1993), the instrument adopted by this study was valid.

**Reliability**

For this study, reliability was ensured by standardizing the questionnaire through pre-testing it. The questionnaire was pre-tested on 20 HIV-positive mothers who were breastfeeding their babies for more than a year at the same hospital but hadn't been sampled to participate in the study. This was aimed at finding out whether the questions would be understandable and un-ambiguous for the respondents. Thereafter, adjustments and simplification were made in the questions so as to help in obtaining the relevant data from clients.

### 3.9 Data management

The researcher secured assistance of two research assistants who were trained and pre-tested the research tools before carrying out the research. The data was cleaned on a daily basis by editing the completed questionnaires to ensure uniformity, accuracy, consistency, status legibility and comprehensibility. This exercise ensured that raw data collected was made ready for entry into the computer and the cleaned data was filed and stored securely for final analysis.

### 3.10 Data Analysis

Under analysis of data, both qualitative and quantitative methods of data analysis were used. Quantitative data was cleaned and entered into the statistical package for social scientists (SPSS). Quantitative data analysis was done using the Peterson's Chi square analysis to determine the contributon of the different factors on HIV-positive mothers breastfeeding their babies for longer than one year. Qualitative data analysis was done through thematic analysis and content analysis following verbatim transcriptions from the interviews.

### 3.11 Quality control

Research Assistants were recruited and trained in sampling of respondents, acquisition of informed consent and data collection. All data collection tools were reviewed in real time by the researcher and assistants to identify and correct errors and omissions. All data collection tools were pretested (described above) to check for its appropriateness, errors, consistency, reliability and validity.

### 3.12 Limitations of the study.

The topic under investigation relates to HIV/AIDS which is a sensitive issue characterized with secrecy and stigma. Some mothers had suspected that the study was aimed at exposing those who are HIV positive and this made them reluctant to give information while others thought the researcher had gone to distribute incentives and drugs.

Due to financial and time constraints the study was only limited to the mothers attending mother baby care point in Mubende hospital. The study was done in Mubende Regional Referral Hospital (Mubende municipality) and generalizing its findings to cover the whole district and other areas has to be done with caution because the views and challenges faced by these mothers could be peculiar to mothers attending mother baby care point in mubende regional referral hospital.

### 3.13 Ethical Considerations

Permission was obtained from the Ethics Review Committee of Uganda Martyrs University to carry out the study. Thereafter permission was sought from administration of MRRH. Written and informed verbal consent was also obtained from each participant after explaining the purpose, benefits and risks of participating in this research study. Participation in the study was strictly on voluntary basis and participants were free to withdraw from the study at

any stage if they so wished. Besides, participants were assured of confidentiality of the information, privacy, respect, non-coercion and respect of their autonomy.

### 3.14 Dissemination of Results

The findings of the study were compiled into a dissertation report and submitted to the Faculty of Health Sciences of Uganda Martyrs University, a manuscript for publication in a peer reviewed high impact journal and research abstract paper were written for sharing at national and international conferences.

# CHAPTER FOUR

# DATA ANALYSIS AND PRESENTATION

## 4.1 Introduction

This study was conducted among 101 HIV-positive mothers with babies older than one year period with the main objective of exploring the factors influencing breastfeeding beyond one year by HIV-positive mothers attending mother baby care point at Mubende Regional Referral Hospital. Specifically, the study set out to identify individual factors, explore socio-cultural factors, and to establish health service related factors influencing breast feeding beyond one year by HIV positive mothers. This chapter presents the analysis and presentation of the findings from the study. The study findings are analyzed and presented using both descriptive and analytical measures.

## 4.2 Individual Factors

These included demographic characteristics and other individual factors.

### 4.2.1 Demographic Characteristics of Respondents

The relevant demographic characteristics considered for this study were are, marital status, education level, occupation, monthly income, and number of children. Table 1 below shows the distribution of respondents according to demographic characteristics.

| Characteristic | Frequency (n = 101) | Percent (%) |
|---|---|---|
| Age (complete years) | | |
| 18 - 24 | 32 | 31.7 |
| 25 - 34 | 52 | 51.5 |
| 35 - 44 | 17 | 16.8 |
| Marital status | | |
| Married | 66 | 65.3 |
| Living with partner | 18 | 17.8 |
| Widowed | 17 | 16.8 |
| Education Level | | |
| No formal education | 14 | 13.9 |
| Primary | 48 | 47.5 |
| 'O' Level | 32 | 31.7 |
| 'A' Level | 7 | 6.9 |
| Occupation | | |
| Peasant farmers | 55 | 54.5 |
| Petty businesses Salaried | 33 | 32.7 |
| employment | 13 | 12.8 |
| Average monthly income (UGX) | | |
| ≤50,000 | 48 | 47.5 |
| More than 50,000 | 53 | 52.5 |
| Number of children | | |
| 1 - 2 | 43 | 42.6 |
| 3 or more | 58 | 57.4 |

**Table 1: Demographic Characteristics Respondents**

According to the study findings (table 1), slightly more than a half, 52(51.5%) of study participants were aged 25 – 34 years. The least were those older than 34 years. Most, 66(65.3%) were married. Majority, 48(47.5%) had primary level education, the least being those with 'A' level education. More than a half, 55(54.5%) were Peasant farmers, while the least were those in salaried employment.Slightly more than a half, 53(52.5%) had average monthly income of UGX. more than 50,000, but a good proportion of them were earning less than UGX. 50,000. Majority, 58(57.4%) had 3 or more children, while 43(42.6%) had 1 – 2 children.

### 4.2.2 Other individual Factors

The other individual factors considered in this study were: awareness about HIV transmission through breast feeding, and whether an HIV-positive mother breastfeeding for more than one year increases the risk of mother-to-child transmission of HIV. Other included ANC attendance, disclosure of HIV serostatus, ARV use, and age and HIV sero status of latest child.

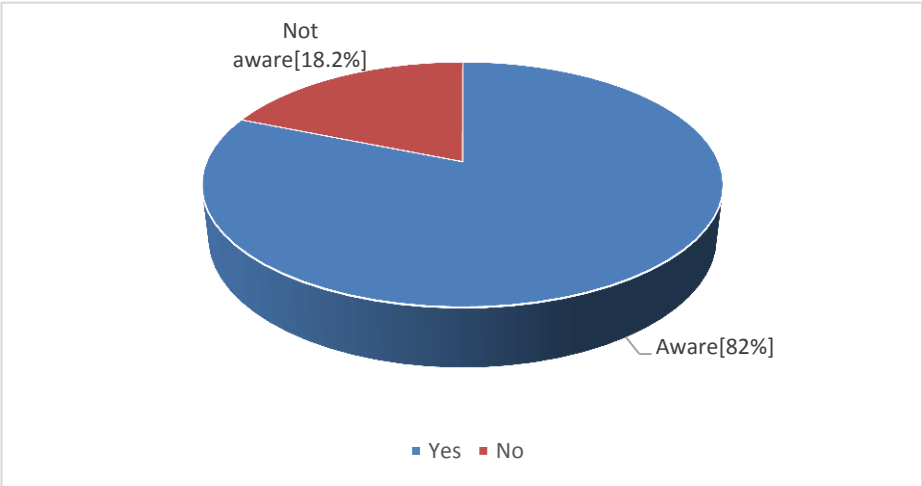



**Figure 1: Awareness about HIV Transmission through Breast Feeding (n = 101)**

From figure 1 above, more than three quarters, 82(81.2%) of the study participants were aware that HIV can be transmitted through breastfeeding.

