

UNIVERSITY OF KWAZULU-NATAL

Factors Influencing Infant Feeding Practices of Mothers  
Living with HIV: A Case Study Of Project Masihambisane

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## Declaration

Submitted in fulfilment / partial fulfilment of the requirements for the degree of  
Master of Social Science, in the Graduate Programme in Sociology,  
University of KwaZulu-Natal, Pietermaritzburg, South Africa.

I **Buyisile Ntaka**, declare that

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01 April 2016

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Name of Supervisor

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Signature

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*“Education is the most powerful weapon which you can use to change the world”*

Nelson Mandela

## Abstract

This paper aims to explore the factors that influence infant feeding practices of HIV positive mothers who participated in Project Masihambisane. Secondary data analysis (data collected in 2012) was done to analyse and interpret data (relevant to the research statement) collected from Project Masihambisane. 1200 HIV positive women were enrolled in Project Masihambisane and three assessments (structured questionnaires) were used to collect data for the studies objectives. For this research relevant sections in the assessments were identified which provided information on mothers' intended feeding practices before birth and reported practices post birth.

The theory presented in this research paper is Pierre Bourdieu's *Habitus* which the researcher uses in an attempt to understand actions of agents in society and how their environments contribute to these actions, as well as understanding the complex nature of HIV positive motherhood.

For the purposes of this research data analysis was done on data collected in Project Masihambisane in the baseline, 6 days post-birth and 6 months assessments. Formula feeding was the predominant method of feeding mothers practiced, followed by breastfeeding, and fewer cases of mixed feeding were also reported. The findings showed that mothers who were successful in formula feeding were those that had disclosed their HIV statuses and had the necessary support structures to implement this. Formula feeding was also associated with mothers' desire to prevent HIV infection from breast milk. Stigma, disclosure of HIV status, partners (or lack thereof), families, neighbours and communities were identified as factors that contribute to infant feeding practices.

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## Abbreviations

AFASS	Acceptable, Feasible, Affordable, Sustainable and Safe
AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Antenatal Clinic
AZT	Azidothymidine
CRA	Clinical Research Assistant
CYFSD	Child, Youth, Family and Social Development
DOH	Department of Health
EBF	Exclusive Breast Feeding
EFF	Exclusive Formula Feeding
HAART	Highly Active Antiretroviral Treatment
HIV	Human Immune-Deficiency Virus
HSRC	Human Sciences Research Council
MF	Mixed Feeding
MLH	Mothers Living with HIV
NVP	Nevirapine
PMTCT	Prevention of Mother to Child Transmission
PNC	Postnatal Clinic
UNICEF	United Nations Children's Fund
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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# Chapter 1: Introduction

## 1.1 Background and outline of research problem

The Southern African sub-region has been the site of the most severe HIV epidemic globally with South Africa housing the most number of people living with HIV (5, 7 million people) (Clinical Trials, 2013). New HIV infections among children in the region have decreased from 330 000 in 2001 to 180 000 in 2011, but there are still 17, 1 million adults and children living with HIV in eastern and southern Africa (UNICEF 2009). In this region, of the 2, 7 million people in the age group 15-24 who are infected, 70% are female. In the countries most affected by the epidemic such as Swaziland, Lesotho, and Botswana, more than 1 in 10 females in this age group are living with HIV (UNICEF 2009).

HIV can be vertically transmitted from mother-to-child during the period of pregnancy, during child-birth and through feeding breastmilk in the absence of treatment (Coutsoudis, Pillay, Kuhn, Spooner, Tsai, Coovadia & South African Vitamin A Study Group 2001). In sub-Saharan Africa infant and child mortality rates can be attributed to paediatric HIV (Hampanda 2013). Several programmes have been developed to prevent mother to child transmission and one such programme implemented by the South African Department of Health is the Prevention of Mother to Child Transmission of HIV (PMTCT) which speaks to international standards for a strategy against the transmission of HIV/AIDS (Clinical Guidelines: PMTCT 2010). At its inception a dual therapy programme to lower the risks of HIV transmission pre and post birth, was used. Dual therapy entails the use of an anti-retroviral prophylaxis during pregnancy in the form of the AZT/Zidovudine, and a single dose of Nevaripine. HIV positive women would start taking the AZT/Zidovudine at 28 weeks of pregnancy up until child birth. At the onset of labour the mothers then take the single dose of Nevaripine.