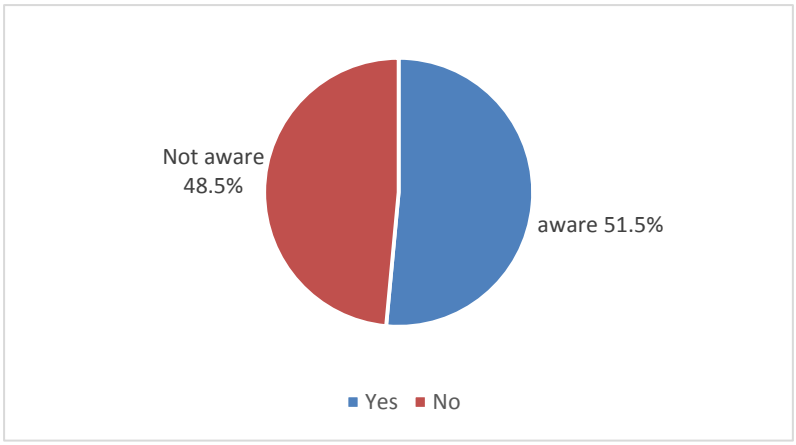



**Figure 2: Awareness about Increased Risk of MTCT of HIV through Extended Breast Feeding (n = 101)**

According to study results in figure 2 above, slightly more than a half, 52(51.5%) of the study respondents were aware about the increased risk of MTCT of HIV through breastfeeding for longer than one year. However, a big proportion of them, 49(48.5%) were not ware about it.

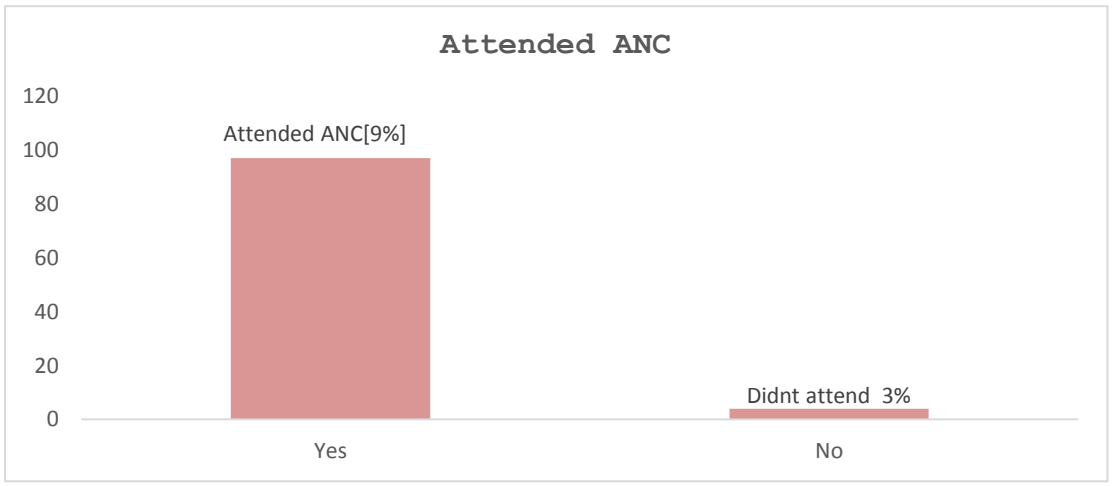



**Figure 3: Antenatal Attendance (n = 101)**

Almost all, 97(96.0%) study participants reported attending the antenatal clinic during their latest pregnancy. However, a sizeable proportion of them did not attend (figure 3).

| Factor | Frequency (n = 101) | Percent (%) |
|---|---|---|
| Disclosed HIV serostatus | | |
| Yes | 57 | 56.4 |
| No | 44 | 43.6 |
| On ART | | |
| Yes | 97 | 96.0 |
| No | 4 | 4.0 |
| Age of latest child | | |
| Older than 1 but less than 1 year and a half years | 66 | 65.3 |
| Older than 1 year and a half years | 35 | 34.7 |
| Knows HIV status of latest child | | |
| Yes | 78 | 77.2 |
| No | 23 | 22.8 |

**Table 2: Disclosure of HIV sero-status, ARV use, Age and HIV sero status of latest child**

From study findings (table 2), more than a half, 57(56.4%) of study respondents had disclosed their HIV sero status to spouse or the people she stays with, but a good proportion of them, 44(43.6%) had not. Almost all, 97(96.0%) were on ART. For majority of them, 66(65.3%), their babies were older than 1 but less than 1 year and a half years. More than three quarters, 78(77.2%) were aware of the HIV status of latest child, but a good proportion of them didn't know it

### 4.3 Socio-cultural Factors

To find out socio-cultural factors, respondents were asked whether their culture or community setting require that every child should be breastfeed for at least two years, and if yes, for what reason (s), and whether it is a requirement even for children born to HIV-

positive mothers. They were also assessed for stigma and/or discrimination associated with breast feeding cessation before two years. Table 3 below shows study findings according to socio-cultural factors.

According to study findings (table 3), all respondents, 101(100.0%) said that their culture or communities required that every child be breastfeed for at least two years, and the reasons were mostly for the benefit of the child, especially for good nourishment, and helping the child to grow well (table 3). However, according to majority of them, 95&94.1%) breastfeed for at least two years was not a requirement for babies born to HIV-positive mothers. Further, while majority of them, 89(88.1%) didn't report about stigma/discrimination, a sizeable proportion of them, 12(11.9%) reported existence of stigma/discrimination in relation to breastfeeding cessation before two years, mainly labeling mothers as being HIV-positive or as not caring enough for their babies (table 3).

| Factor | Frequency (n = 101) | Percent (%) |
|---|---|---|
| Culture or community requires that every child should be breastfeed for at least two years | | |
| Yes | 101 | 100.0 |
| No | 0 | 0.0 |
| Reasons for culture to require breastfeeding for at least two years | | |
| Best nourishment in children | 25 | 24.8 |
| Causes intelligence | 10 | 9.9 |
| Helps babies to grow well | 64 | 63.4 |
| It is a family planning method | 2 | 2.0 |
| Breastfeeding for at least two years is a requirement even for children born to HIV-positive mothers | | |
| Yes | 6 | 5.9 |
| No | 95 | 94.1 |
| Existence of stigma and/or discrimination associated with breast feeding cessation before two years | | |
| Yes | 12 | 11.9 |
| No | 89 | 88.1 |
| Forms of stigma | | |
| Labeled HIV-positive | 2 | 2.0 |
| labeled as not caring enough for their babies | 10 | 9.9 |
| Not applicable | 89 | 88.1 |

**Table 3 Study Findings According to Socio-Cultural Factors**

### 4.4 Health Service Related Factors

Respondents were asked if they received any form of counseling on infant feeding in context to HIV, whether the health service provider encouraged them to cease breastfeeding when the child turns one year of age, whether they had access to constant supplies of ART every time you have come to the health facility, and whether the healthcare provider gave them on-going

information about the way they should feed their babies. Findings are indicated in table 4 below.

| Factor | Frequency (n = 101) | Percent (%) |
|---|---|---|
| Counselled on infant feeding in context to HIV | | |
| Yes | 86 | 85.1 |
| No | 15 | 14.9 |
| Encouraged to cease breastfeed when the child turns one year | | |
| Yes | 90 | 89.1 |
| No | 11 | 10.9 |
| Gets constant supplies of ARVs | | |
| Yes | 94 | 93.1 |
| No | 7 | 6.9 |
| Receives on-going information on how to feed the baby | | |
| Yes | 90 | 89.1 |
| No | 11 | 10.9 |

**Table 4 Shows Health Service Related Factors of HIV-Positive Mothers Breastfeeding beyond One Year**

From study findings (table 4), majority of respondents, 86(85.1%) reported being counselled on infant feeding in context to HIV, but a sizeable proportion of them reported not being counselled on the same. Majority, 90(89.1%) reported being encouraged by a health worker, to cease breastfeed when the child turns one year. Majority, 94(93.1%) reported getting constant supplies of ARVs, and receiving on-going information on how to feed the baby, 90(89.1%). However, it is worth noting that some of the study respondents reported not being encouraged by a health worker to cease breastfeed when the child turns one year, not getting constant supplies of ARVs, and not receiving on-going information on how to feed the baby.

### 4.5 Health Service Related Factors

Respondents were asked how they were feeding their latest child (babies). As indicated in figure 4 below, majority of them, 89(88.1%) were still breastfeeding them. Only 12(11.9%) of them reported not breastfeeding their babies.

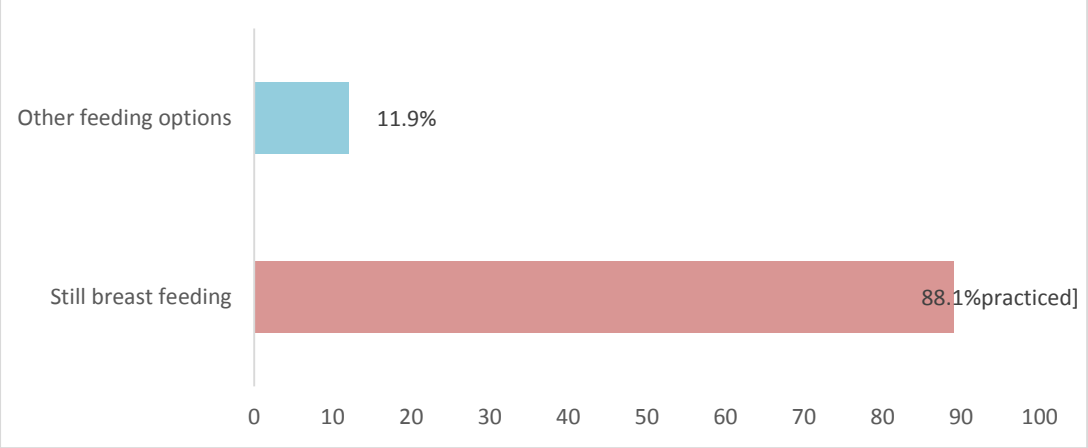



**Figure 4: Feeding Practice of Children Born to HIV-Positive Mothers (n = 101)**

### 4.6 Factors Associated with Breastfeeding beyond One Year by HIV-Positive Mothers

Results in table 5 below indicate that demographic factors such as age, marital status, education level, and number of children were not associated with HIV-positive mothers breastfeeding their babies for longer than one year. The only factors that were found to influence HIV--positive mothers breastfeeding their babies for longer than one year were Occupation (p = 0.004) and income (p = 0.023). Similarly, from FGD, limited incomes were highlighted to be influencing breastfeeding beyond one year among HIV- positive mothers. This is evidenced from the quotes below:

> *"……..Some HIV-positive mothers continue to breastfeed their babies beyond one year because they limited incomes. Such incomes make it hard for them to get other means of feeding their children better……" (P.1, P.3, P.4, P.5)*
>
> *"……Some mothers are poor. They don't have money to buy others items like sugar and food for feeding their babies. Because of this, they decide to risk and continue breastfeeding until such a time when they are able to get the food items that the child can adequately feed on……"(P. 6, P.1, P.2, P.4)*

*"……..It is sometimes hard to stop breastfeeding at one year because it requires money to buy substitute food items. If you don't have that money, you will be forced to continue breastfeeding because you don't want your child to starve……" (P.6, P.1, P.4)*

*".…..if a woman doesn't work, and she doesn't have anyone to support her financially, the she will not be able to buy food for her baby, so she will continue to breastfeed……" (P.1, P.7, P.8).*

*"……...Some husband refuse to give their wives money to buy food for their babies. This forces some women to continue breastfeeding even when they know the risk of transferring HIV to their children……"(P. 3, P.2, P. 4,).*

| **Characteristic** | **Feeding Practice** | | $\chi^2$ | **df** | **p-value** |
|---|---|---|---|---|---|
| | Breast feeding **Freq. (%)** | Not breast feeding **Freq. (%)** | | | |
| Age (in years) | | | | | |
| ≤34 | 76(85.4) | 8(66.7) | 2.649 | 1 | 0.105 |
| ≥35 | 13(14.6) | 4(33.3) | | | |
| Marital status | | | | | |
| Married | 77(84.6) | 9(90.0) | 1.109 | 1 | 0.295 |
| Not married | 14(15.4) | 1(10. 0) | | | |
| Education Level | | | | | |
| No formal education | 11(12.4) | 3(25.0) | 1.415 | 1 | 0.237 |
| Some formal education | 78(87.6) | 9(75.0) | | | |
| Occupation | | | | | |
| Peasant farmer | 48(53.9) | 7(58.3) | 0.083 | 1 | **0.04*** |
| Other occupations | 41(46.1) | 5(41.7) | | | |
| Income | | | | | |
| ≤50,000 | 46(87.23) | 2(12.77) | 5.200 | 1 | **0.023*** |
| >50,000 | 43(85.71) | 10(14.29) | | | |
| No. of children | | | | | |
| Yes | 40(44.9) | 3(25.0) | 1.720 | 1 | 0.192 |
| No | 49(55.1) | 9(75.0) | | | |

***p < 0.05**

**Table 5: Demographic Factors Associated with HIV-Positive Mothers Breastfeeding beyond One Year**

| Factor | Feeding Practice | | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|
| | Breast feeding Freq. (%) | Not breast feeding Freq. (%) | | | |
| Aware of HIV transmission through breast feeding | | | | | |
| Yes | 73(82.0) | 9(75.0) | 0.341 | 1 | 0.561 |
| No | 16(18.0) | 3(25.0) | | | |
| Aware about increased risk of MTCT of HIV due to breastfeeding for more than 1 year | | | | | |
| Yes | 44(49.4) | 8(66.7) | 1.257 | 1 | 0.209 |
| No | 45(50.6) | 4(33.3) | | | |
| ANC Attendance | | | | | |
| Yes | 85(95.5) | 12(100.0) | 0.454 | 1 | 0.598 |
| No | 4(5.5) | 0(0.0) | | | |
| Disclosed HIV serostatus | | | | | |
| Yes | 53(59.6) | 4(33.3) | 2.956 | 1 | **0.02*** |
| No | 36(40.4) | 8(66.7) | | | |
| On ART | | | | | |
| Yes | 85(95.5) | 12(100.0) | 0.562 | 1 | 0.598 |
| No | 4(4.5) | 0(0.0) | | | |
| Age of latest child | | | | | |
| Older than 1 but less than 1 year and a half | 56(62.9) | 10(83.3) | 1.946 | 1 | **0.014*** |
| Older than 1 year and a half | 33(37.1) | 2(16.7) | | | |
| Knows child's HIV status | | | | | |
| Yes | 69(77.5) | 9(75.0) | 0.038 | 1 | 0.546 |
| No | 20(22.5) | 3(25.0) | | | |

***p < 0.05**

**Table 6: Other Individual Factors Associated with Breastfeeding beyondOne Year by HIV-Positive Mothers**

According to results in table 6 above, the other individual factors such as awareness about HIV transmission through breast feeding, awareness about increased risk of MTCT of HIV due to breastfeeding for more than 1 year,ANC Attendance, being on ART, and knowing the HIV status of the latest child was not associated with HIV-positive mothers breastfeeding their babies for longer than one year. The only factors that were found to significantly

influence HIV-positive mothers breastfeeding their babies for longer than one year were disclosure of HIV sero-status($p = 0.02$), and age of the child ($p = 0.014$).