The Department of Health has since modified the dual therapy programme and it is now referred to as the PMTCT regimen for prophylaxis to reduce mother-to-child transmission (ASAIPA 2010). “The national PMTCT programme aims to ensure primary prevention of HIV, especially among women of child-bearing age; integration of PMTCT interventions with basic antenatal care (BANC); sexual and reproductive health (SRH) and child and adolescent health;

CCMT and TB services; strengthening postnatal care for the mother-baby pair; and provision of an expanded package of PMTCT services” (Clinical Guidelines: PMTCT 2010:8).

In addition to this biomedical intervention, the PMTCT regimen also has a psychosocial component which offers mothers counseling about infant feeding. This service provides pregnant mothers with information to help them choose the most suitable feeding methods for their infants. The PMTCT protocol requires HIV positive pregnant women to make a choice about intended infant feeding methods (exclusive breastfeeding or exclusive formula feeding) before child-birth. However, their declared intentions are not always consistent with their post-birth actions.

Adherence to a chosen infant feeding method is especially challenging for women with HIV. Avoidance of any breastfeeding eliminates the risk of postnatal mother-to-child transmission of HIV. But for many women living in poverty, complete avoidance of breastfeeding is either not possible, or is not the most favourable option (Doherty, Chopra, Nkonki, Jackson & Greiner, 2006:90).

This research paper analyses findings from Project Masihambisane which was undertaken in KwaZulu Natal in the Umgungundlovu District. In the baseline assessment (done with mothers who were pregnant up to 34 weeks) the mothers had to choose a feeding option between exclusive breastfeeding or exclusive formula feeding. Regardless, in several cases mixed feeding occurred within the first six months of the infants’ lives. This research will interrogate the factors that contribute to mixed feeding and how mixed feeding impacts on the fight against infant infection. The research will also identify factors that contributed to mothers (in this cohort) not adhering to their intended feeding choices.

The data from three assessments conducted during the project will be analysed: the baseline assessment (done when mothers were still pregnant), the six days after birth assessment, and the six months after birth assessment. I will identify the intended feeding choices of the mothers attending antenatal clinics in the intervention and control clinics, and compare them to the actual feeding methods used within the first six months of the infants’ lives to identify differences and factors that influenced the infant feeding practices of these mothers.

## 1.2 Preliminary literature study, and reasons for choosing the topic

The Department of Health's PMTCT programme prescribes that HIV positive mothers either exclusively breastfeed or exclusively formula feed (with no other liquids or solids unless instructed by a medical practitioner) their infants for the first six months, following the criteria set out for each feeding method which will be discussed later in this paper.

This research will identify the infant feeding practices undertaken by mothers living with HIV who participated in Project Masihambisane as well as assess whether their choices were aligned with the recommendations of the PMTCT programme. I have chosen this topic because I want to understand the seemingly complex environment (psychological, social, cultural, and economic) that HIV positive mothers find themselves in. The paper also intends to identify the seemingly opposing knowledge sets of child-nurturing which exists between individuals/families/communities and medical science, particularly in the context of HIV/AIDS, as well as the impact this may have on reducing child infections.

“Neither exclusive breastfeeding nor exclusive formula feeding is the norms in most African settings. Mixed feeding is the predominant method of infant feeding” (South African Department of Health 1999). Mixed feeding is one of the pertinent issues my research will identify since some of the HIV positive mothers who participated in Project Masihambisane admitted to giving their infants other food within the first six months of the infants' lives contra the recommendations of the PMTCT programme. Another issue that my research will engage with is whether or not there have been changes in the notions of successful mothering and child-nurturing in the context of HIV/AIDS.

Gaps identified in the literature is that the focus has predominantly been on the mother and child as individuals and not located them in the context of a community, Infant feeding choices and practices are also influenced by the communities in which women live and the beliefs that are culturally embedded in those communities.

### **1.3 Research problems and objectives: Key questions to be asked**

This research aims to identify the factors that influence the infant feeding choices mothers make and I will address the following questions.

1. Did socio-economic and socio-cultural factors influence the infant feeding practices of HIV positive mothers in Project Masihambisane?
2. Did mothers engage in mixed-feeding practices and if so how was this explained?
3. Did mothers who disclosed their statuses to their partners/families/friends adhere to their initial infant feeding choices?
4. Did mothers who did not disclose their statuses to their partners/families/friends adhere to their initial infant feeding choices?

### **1.4 Research problems and objectives: Broader issues to be investigated**

The broader questions to be asked are:

- 1) What are the challenges to the notions of mothering and infant nurturing in the context of HIV/AIDS?
- 2) Can embedded practices such as mixed feeding be changed in an environment where a mother's intuitive knowledge about infant feeding overrides the risk of child infection?
- 3) How do socio-economic/socio-cultural conditions shape choices; the impact these factors have on making decisions about infant feeding particularly in the context of HIV/AIDS?

## 1.5 Principal theory on which the research project will be based

This study applies one concept to assist in understanding this area of research, namely Pierre Bourdieu's *Habitus* theory

Pierre Bourdieu's (1977: 81-83, 87) definition of habitus is "the past which survives in the present", "immanent law laid down in each agent by his earliest upbringing", "the habitus...makes possible the achievement of infinitely diversified tasks", "dominated by the earliest experiences". For Bourdieu individuals incorporate social structures and organisations in their actions, meaning that "an individual shares his/her habitus with the people who have been exposed to the same conditions of living...the same living conditions and same positions in society lead to the same habitus" (Bourdieu 1977). Two additional concepts along with habitus which inform human action are capital-resources that inform human action such as economic, cultural, social and symbolic- and field which Bourdieu refers to as competitive spheres of struggle over different kinds of capital (Bourdieu 1984). This theory will be applied to understand the link between the HIV positive mothers' intentions and practices in their infant feeding methods.

The abovementioned theory will provide a framework for analysing and understanding the data and for comprehending why mixed feeding practices occur in the postnatal period. The theory will be used to identify the gap between intention and practice and how this influences infant feeding practices in the social environments which HIV-positive mothers find themselves in.

## 1.6 Research methodology and methods

This research will make use of the data collected from Project Masihambisane. The projects impact was assessed over a 12-18 month follow-up period. My study analyses and interprets existing data from Project Masihambisane which means that I have undertaken secondary data analysis. A structured questionnaire was used to collect the data in Project Masihambisane.

Four assessments were used in Project Masihambisane: (i). A baseline assessment, (ii) A six days after birth assessment, (iii) A six months after birth assessment, and (iv) A twelve months assessment. All four assessments provided important information towards improving the well-being of the mothers and their children. However for the purposes of this research, I focused on the baseline survey, the six days after birth, and the six months after birth assessments. I



did not analyse the twelve months assessment because after six months (as per the PMTCT guidelines), solid foods may be introduced.

### **Background of the Research Methodology of Project Masihambisane**

The assessments were conducted in a strictly confidential way and were administered by a research staff member from the Child, Youth, Family, and Social Development Department who read the assessment questions in face-to-face interviews. The data collected during the assessments was stored electronically using cellular telephones.

The project received ethical clearance from the Human Sciences Research Council Ethics Committee (Appendix 2).

## Chapter 2: Literature Review

### 2.1 Introduction

This chapter explores the prior research done in this area, the limitations identified in past/current research, and the contribution that this research will have in the field of interest.

### 2.2 The South African National Department of Health's Policy on PMTCT

The South African National Department of Health has PMTCT guidelines which health workers must make known to expecting HIV positive mothers who in turn must adhere to the guidelines to prevent infant infection. The following sections from the PMCT guidelines have been included to provide insight into how infant feeding choices should be negotiated with pregnant mothers by the relevant health care personnel.