In addition to quantitative analysis finding from FGD`S, non-disclosure of HIV sero status was mentioned by participants as contributing to breastfeeding beyond one year among HIV-positive mothers, as indicated from their quotes below:

> *"…….Some women fear disclosing their positive HIV sero status to their spouses or to close family members…… You might stop breastfeeding and then your spouse asks why you have stopped. So, due to fear of telling him the correct answer, you just continue breastfeeding your baby so as to make him not to suspect anything……" (FGD 2; P.3, P.5).*

> *"……A mother might continue breastfeeding her baby beyond one year if she has not disclosed her positive HIV sero status to her spouse. Such a woman has fears, like what will my spouse think if he sees me not breastfeeding……" (FGD3; P.3).*

> *"……Apart from disclosing to the spouse, a mother might fear to disclose her positive HIV sero status to other close family members. This causes her to continue breastfeeding because she doesn't want them to suspect anything……" (FGD 1; P.6, P.7)*

**Other Factors**

According to FGD`s, some HIV-positive mothers continue breastfeeding their babies beyond one year due to maternal instinct, as reflected in the following quotes:

> *"…some babies take only breast milk and nothing else…..they refuse otherfeeds……" (FGD 2;P.2, P.4, P.5)*

> *"……you might stop breastfeeding but the baby will cry and refuse to eat other food items apart from breast milk. As a mother, you feel pity for your baby and therefore breastfeed him (or her) because you don't want him/her to starve……" (FGD1;P.8)*

> *"……breastfeeding is good……as mothers we enjoy while breastfeeding our babies, so it becomes had to stop abruptly when the child turns one year…..maybe it should be done in phases and not abrupt as it is now ……" (FGD 1;P.8)*

> *"…….It is hard to abruptly stop breastfeeding. If the child has been used to breastfeeding, it becomes hard to stop him/her. You find that you have no choice but to continue breastfeeding especially when the child over cries because of hunger……"(FGD 3;P.1).*

*"……some of mothers them continue breastfeeding because their children are sickly. Such mothers fear stopping to breastfeed their babies who are sick……"(FGD 2;P.5).*

Some HIV-positive mothers continue breastfeeding their babies beyond one year as a family planning measure, as reflected in the following quotes:

*"……There are mothers who don't want to use family planning methods and yet breastfeeding helps them. Such mothers continue breastfeeding their babies for even beyond one because they think that protects them from pregnancy……"(FGD 2;P.2, P.5, P.7).*

*"…….Some of us are highly fertile, as soon as you stop breastfeeding you become pregnant. That is why I continued breastfeeding because I don't want to become pregnant at the moment……" (FGD 1;P.3)*

**Socio-Cultural Factors**

According to results (table 7), there was no significant association between socio-cultural factors and HIV-positive mothers breastfeeding their babies for longer than one year, except stigma ($p = 0.04$).

In FGD, cultural requirement was mentioned by participants as to why HIV-positive mothers continue breastfeeding their babies beyond one year, as reflected in the following quotes:

*"……..In our culture, children are supposed to be breastfed for at least two years. This influences some mothers to continue breastfeeding their babies even in the context of HIV. They don't heed the guidance from health workers on not breastfeeding beyond one year……" (FGD 2;P.1)*

| Factor | Feeding Practice | | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|
| | Breast feeding **Freq. (%)** | Not breast feeding **Freq. (%)** | | | |
| Breastfeeding for at least two years is a requirement even for children born to HIV-positive mothers | | | | | |
| Yes | 5(5.6) | 1(8.3) | 0.709 | 1 | 0.541 |
| No | 84(94.3) | 11(91.7) | | | |
| Stigma and/or discrimination associated with breast feeding cessation before two years | | | | | |
| Yes | 12(13.5) | 0(0.0) | 1.257 | 1 | **0.04*** |
| No | 77(86.5) | 12(100.0) | | | |
| Forms of stigma | | | | | |
| Labelled HIV-positive | 2(16.7) | 0(0.0) | 1.836 | 1 | 0.202 |
| Labelled as not caring enough for their babies | 10(83.3) | 0(0.0) | | | |

***p < 0.05**

**Table 7: Socio-cultural Factors Associated with Breastfeeding beyond One Year**

**Health System Factors**

According to results in table 8 above, there was no significant association between health system factors and HIV-positive mothers breastfeeding their babies for longer than one year, except constant supplies of ARVs (p = 0.03).

| Factor | Feeding Practice | | $\chi^2$ | df | p-value |
|---|---|---|---|---|---|
| | Breast feeding **Freq. (%)** | Not breast feeding **Freq. (%)** | | | |
| Counselling on infant feeding in the context to HIV | | | | | |
| Yes | 74(83.1) | 12(100.0) | 2.375 | 1 | 0.125 |
| No | 15(16.9) | 0(0.0) | | | |
| Encouraged by health worker to cease breastfeed when the child turns one year of age | | | | | |
| Yes | 78(87.6) | 12(100.0) | 1.664 | 1 | 0.352 |
| No | 11(12.4) | 0(00.0) | | | |
| Gets constant supplies of ARVs | | | | | |
| Yes | 82(92.1) | 12(100.0) | 1.014 | 1 | **0.03*** |
| No | 7(5.8) | 0(0.0) | | | |
| Receives on-going information on baby feeding | | | | | |
| Yes | 78(87.6) | 12(100.0) | 1.664 | 1 | 0.352 |
| No | 11(12.4) | 0(0.0) | | | |

***p < 0.05**

**Table 8: Health System Factors Associated with Breastfeeding beyond One Year**

However, inadequate counselling was mentioned by participants in FGD as contributing to breastfeeding beyond one year among HIV- positive mothers, as indicated from their quotes below:

> *"……HIV-positive mothers should be close to health workers so as to keep consulting them in case they need any advice or information on child feeing……." (FGD 2; P. 3)*

> *"……..There is need for continuous counselling of HIV-positive mothers to properly understand the dangers of continued breastfeeding of their children beyond one years……." (FGD 3;P. 5)*

> *"……..Counselling should involve even the spouses of the HIV-positive mothers so that they can remind their wives to follow the instructions given by the health worker……."(FGD 3;P. 6)*

Further, FGDs inadequate information or the lack of it was mentioned by participants as contributing to breastfeeding beyond one year among HIV- positive mothers, as indicated from their quotes below:

> *"……..For me I continued breastfeeding because I didn't know that I was supposed to stop at exactly one year. No health worker gave me such information……." (FGD 1; P.2, P.5, P.7).*

*"……Some mothers don't understand what health workers tell them in line with feeding their children……." (FGD1;P.2, P.5, P.8).*

The variables that showed significant influence in Fisher's exact test analysis were subjected to Logistic linear regression for multivariate analysis to get the Adjusted Odds Ratios (AOR) and corresponding 95% CI.

| **Variable** | **Breastfeeding for one year and less** **N = 12** **Number (%)** | **Breastfeeding beyond one year** **N = 89** **Number (%)** | **df** | **P-value** |
|---|---|---|---|---|
| **Participant Age (years)** | | | | |
| **Below 34** | 8(9.5) | 76(90.5) | | |
| **34 and above** | 4(23.5) | 13 (76.5) | 1 | 0.115 |
| **Marital status** | | | | |
| Married | 9(10.5) | 77(89.5) | | |
| **Not married** | 3(20.0) | 12(80.0) | 1 | 0.380 |
| **Education level** | | | | |
| **No formal e**ducation | 3(21.4) | 11(78.6) | | |
| **Some level of formal education** | 9(10.3) | 78(89.7) | 1 | 0.366 |
| **Occupation** | | | | |
| Peasant farmers | 7(12.7) | 48(87.3) | | |
| **Other** Employment | 5(10.9) | 41(89.1) | 1 | 1 |
| **Average monthly income** | | | | |

| | | | | |
|---|---|---|---|---|
| ≤ 50,000 | 2(4.2) | 46(95.8) | | |
| More than 50,000 | 10(18.9) | 43(81.1) | 1 | 0.030 |
| **Number of children** | | | | |
| 1 – 2 | 3(6.9) | 40(93.1) | | |
| 3 or more | 9(15.5) | 49 (84.5) | 1 | 0.228 |
| **Aware of HIV transmission** | | | | |
| **Yes** | 9(11.0) | 73(89.0) | | |
| **No** | 3 (15.8) | 16(84.2) | 1 | 0.693 |

**Table 5: Bivariate analysis for factors influencing Breastfeeding beyond one year**

The variable that were significantly associated with breastfeeding beyond one year at 0.05 level of significance are Average monthly income and Age of the mother. Mothers with monthly income greater than 50,000 were less likely to breastfeed their children beyond one year than those whose average montly income is 50,000 or less as shown in the table above.