#### *Clinical Guidelines: PMTCT (Prevention of Mother-to-Child Transmission) 2010:*

The Clinical Guidelines is an update of the national PMTCT policy and guidelines provided by the State, and aims to continuously provide guidance towards the endeavour of reducing the transmission of HIV vertically. The PMTCT policy identifies four integral elements which are important in preventing women and children from being infected with HIV:

- Prevention of HIV infection, particularly among women of childbearing age
- Prevention of unplanned pregnancies with the focus on women infected with HIV
- Prevention of HIV positive mothers vertically transmitting HIV to their infants
- Provision of appropriate guidance, aid and support structures for women infected with HIV, including their families

#### **The guidelines provide information on establishing safe infant feeding practices**

##### **Principles of safe infant feeding:**

- “Health care personnel, lay counselors and community caregivers should receive standardised training on infant feeding, counseling, and HIV” (Department of Health 2010:32).
- “Trained health care personnel should provide high quality, unambiguous, and unbiased information about the risks of HIV transmission through breastfeeding, ART prophylaxis, and the risks of replacement feeding” (Department of Health 2010:32).

- Infant feeding counseling must begin immediately after post HIV test counseling
- Discussions about infant feeding should be had with mothers every time they come for antenatal visits
- Mixed feeding in the early stages of the infants' life should be strongly dissuaded as this leaves children vulnerable to being infected.
- Efforts to inform and educate communities about infant feeding and HIV should be carried out through the media and other forums such as community based activities.
- To strengthen child survival efforts, pregnant women living with HIV should be prioritised for lifelong ART or PMTCT regimens so that they remain healthy and reduce the chances of MTCT.

**Breast feeding HIV positive mothers:**

- All mothers who have tested HIV positive and are enrolled in lifelong Anti-Retroviral Therapy (ART) or not, and who breastfeed exclusively, should do so for six months, with the introduction of other suitable foods thereafter, and continue to give the infant breast milk up to twelve months.
- All mothers who have tested HIV positive, and have not been enrolled in lifelong ART, and who make the decision to discontinue giving breast milk to the infant at any time should do so circumspectively over a period of one month, while the baby continues to receive daily Nevirapine (NVP), and should continue for one week after all breastfeeding has stopped.

**Formula feeding HIV-positive women**

- The provision of free formula milk will be carried out by the State up to a minimum period of six months.
- Practical support should be provided to women which includes showing mothers how to prepare infant formula and feed the infant in a safe manner.
- At six months, infants presenting with signs of poor growth should be referred accordingly for on-going nutritional monitoring and assistance with diet.
- “An appropriate formula milk product for the infant’s age and circumstances should be chosen” (Department of Health 2010:33).
- Infants weighing less than 2 kg should receive a special low birth weight formula until the weight increases to a minimum of 2 kg; thereafter the infant can continue on formula

milk for a given period. An infant that has a weight of less than 2kg should not be given a soy protein based formula.

- “All health care workers caring for mothers, infants, and young children should fully adhere to the provisions of the International Code of Marketing of Breast Milk Substitutes and its subsequent resolutions, which will be superseded by the South African Regulations relating to Foodstuffs for Infants, Young Children, and Children once they are promulgated. These regulations have been adapted for infant feeding in the context of HIV” (Department of Health 2010:33).
- In instances where formula milk is provided (without charge) by health care facilities, then the relevant health personnel should ensure that there is a stable and ongoing supply in the clinics. In which commercial formula is provided free of charge by health facilities,

For the purposes of this paper I will use the definitions provided by the National Department of Health PMTCT guidelines (2010) to explain the above feeding methods.

**Exclusive breastfeeding or exclusive breast milk feeding (EBF)** refers to the “practice in which an infant receives only breast milk and no other liquids or solids including water, but may receive drops or syrups consisting of vitamins, mineral supplements, or medicines that are deemed necessary and essential for the child. When expressed milk is given, the preferred term is breast milk feeding” (Department of Health 2010:4).

**Exclusive formula feeding (EFF)** refers to the “practice in which infants receive no breast milk (no solids either), but receive a diet that provides adequate nutrients until the age at which they can be fed family foods. During the first six months of life, formula feeding requires a suitable commercial formula. After six months, complementary foods should be introduced. This can also be done in the case of breastfeeding” (Department of Health 2010:4).