**Multivariate analysis**

All independent variables that had P-valsues less than 0.2 at bivariate analysis were considered for multivariate analysis. Education level and Occupation were also considered for analysis for multivariate analysis since they were already known to be significant predictors to breastfeeding beyond one year in HIV-positive mothers.

| | AOR | 95%CI | P-value |
|---|---|---|---|
| **Average monthly income** | | | |
| ≤ 50,000 | 1 | | |
| More than 50,000 | 0.24 | 0.05 – 1.21 | 0.085 |
| **Marital status** | | | |
| Married | 1 | | |
| **Not married** | 0.34 | 0.02 – 3.52 | 0.206 |
| **Awareness of HIV transmission** | | | |
| No | 1 | | |
| Yes | 1.63 | 0.33 – 7.96 | 0.546 |
| **Age of Participant** | | | |
| 18 – 24 | 1 | | |
| 25 and above | 1.43 | 0.32 – 6.45 | 0.638 |

**Table 6: Multivariate analysis for factors associated with Breastfeeding beyond one year .s**

The significant independent varaibale at the mulitivaraible analysis at 0.05 set level of significance was average monthly income. Marital status of mother was confounding average monthly income. while Awareness of HIV transmission and Age were confounding marital status. Also age was found to confound marital status.

Mothers with an an average income more than 50,000 were less likely to breastfeed beyond 1 year [OR 0.24, CI(0.05 – 1.21)]more especially if they were widowed and age between 18 – 24 compared to mothers who were earning less than 50,000.

**Income**

Income was found to significantly influence HIV-positive mothers breastfeeding beyond one year (COR = 2.137, 95% CI = 2.342 - 4.294, p = 0.03). Those who had a monthly income less or equal to Uganda shillings 50,000 were two times more likely to continue breastfeeding their babies beyond one year. Further on multivariate analysis, HIV-positive mothers with a monthly income less or equal to Uganda shillings 50,000 were more likely to continue breastfeeding their babies beyond one year (AOR = 0.24, 95% CI = 0.05 – 1.21, Pvalue = 0.085).

**Disclosure of HIV serostatus**

Mothers who had not disclosed their HIV sero status to their partners or close family members were about four times more likely to continue breastfeeding their babies beyond one year (COR = 0.2321, 95% CI = 2.132 - 5.293, p = 0.02). Similarly, on multivariate analysis, mothers who had not disclosed their HIV sero status to their partners or close family members were about two times more likely to continue breastfeeding their babies beyond one year (AOR = 0.432, 95% CI = 2.131 - 4.379, p = 0.04).

**Stigma and/or discrimination**

Stigma and/ or discrimination wasfound to significantly influence HIV-positive mothers breastfeeding beyond one year (COR = 0.273, 95% CI = 1.353 - 4.331, p = 0.05). Therefore, those who had experienced stigma and/ or discrimination were about four times more likely to continue breastfeeding their babies beyond one year. Further, on multivariate analysis, those who experienced stigma and/ or discrimination were about two times more likely to breastfeed their babies beyond one year (AOR = 0.515, 95% CI = 0.541- 1.389, p = 0.03).

**Supplies of ART**

Access to ART supplies was found to be about two times significant in influencing breastfeeding beyond one year among HIV-positive mothers(COR = 2.151, 95% CI = 0.421 - 1.211, p = 0.03). However, on multivariate analysis, access to supplies of ART was found not

to be significant in influencing breastfeeding beyond one year among HIV-positive mothers (AOR = 2.416, 95% CI = 0.792- 3.349, p = 0.058). This implies that there were confounding factors.

# CHAPTER FIVE

# DISCUSSION, SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents the discussion, summary, conclusion, and recommendations from the major findings of the study.

## 5.2 Discussion

From study findings, on multivariate analysis, only three factors, income, non-disclosure of HIV serostatus, and stigma and/or discrimination were found to be significant in influence HIV-positive mothers breastfeeding their babies beyond one year.

### Income

According to the study, slightly more than a half, 53(52.5%) of the respondents had average monthly income of UGX more than 50,000, but a good proportion of them were earning less than UGX 50,000. Probably their low income makes it hard for them to consider other feeding options for their HIV-exposed children older than one year. Also the mothers earning more than 50,000 were and were married were more likely to consider other feeding options for their children probably because they are employed and can afford other feeding options. This finding however, is in agreement with Hufton and Raven, 2016) and Maman et al. (2014) who also reported low income as a contributing HIV-positive mothers breastfeeding their babies beyond one year. This finding is also supported by findings from FGDs which also reported limited incomes and financial challenges as fueling breastfeeding beyond one year among HIV-positive mothers.

However, the finding is in disagreement with Burgess et al. (2009) who reported incomes as not being important in influencing HIV-positive mothers breastfeeding their babies beyond

one year. Nonetheless, the differences in findings can be attributed to differences in study timings, with the current study happening nine years after the Burgess et al. (2009) study, which is a significant time period associated with several changes.

**Non-Disclosure of HIV Serostatus**

According to the study, more than a half, 57(56.4%) of study respondents had disclosed their HIV sero status to spouse or the people she stays with, but a good proportion of them, 44(43.6%) had not. Disclosure of HIV sero-status to spouse of close relative, or the lack of can influence the breastfeeding beyond one year. In the current study, disclosure of HIV serostatus to spouse of close relative was found to influence HIV-positive mothers to breastfeed their babies beyond one year, and this can probably be attributed to anticipated benefits or risk associated with a positive HIV status disclosure. This finding agrees with Thomas et al. (2011), Adedimeji et al. (2012) and Colombini et al. (2016) who have also reported disclosure of HIV sero-status to spouse or close relative influence HIV-positive mothers to breastfeed their babies beyond one year.

The above findings on HIV sero-status disclosure were supported by findings from FGDs which also highlighted that non-disclosure of HIV sero status increases chances of breastfeeding beyond one year among HIV-positive mothers.

**Stigma and/or Discrimination**

Stigma and/or discrimination was the only socio-cultural factor found to significantly influence HIV-positive mothers breastfeeding their babies for beyond one year. This can probably be attributed to the high level of stigma and discrimination melted against HIV-positive persons, which probably extends to even on matters regarding child feeding. This finding is in agreement with study findings by Engebretsen et al. (2010) and Kimani-Murage et al. (2015) which also reported stigma as influencing HIV-positive mother`s breastfeeding

their babies beyond one year. The finding however, disagrees with Colombini et al. (2016) who didn't report stigma and discrimination as influencing HIV-positive mother`s breastfeeding their babies beyond one year. The differences in findings can be attributed to differences in study findings where by the Colombini et al. (2016) study was conducted in a study where stigma and discrimination against HIV is not very pronounced.

It is worth noting however, that all study respondents, 101(100.0%) reported that it was a requirement in their culture that babies be breastfed for at least two years (table 3). This could probably have led to some of them to continue breastfeeding even in the context of HIV/AIDS, as was also reported in the study by Thomas et al. (2011) which recommended a scaling up sensitization programs on the need for cessation of breastfeeding at one year in children born to HIV-positive mothers. This finding is also supported by findings from FGDs which also indicated that cultural reasons were behind HIV-positive mothers continuing to breastfeed their babies beyond one year.

In the current study, it was noting that in the finally analysis, there was no health service-related factor that was found to influence HIV-positive mothers breastfeeding their babies beyond one year. Probably this was because of an effective health system that supports HIV-positive breastfeeding mothers in ensuring that they don't pass on the virus to their unborn babies. However, in the focus group discussions, it came out that access to supplies of ARVs ($p = 0.03$) was associated with these mother breastfeeding beyond one year. Probably this gave these mothers confidence that their life is better with ARVs, which probably makes them confident to breastfeed their babies beyond one year since ARVs reduce the viral load of HIV, hence reducing the chances of mother-to-child transmission of the virus. This finding agrees with the study by Wojcicki (2017) which also attributed continuous breastfeeding among HIV-positive mothers to ARV use.

However, in the current study, a number of healthy service – related factors that have been reported in other settings as influencing breastfeeding among HIV-positive mothers beyond one year were found not to be influential in the current study. For example, counselling and information giving by healthcare workers were not found to influence HIV-positive mother's breastfeeding their babies beyond one year in the current study, yet the same factors were reported to be important in this aspect according to the study by Ukegbu et al. (2011). Probably the differences in findings are due to differences in study settings, but can also be attributed to the current study being conducted seven years after the Ukegbu et al. (2011). There has been a lone of changes in respect to PMTCT since that time.