**Complementary foods** refers to “any foodstuff, whether in solid or semi-solid form, given to an infant after the age of six months as part of the transitional process in which an infant learns to eat food appropriate for his or her developmental stage, while continuing to breastfeed or be fed with commercial formula” (Department of Health 2010:4).

For the purposes of this research I also introduce the term **Mixed feeding (MF)** which is defined by the PMTCT guidelines as the “practice of feeding breast milk as well as other milks (including commercial formula or home-prepared milk), foods, or liquids. Mixed feeding in the first six months of the infants’ life is strongly discouraged as it increases the risk of childhood infections” (Department of Health 2010:5). This is important for positive mothers to note as it can cause scarring in the gut of the infant, creating opportunities for HIV infection (Department of Health 2010).

A postnatal component for supporting infant feeding practices is included in the guidelines and states that:

- Mothers should have a follow-up visit after child-birth within three days to evaluate feeding methods, evaluate breast, mother and child well-being, and to be supported.
- Infants tested positive for HIV should be breastfed for at least the duration of two years.

It is regarded as important for mothers to return to health care facilities within three days as it enables health workers to get an overview of how the new mother is coping with her chosen infant feeding method and to discuss any general baby related challenges. Returning to the clinics within the recommended time is not always possible for all mothers due to a number of factors including financial constraints, exhaustion from labour and infant care, and cultural reasons. The time after birth in Africa is more often than not followed by cultural practices. In many communities cultural practices that confine mothers and babies indoors in the first month are observed and this is referred to as a period of seclusion. (Maternal Health 2014).

The changing practices of infant feeding also pose a challenge to PMTCT. Breastfeeding has declined particularly in countries such as South Africa where infant formula has been distributed at no cost, and mothers have been influenced by marketing campaigns which suggest that formula is superior to breast milk (WHO 2010). Although total avoidance of transmission of HIV from mother to child is best achieved with exclusive formula feeding if it is acceptable, feasible, affordable, sustainable and safe-AFASS (Young, Mbuya, Chantry, Geubbels, Israel-Ballard, Cohan, Vosti & Latham 2011), mothers (HIV positive) are advised to exclusively breast feed and avoid mixed feeding particularly if they do not meet the AFASS criteria (Maru & Hadar 2009).

### 2.3 Project Masihambisane

This research explores the infant feeding practices undertaken by HIV positive mothers who participated in Project Masihambisane. As discussed in the methodology, a randomised trial was done to test the effectiveness of combining health information materials, clinic based peer support and a mentoring intervention in the PMTCT effort (HSRC Annual Report 2007-2008). The study also aimed to improve the health and wellbeing of HIV positive mothers and their babies during pregnancy and the early postpartum period (HSRC Annual Report 2007-2008).

The topic under investigation here is important as it could be helpful to understand the nature of the environment that HIV positive mothers find themselves in when it comes to making decisions about infant feeding. In some communities a mother who chooses to formula feed her infant may find herself in a situation where the community assumes that she is HIV positive and is ostracised by the community and her family. In a study conducted in three sites in South Africa (between May 2004 and January 2005) a participant reported,

It was my wish to give the baby formula because I did not trust that he was going to be okay with my breast milk, but I changed my mind because people that I live with are very observant yet they do not know my status. They do know that when a baby takes this kind of formula it means the mother is HIV and they are going to ostracize him (Doherty et al 2006: 2423).

A full exploration of the underlying social, economic and cultural factors that influence infant feeding choices and practices is required to obtain a more holistic understanding of this topic. This paper will also investigate mixed-feeding as common practice to acknowledge the disjuncture between mothers' notions of child-nurturing vs. prescribed scientific medical knowledge of nurturing in the context of HIV/AIDS.

## 2.4 Existing research done in this area

In order to comprehend the determinants of infant feeding choices it is imperative to understand the perceptions or beliefs that women (and men) have towards breastfeeding and formula feeding. These ideas often differ from one society to another, and amongst different cultures.