In the current study counselling, as well as receiving constants information on child feeding was found not to significantly influence HIV –positive smother's breastfeeding beyond one year. This can probably be attributed to the fact that it is a ministry of health policy that health workers proved information and on-going counselling on child feeding in the context of HIV. Therefore, probably the mothers continue to breastfeed based on different factors, but not in line with the information and counselling given by health workers. This finding is supported by findings from FGD which also indicated that HIV-positive mothers receive counselling and information on child feeding, but some just choose not to heed such guidance.

### 5.3 Summary of Findigs

This study was conducted among 101 HIV-positive mothers attending the mother-baby care point at Mubende Regional Referral Hospital to explore the factors influencing breastfeeding beyond one year by. The study identified individual factors, socio-cultural factors, and health service-related factors influencing breast feeding beyond one year by HIV positive mothers. According to the study findings, slightly more than a half, 52(51.5%) of study participants were aged 25 – 34 years. The least were those older than 34 years. Most, 66(65.3%) were

married. Majority, 48(47.5%) had primary level education, the least being those with 'A' level education. More than a half, 55(54.5%) were Peasant farmers, while the least were those in salaried employment.

Slightly more than a half, 53(52.5%) had average monthly income of UGX. more than 50,000, but a good proportion of them were earning less than Uganda Shillings 50,000. Majority, 58(57.4%) had 3 or more children, while 43(42.6%) had 1 – 2 children. 82(81.2%) of the study participants were aware that HIV can be transmitted through breastfeeding. Slightly more than a half, 52(51.5%) of the study respondents were aware about the increased risk of MTCT of HIV through breastfeeding for longer than one year. However, a big proportion of them, 49(48.5%) were not ware about it.

On statistical analysis, the only individual factors that werefound to be significant in influencing HIV-positive mothersto breastfeed their babies beyond one year wereincome and non-disclosure of HIV serostatus. The only socio-cultural factor influencing HIV-positive mothers to breastfeed their babies for beyond one year was stigma and/or discrimination. There was no health service-related factor found to be significant in influencing HIV-positive mothers to breastfeed their babies for beyond one year.

### 5.4 Conclusion

According to analysis of study findings, most individual, socio-cultural and health system factors were not found to be significant in influencing HIV-positive mothers to breastfeed their babies beyond one year except income, non-disclosure of HIV serostatus, and experience of stigma and/or discrimination.

## 5.5 Recommendations

Health workers in Mubende Regional Referral Hospital need to esnre that all HIV-postive mothers are supported to disclose their HIV sero status to their spouses, and for the spouses to support these mothers in feeding their babies in a manner that doesn't increase the risk of HIV transmission from mother to baby.

Government of Uganda extend financial empowerment program to HIV-positive women to ensure that those who become mothers are not hindered by financial constraints in regard to feeding their HIV-exposed babies.

Health workers together with local leaders should improve awareness creation measures aimed at tackling stigma targeted on HIV-positive mothers who want to feed their HIV-exposed babies safely.

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# APPENDICES

## APPENDIX I: INTRODUCTORY LETTER

Uganda
Martyrs
University

Making a difference

Faculty of Health Sciences
Email: health@umu.ac.ug

11th June 2018

The Responsible Officer

Recommended to carry out data collection in this institution

MUBENDE REGIONAL REFERRAL HOSPITAL
13 JUN 2018
P.O. BOX MUBENDE
FOR HOSPITAL DIRECTOR

**RE: INTRODUCING KIKOMEKO SOLOMY**

This is to introduce to you **Ms. KIKOMEKO SOLOMY Reg. No. 2016-M272-20023** who is a postgraduate student in the Faculty of Health Sciences at Uganda Martyrs University. She is pursuing a programme leading to the award of Master of Public Health- Population and Reproductive Health. She is currently on research for her dissertation on the topic:

**"FACTORS INFLUENCING BREASTFEEDING BEYOND ONE YEAR IN HIV POSITIVE MOTHERS ATTENDING MOTHER BABY CARE POINT AT MUBENDE REGIONAL REFERRAL HOSPITAL."**

The topic and protocol have been approved by the relevant university authorities.

Any assistance rendered to her in this respect will be highly appreciated by the university.

Yours sincerely,

Dr. Miisa Nanyingi
Ag. Dean,
Faculty of Health Sciences,
Uganda Martyrs University

UgandaMartyrsUniversityP.O. Box 5498 – Kampala – Uganda
Tel: (+256)038-410611 Fax: (+256) 038-410100 E-mail; umu@umu.ac.ug

## APPENDIX II: PARTICIPANT CONSENT FORM

### Introduction

Good morning / afternoon my name is ……I am conducting a research on factors influencing breast feeding beyond one year in HIV positive postpartum mothers attending baby care point in Mubende regional referral hospital .

This interview is administered for the purpose of collecting data on factors influencing breast feeding beyond one year in HIV positive post-partum mothers attending mother baby care point in Mubende Regional Referral Hospital. The findings from this research will be used to inform the hospital and district HIV/AIDS task force to design and disseminate local guidelines.

### Voluntary participation and withdrawal

You were identified as a potential participant in this research, and we seek your consent and promise to keep your identity as an individual respondent completely private and confidential. You will be asked questions about your experiences, knowledge and opinions on duration of breast feeding in context of HIV. There are no wrong answer hence you will not be judged and it is okay not to answers any question you are not comfortable with. Participation is voluntary and you have a right at any moment to quit the interview, and this won't hinder you from accessing your routine services.

### Contact and questions

You may ask any question you have now regarding this study or your participation in the study. If you have any questions later you may contact me on the following telephone number.

Miss KIKOMEKO SOLOMY: - 0772510227/ 0703079666.

You may also if you wish for any questions feel free to contact my academic supervisors on:

Mr. Wonyima Isaac Tel +256782762244 email wonyima@gmail.coms

Participant's agreement

I have read the study information / the study information has been read for me and I have understood the purpose of the research. I also had the opportunity to ask questions and they were satisfactorily answered. I therefore freely agree/ accept to participate in the study.

Name…….signature……

… Date……

Witness…….signature……

…

Date…….

## APPENDIX II: RESPONDENT QUESTIONNAIRE

| S/N | Questions | Responses | Response Code |
|---|---|---|---|
| **Section A: Individual Factors** | | | |
| 1. | How old are you? (age in complete years) | | |
| 2. | What is your marital status? | 1) Married (1)<br>2) Never married (2)<br>3) Living with partner (3)<br>4) Divorced (4)<br>5) Widowed (5) | |
| 3. | What is your highest level education? | 1) No formal education (1)<br>2) Primary school (2)<br>3) 'O' level (3)<br>4) 'A' level (4)<br>5) Tertiary (5) | |
| 4. | What is your occupation? | 1) Peasants (1)<br>2) Farmer (2)<br>3) Business (3)<br>4) Professional (4)<br>5) None (5)<br>6) Others specify…….. | |
| 5. | What is your monthly income in Uganda | 1) Less or equal to 50,000 (1) | |

| | | | |
|---|---|---|---|
| | shillings? | 2) More than 50,000 (2) | |
| 6. | How many children do you have? | 1) 1 - 2 (1)<br>2) 3 or more (specify number) | |
| 7 | Are you aware an HIV-positive mother can transmit the virus to her baby through breast feeding? | Yes (1)<br>No (2) | |
| 8 | Are you aware that breastfeeding a baby by an HIV-positive mothers or a period of more than one year increases the chances of transmitting the virus to the baby? | Yes (1)<br>No (2) | |
| 9 | Did you attend the antenatal clinic during your latest pregnancy? | Yes (1)<br>No (2) | |
| 10 | Have you disclosed your HIV serostatus to your spouse or the people you stay with? | Yes (1)<br>No (2) | |
| 11 | Have you been started on ARVs? | Yes (1)<br>No (2) | |
| 12 | How old is your latest child? | ---------- | |
| 13 | Do you know that child's HIV status? | Yes (1)<br>No (2) | |
| **Section B: Socio-cultural Factors** | | | |
| 14 | Does you culture or community setting require that every child should be breastfeed for at least two years? | 1)Yes (1)<br>2)No (2) | |
| 15 | If yes in 14 above, what is the reason for it? | | |