### 2.4.1 *Infant feeding and womanhood*

Infant feeding is an essential aspect of motherhood. The decision to breast feed or formula feed can be influenced by a number of factors but common influences are family and social influences. Maternal grandmothers usually play a supporting role to new mothers and give advice on infant feeding. In other instances mothers base their infant feeding choices on how they were fed as infants (Andrew & Harvey 2011). Correctly nurturing an infant is very important and research has shown that breastfeeding is considered best for infants particularly in developing countries as it is an effective method of saving lives (Jones, Steketee, Black, Bhutta & Morris 2003). However breastfeeding poses a challenge in the context of HIV/AIDS because through breast feeding mothers can still transmit HIV to their infants (Coutsoudis 2005). On the other hand breastfeeding is considered to be essential to a child's well-being and perhaps the essence of a mothers' womanhood (Coutsoudis 2005).

A study done in Australia with 25 women found that breastfeeding was "central to women's experiences of motherhood" (Schmeid & Barclay 1999:325). For some of these women "breastfeeding was also an embodied experience which was connected, harmonious, and pleasurable. The women described breast feeding as intimate and resulting in an increased awareness of their own bodies as a "shared body" harmoniously joined to the baby" (Schmeid & Barclay 1999:328). However for some women in the study breast feeding was experienced as "disruptive, unpleasant, and violent; describing it as physically intense and demanding, and giving rise to feelings of being a 'feeding machine'" (Schmeid & Barclay 1999:330). The study also highlighted how research in this area has not acknowledged the "interdependence, interaction, and complexity of the breastfeeding experience. Issues of social class, ethnicity, and personal experiences of women are often overlooked in promoting the advantages of breastfeeding" (Schmeid & Barclay 1999:325).

In a study conducted in Durban, South Africa Siedel, Sewpaul & Dano (2000) observed that there were indications that breast-feeding was widely seen as the norm. One participant

reported “it is painful not to breastfeed because not doing so can give your baby diseases and he catches many infections (Siedel, Sewpaul & Dano 2000:28). In addition to this report a follow-up comment reported was “it breaks the bond between mother and baby” (Siedel, Sewpaul & Dano 2000:28). On the other hand another participant reported that she was relieved to stop breast feeding because she felt that she had no more milk left and the cessation of breastfeeding gave her a sense of freedom: “I can now leave the baby with others and do other things in my life” (Siedel, Sewpaul & Dano 2000:28). The findings in this study support the observations of Schmeid & Barclay (1999) that for some breastfeeding is a connected experience between mother and child but for some can seemingly be an unpleasant experience whereby a mother can develop feelings of entrapment and a need to be free.

Infant feeding practices can give rise to socially constructed notions of what is ‘good’ or ‘poor’ mothering. Breastfeeding is generally considered to be the best practice and is associated with a mother’s womanhood (Coutsoudis 2005). The act of breast feeding an infant can therefore be a reflection of what society deems to be good mothering. Formula feeding an infant on the other hand may be considered to be an act of poor mothering because it does not adhere to the “breast is best” message. A study done in Britain (Lee 2007), about the experiences of British women formula feeding their infants in the early weeks following childbirth, showed that 32% of mothers who formula fed felt a sense of failure, guilt, and worry. One mother reported “I just felt really guilty. I felt as if I’d failed as a mum...it felt like I was going to harm him or something by giving it to him” (Lee 2007:1082). Other mothers reported a sense of relief and pleasure in their chosen feeding method (formula feeding). These women reported that one of the advantages of formula feeding is that they could “share the task of feeding the infant with others” (Lee 2007:1081). One mother reported that she found breastfeeding very tiring and was happy to formula feed because this meant that her husband, mother, and everybody else could help.

For mothers living with HIV/AIDS, total avoidance of breastfeeding is recommended to prevent child infection and therefore exclusive formula feeding is best. The HIV pandemic has created a situation where notions of “good” and “poor” mothering may be challenged since an HIV positive mother who breastfeeds could be seen as *not* practicing “good” mothering by putting her infant at risk of infection and formula feeding can be associated with good mothering. Long (2009) considers the ‘loss of breastfeeding’ as a component of HIV-positive motherhood and highlights that the decision not to breastfeed an infant is based on the desire to prevent postnatal transmission. However mother’s milk is considered valuable and the



decision not to breastfeed can also be perceived as depriving children of something crucial. This reinforces the complex psychosocial environment which HIV-positive mothers find themselves in. This environment can be even more disheartening if mothers are uneducated, unemployed, have no source of other income, have no partners, family, or social support, have not disclosed their HIV-status, and are susceptible to being stigmatised because of their feeding choices.

#### *2.4.2. The 'breast' as a sexual object and the implications on breastfeeding*

In western societies breasts are closely linked with female sexuality and this can, and often does, create challenges for mothers who opt to breastfeed their infants. In American society breastfeeding (with the breast exposed) in a public space is shunned because of the sexualised nature of breasts; associated with sex appeal rather than nutrition (Lipkin 2012), coupled with the perception that breasts are not for public display (Saha 2002). Acts of breastfeeding are therefore confined to certain spaces and only bottle feeding (giving breast milk to the infant in a bottle) or formula feeding is socially acceptable in public.

In light of the above, the situation may be different in developing countries. In some countries in Africa such as Nigeria, Zambia, Zimbabwe and even in many parts of South Africa, mothers breastfeeding their infants in public is an accepted custom and considered to be a daily way of life (Calorababy 2014). However according to an article in Destiny Connect (2014) "breastfeeding in public is something that mothers should be doing. The more it is done, the more acceptable it will become. It's unfortunate that in South Africa it is not yet widely embraced. It is taboo because of the sexual connection to breasts" which could be an indication that public opinion (in South Africa) about whether or not mothers should be breastfeeding in public is not clear. This perception may be perpetuated by the multi-cultural dynamic of South African societies in which some cultures frown upon breast-feeding in public. Women who desire to give their infants' breast milk in public spaces are therefore forced to express breast milk and bottle feed their infants.

On the other hand, the 'sexualised nature' of the breast may be a deterrence to breastfeeding for mothers who do not want to breastfeed in the presence of their male partners. The feeling is that the fathers of their babies may be put off by the breastfeeding process which may be seen as unattractive. Breastfeeding may also give rise to feelings of jealousy in men who feel that they have to compete for the breast with the infant. "Preserving sexual intimacy with the male partner, although not displacing the importance of maternal-infant bonding and

breastfeeding, cannot be ignored” (Saha 2002:67). Mothers in such a situation may opt to formula feed or express milk and bottle feed their infants. In African societies on the other hand less emphasis is placed on the breast as sexual in nature, and more often than not mothers prefer to breastfeed their infants and have the support of their partners/fathers of the babies.

### ***2.4.3 Infant feeding choices in the context of HIV/AIDS***

In the face of HIV/AIDS infant feeding choices are difficult and “adherence to a chosen infant feeding method is especially challenging for women with HIV” (Doherty *et al.* 2006: 90). In a world where ‘breast is best’, and associated with good mothering, the decision to either breast- feed or formula feed can be very daunting for HIV positive mothers. Research has shown that even when mothers are taking ARVs there can still be transmission of HIV and some of the contributing factors are the duration and patterns of feeding and the CD4 count level. A study conducted in KwaZulu Natal showed that mothers (who take ARVs) could still transmit HIV to their infants if they have high levels of a herpes virus present in their breast milk (Viljoen, Tuailon, Nagot, Danaviah, Peries, Padayachee, Foulongne, Bland, Rollins, Newell & van de Perre 2015). In this context the idea of good mothering could be associated with undertaking formula feeding however in the developing world formula feeding is a challenge. However formula feeding creates other social problems such as discrimination and stigma associated with HIV/AIDS.

There are a number of factors that influence HIV positive mothers’ infant feeding choices but for the purposes of this research, and with reference to Project Masihambisane, the paper will focus on factors such as socio-cultural influences, socio-economic status, stigma and disclosure, conflicting notions of motherhood, and factors contributing to EBF and EFF - and examine how these impact on the choices mothers make.