| | | | |
|---|---|---|---|
| | Please explain here | | |
| 16 | If yes in 14 above, is it a requirement even for children born to HIV-positive mothers? | 1)Yes (1)<br>2)No (2) | |
| 17 | If yes in 14 above, is there stigma and/or discrimination associated with breast feeding cessation before that period? | 1)Yes (1)<br>2)No (2) | |
| 18 | If yes in 17 above, please explain how? | | |
| **Section C:Health System Factors** | | | |
| 19 | Did you receive any form of counseling on infant feeding in context to HIV? | 1)Yes (1)<br>2)No (2) | |
| 20 | Did your health service provider encourage you to cease breastfeed when the child turns one year of age? | 1) Yes (1)<br>2) No (2) | |
| 21 | Have you always got constant supplies of ART every time you have come to the health facility? | 1) Yes (1)<br>2) No (2) | |
| 22 | Has your healthcare provider given you on-going information about the way you should feed your child? | 1) Yes (1)<br>2) No (2) | |
| Section D: Feeding Practice | | | |
| 23 | How are you feeding this child? | Still breast feeding (1)<br>Other feeding options (2) Specify | |

## APPENDIX III: INTERVIEW GUIDE FOR FOCUS GROUP DISCUSSION

### Introduction

Good morning / afternoon my name is Kikomeko Solomy. I am conducting a research on factors influencing breast feeding beyond one year in HIV positive postpartum mothers attending baby care point in Mubende regional referral hospital.

This interview is administered for the purpose of collecting data on factors influencing breast feeding beyond one year in HIV positive post-partum mothers attending mother baby care point in Mubende regional referral hospital. The findings from this research will be used to inform the hospital and district HIV/AIDS task force to design and disseminate local guidelines.

### Voluntary participation and withdrawal

You were identified as a potential participant in this discussion, and we seek your consent and promise to keep your identity as an individual participant completely private and confidential. You will be asked questions about your experiences, knowledge and opinions on duration of breast feeding in context of HIV. There are no wrong answer hence you will not be judged and its okay not to answers any question you are not comfortable with. Participation is voluntary and you have a right at any moment to quit the interview, and this won't hinder you from accessing your routine services.

### Confidentiality

I request that we write responses down as we discuss to ensure that I accurately capture what you will say. Your name will not be written on this form and therefore you won't be identified in any way. I will protect all information about you.

**Contact and questions**

You may ask any question you have now regarding this study or your participation in the study. If you have any questions later you may contact me on the following telephone number.

Miss KIKOMEKO SOLOMY: - 0772510227/ 0703079666.

Or you may also contact the academic supervisor`s on;

Mr. Wonyima Isaac Tel +256782762244 email wonyima@gmail.coms

Participant's agreement

I have read the study information / the study information has been read for me, I freely agree/ accept that I participate in the study.

Sign Respondent …… Date……

Sign Interviewer…… Date…….

Explore the group knowledge in the following areas.

1. How can we feed a HIV exposed infant?
2. Please tell me more about the best way to feed an infant born to an HIV positive mother? And why?
3. In your opinion what make mothers to breastfeed for more than a year?
4. Please tell me more about things that prevent HIV positive breastfeeding mothers from ceasing breastfeeding at one year.
5. Explain to me what your opinions are to those things?
6. May you suggest some of the possible solutions to the barriers that prevent HIV positive postpartum mothers from ceasing breast feeding at one year?

## APPENDIX IV: TRANSLATED CONSENT FORM

## ENSONGA EZIVIIRAKO BA MAAMA ABALINA AKAWUKA AKALWAAZA MUKENENYA OKUYONSEZA EBBANGA ELISUKA OMWAKA OGUMU.

**Enyanjula**

Wasuze otya/osiibye otya, amanya gange nze……..., ndi mu kunonyerezza ku nsonga eziviirako okuyonseza ddala ebbanga elisuka mu mwaka ogumu mu ba maama abalina akawuka akalwaaza mukenenya abafunira empereeza y'abaana mu ddwaliro lye Mubende RRH.

Okubuliriza kuno kukolebwa olw'okwagala okukungaanya amawulire ku nsonga eziviirako okuyonseza ddala ebbanga elisuka omwaka ogumu mu ba maama abakamala okuzaala abalina akawuka akalwaaza mukenenya abafunira obujanjabi mu ddwaliro lye Mubende RRH. Ebinazuulibwa okuva mu kunonyereza kuno byakuyambako okutegeeza ab'e ddwaliro n'akakiiko ka disitulikiti akavunanyizibwa ku ndwadde ya mukenenya okuteekateeka n'okubunyisa ebigobelerwa ku mutendera owga wansi.

**Okwenyigiramu kwa kyeyagalire n'okuvaamu**

Walondeddwa ng'omuntu ow'omugaso mukubaganya ebirowoozo, era tukusaba okirize era tusuubiza okukuuma okwenyigiramu kwo nga kwassekinoomu era nga kwakyaama.

Ojjakubuuzibwa ebibuuzo ebikwata ku byoyiseemu, byomanyi era nendowoozayo kubbanga ery'okuyonsa okwekuusa ku kawuka akalwaaza mukenenya. Tewali kiddibwamu kikyaamu n'olwekyo tojja kusalirwa musango era oli waddembe obutaddamu kibuuzo kyona ekitakuwa mirembe. Okwnyigiramu kwakyeyagalire era oli waddembe woyagalidde okuvaamu era kino tekijja kuziyiza okufuna empereezayo eya bulijjo.

**Okukuuma ebyama**

Nkusaba tuwandiike byoddamu nga tukubaganya ebirowoozo okukkasa nti byona byoyogedde mbifunye bulungi. Erinnya lyo terigenda kuwandiikibwa ku fomu eno, era n'olwekyo tewajja kubaawo asobola kukutegeera. Byona ebikwattako njakubikuuma.

**Endagiliro n'ebuuzo**:

Osobola okubuuza kyona ekikwatagana n'okunoonyereza kuno era nna nsonga lwaki wenyigiramu. Singa ofuna ekibuuzo oluvanyuma, osobola okunfuna ng'okozesa ennamba z'essimu zino;

Muky. KIKOMEKO SOLOMY: - 0772510227/ 0703079666.

Oba osobola okwogera n'abakulira okunonyereza kuno ku ssimu zino;

Mw. Wonyima Isaac Tel +256782762244 email wonyima@gmail.coms

**Endagaano y'Okwenyigiramu**

Nze nessomedde byona/byona ebikwatagana n'okunonyereza babinsomedde, nze kyeyagalire nzikiriza okwetaba mu kunonyereza kuno.

Erinnya…….Omkono……

…… Naku z'omwezi……

Omujjulizi…….Omukono……

Naku z'omwezi…….

## APPENDIX V: TRANSLATED QUESTIONNAIRE

**Ebiragiro: Saza ku ky'okuddamu ekituufu/Jjuza mu bbanga elirekeddwawo**

| S/N | Ebibuuzo | Eby'okuddamu | Ekikozesebwa okuddamu |
|---|---|---|---|
| | **A.Ensonga za ssekinoomu** | | |
| 1. | Olina emyaka emeka (emyaka gyennyini) | Emyaka egijjudde…….. | |
| 2. | Oli mufumbo? | 1) Mufumbo<br>2) Ssekinoomu<br>3) Nina omubeezi<br>4) Twayawukana<br>5) Namwandu | |
| 3. | Wasoma kutuuka ku ddaala kki? | 1) Sassoma<br>2) Nakoma mu Pulayimare<br>3) Nakoma mu Siniya<br>4) Natuuka mu ttendekero erya waggulu n'okweyongerayo | |
| 4. | Okola mulimu kki? | 1) Nkozesebwa<br>2) Mulimi<br>3) Musubuuzi<br>4) Silina<br>5) Ekilala nnyonyola…….. | |
| 5. | Omwezi oyingizza kyenkana kki? | 1)<br>2) | |

| | | | |
|---|---|---|---|
| 6. | Olina abaana bameka? | 1) Omu<br>2) Bassuka omu (laga omuwendo .....) | |
| 7. | Okimanyiko nti maama alina akawuka kamukenenya asobola okukasiga omwana`we ngamunyonsa? | Yee (1)<br>Nedda (2) | |
| 8. | Okimanyi`ko anti emikisa gyokusiga omwana akawuka kamukenyenya mukuyonsa gyeyongela nsinga maama asuusa mumwaka nga nyonsa? | Yee (1)<br>Nedda (2) | |
| 9 | Wagenda okunywa eddala ku lubuto olusembyeyo? | Yee (1)<br>Nedda (2 | |
| 10 | Wali obuliddeko omuntu omulala yena bwoyimiridde ku bikwatagana n'obulamu bwo? | Yee (1)<br>Nedda (2) | |
| 11. | Oli ku ddagala lya ARVs? | Yee (1)<br>Nedda (2) | |
| 12. | Omwana `wo asembayo obutto wa`myaka emekka? | ……. | |
| 13. | Omanyi omwana `wo bwayimiridde kubikwata kukawuka kasilimu? | Yee (1)<br>Nedda (2) | |
| | **B. Ensonga ez'eby'Obuwangwa ne nnono?** | | |

| | | | |
|---|---|---|---|
| 14. | Mubuwangwa bwaffe n`ennono kyateeka ntii omwana anyonsebwa emyakka ebiiri? | Yee (1)<br>Nedda (2) | |
| 15. | Oba nga ye, kunamba 14 nnyonyola ensonga zzo? | Yee (1)<br>Nedda (2) | |
| 16. | Oba`ye, kunamba 14, kyekimu eri nabaana abazalidwa bamaama abaali akawuka kamukenenya | Yee (1)<br>Nedda (2) | |
| 17. | Oba nga ye, kunamba 14 wali ofunyeko okusosolwa ng`akyekuusa kukoma okuyonsa nge`banga ery`emyaka ebiri ngaterinagwako? | Yee (1)<br>Nedda (2) | |
| 18. | Oba nga ye, kunamba 17 nyonyola ensongazzo? | Yee (1)<br>Nedda (2) | |
| | **C.Ensonga ezikwata k`umpeereza ey'eby'Obulamu**. | | |
| 19. | Wafuna okubudda buddibwa kwona ku ngeri gyebalisaamu abaana abato okwekuusa ku kawuka akalwaaza mukenenya? | Yee (1)<br>Nedda (2) | |
| 20. | Omusawo w'eby'Obulamu yakuwagira okukomya okuyonsa ku mwaka gumu? | Yee (1)<br>Nedda (2) | |
| 21 | Buuli lwogenda okuffuna eddagala`nyo (ARV`s) ku`ddwaliro | Yee (1)<br>Nedda (2) | |

| | | | |
|---|---|---|---|
| | kyaluberela oliffuna? | | |
| 21. | Omusawo w'eby'Obulamu akuwa omusomwo ku ngeri gyebalisaamu abaana abato okwekuusa ku kawuka akalwaaza mukenenya? | Yee (1)<br>Nedda (2) | |
| | **D.Engeri gwetuliisamu abaana** | | |
| | Omwana omuliisa otya? | Aky`anyonka(1)<br>Endiisa enddala(2) gitubulire. | |

## APPENDIX VI: TRANSLATED INTERVIEW GUIDE

ENNUNGAMYA Y'OKUBUUZA ABANTU ABALI MU KIBINJA NGA BAKUBAGANYA EBIROWOOZO

Enyanjula

Wasuze otya/osiibye otya, amanya gange nze……..., ndi mu kunonyerezza **ku nsonga eziviirako okuyonseza ddala ebbanga elisuka mu mwaka ogumu mu ba maama abalina akawuka akalwaaza mukenenya abafunira empereeza y'abaana mu ddwaliro lye Mubende RRH.**

Okubuliriza kuno kukolebwa olw'okwagala okukungaanya amawulire ku nsonga eziviirako okuyonseza ddala ebbanga elisuka omwaka ogumu mu ba maama abakamala okuzaala abalina akawuka akalwaaza mukenenya abafunira obujanjabi mu ddwaliro lye Mubende RRH. Ebinazuulibwa okuva mu kunonyereza kuno byakuyambako okutegeeza ab'e ddwaliro n'akakiiko ka disitulikiti akavunanyizibwa ku ndwadde ya mukenenya okuteekateeka n'okubunyisa ebigobelerwa ku mutendera owga wansi.

**Okwenyigiramu kwa kyeyagalire n'okuvaamu**

Walondeddwa ng'omuntu ow'omugaso mukubaganya ebirowoozo, era tukusaba okirize era tusuubiza okukuuma okwenyigiramu kwo nga kwassekinoomu era nga kwakyaama.

Ojjakubuuzibwa ebibuuzo ebikwata ku byoyiseemu, byomanyi era nendowoozayo kubbanga ery'okuyonsa okwekuusa ku kawuka akalwaaza mukenenya. Tewali kiddibwamu kikyaamu n'olwekyo tojja kusalirwa musango era oli waddembe obutaddamu kibuuzo kyona ekitakuwa mirembe. Okwnyigiramu kwakyeyagalire era oli waddembe woyagalidde okuvaamu era kino tekijja kuziyiza okufuna empereezayo eya bulijjo.

**Okukuuma ebyama**

Nkusaba tuwandiike byoddamu nga tukubaganya ebirowoozo okukkasa nti byona byoyogedde mbifunye bulungi. Erinnya lyo terigenda kuwandiikibwa ku fomu eno, era n'olwekyo tewajja kubaawo asobola kukutegeera. Byona ebikwattako njakubikuuma.

Endagiliro n'eibuuzo:

Osobola okubuuza kyona ekikwatagana n'okunoonyereza kuno era nna nsonga lwaki wenyigiramu. Singa ofuna ekibuuzo oluvanyuma, osobola okunfuna ng'okozesa ennamba z'essimu zino;

Muky. KIKOMEKO SOLOMY: - 0772510227/ 0703079666.

Oba osobola okwogera n'abakulira okunonyereza kuno ku ssimu zino;

Mw. Wonyima Isaac Tel +256782762244 email wonyima@gmail.coms

**Endagaano y'Okwenyigiramu**

Nze nessomedde byona/byona ebikwatagana n'okunonyereza babinsomedde, nze kyeyagalire nzikiriza okwetaba mu kunonyereza kuno.

Erinnya…….Omkono……

…… Naku z'omwezi……

Omujjulizi…….Omukono……

Naku z'omwezi…….

**Zuula okumanya ku nsonga zino mu kibinja kino**

1. Tusobola tutya okuliisa omwana ali kundebwelebwe y'okusiigibwa akawuka akalwaaza mukenenya?

2. Nkola ki esinga okuba ennungi okuliisa omwana azaliddwa maama nga alina akawuka akalwaaza mukenenya? Era lwaki?
3. Mundowoozayo kkiki ekiletera bamaama abaliina akawuka akalwaaza mukenenya, okunyonsa okusuka ebanga ly`omwakka ogumu?
4. Miziziko kki ba maama abamazze okuzaala nga balina akawuka akalwaaza mukenenya gyebasanga egibalemesa okulekeraawo okuyonsa oluvanyuma lw'omwaka gumu?
5. Nnyinyonyoola endowoozayo k`umiziziko egyowaguulu?
6. Wwa endowoozayo ku kiki ekisoboka okukolebwa eri emiziziko egilemesa ba maama abamazze okuzaala nga balina akawuka akalwaaza mukenenya okulekeraawo okuyonsa oluvanyuma lw'omwaka gumu?

**WEBALE NNYO!**