### ***2.4.4 Socio-cultural factors***

The clinical guidelines for PMTCT prescribes that all pregnant women who are HIV positive be enrolled in the PMTCT programme and have to be counselled about infant feeding. Mothers must choose only one feeding method that they will adhere to in the first six months of the infants’ life. However adherence to one feeding method has proven to be challenging for a number of reasons. Research has shown that families and communities influence the infant feeding choices made by mothers (HIV positive and HIV negative). In an ethnographic study

done in rural KwaZulu Natal in South Africa one of the participants in the study stated “at home they say breast milk is not enough for the baby, they say I must give him other foods so that he can grow. They say it’s a burden for me to give only breast milk” (Thairu, Pelto, Rollins, Bland & Ntshangase 2005:6).

A study conducted in Northern Tanzania illustrated the “gap between intentions and infant feeding practice in a context where social expectations to breastfeed are high and where families and communities influence infant feeding choices” (Leshabari, Blystad & Moland 2007:554). The study also demonstrated the conflict between “medical and social risks involved in the choice of infant feeding methods” and showed that it is difficult for women to adhere to either breastfeeding or formula feeding because of issues such as disclosure, stigma, and the involvement of family and neighbours in infant feeding choices. The study highlighted the gaps between individual women’s intentions and the possibility of putting their intentions in practice. Mixed feeding was a common practice in the context where families and neighbours play a role in the process, making it almost impossible for positive mothers to adhere exclusively to one feeding method.

This was also evident in a project which reviewed “data on infant feeding practices in sub-Saharan Africa” (Basset 2000:128). The data showed that even though “prolonged breastfeeding was common, weaning foods were typically introduced early” (Basset 2000:128) (within the first 6 months of the infant’s life; usually at 3months onwards). This is done to ensure that the infant has ‘sufficient food’. The mothers believe the infant is not getting enough sustenance through breast milk, which is an indication that the risk of child infections falls short of mothers’ intuitive knowledge of nurturing their infants.

#### *2.4.5 Socio-economic factors*

Infant feeding choices can also be influenced by the socio-economic status of mothers. It is suggested that a mother who comes from a poor household and does not have any form of income is more inclined to breastfeed her infant because that it is a free source of milk that is readily available. Although the government (South Africa) does roll out free formula for HIV positive mothers enrolled in the PMTCT programme at primary health care facilities, this supply is not always guaranteed; there is no consistency. In a situation like this a mother who cannot afford to continue formula feeding, or who does not have another support structure,

could end up mix feeding the infant and putting it at risk of infection. A mother may also not be able to breastfeed her infant because she is working and has to leave her child all day. In this situation she could explore the option of expressing milk and in her absence the infant can still be given breast milk through cup or bottle feeding. This would of course require mothers to have a breast pump and although this is possible it may not be a common practice.

It can be suggested that mothers who are successful in exclusive formula feeding are ones that are in a position to purchase formula milk or have a partner or family member who can support the demand and do not have to depend on the formula milk supplied by the government. A qualitative study done in Burkina Faso found that “formula-feeding mothers more frequently had a supportive partner, a strong personality, and lived in better socio-economic conditions than breastfeeding mothers; 76% had education and electricity supply” (Cames, Saher, Ayassou, Cournil, Meda & Simondon 2010: 253). “For mothers to maintain uninterrupted formula-feeding, having a supply of electricity, cash, and the availability of other resources such as an electric kettle, a bottle-cleaning brush, and a flask for night feeding, is what matters” (Doherty *et al.* 2006:2425). These mothers satisfy the AFASS criteria.

In most developing countries the debate still continues regarding the benefits and risks of formula/replacement feeding (Maru & Haidar 2009). Some important requirements to sustaining formula feeding is having access to clean portable water, electricity for refrigeration, food security for mothers and the financial means to purchase formula as and when required. In a study done in Southern Ghana (Laar & Govender 2011:133) one of the mothers in the focus groups reported, “because some of us do not have the money to ensure continuous purchase of the formula milk, we decide to use it economically by adding other foods though we know that feeding the baby exclusively on formula is the best”. One can deduce that the inability to consistently have formula milk available for an infant because of financial constraints can be detrimental to the infant’s health, especially in cases where mothers are forced to supplement intake and give their infants breast milk and/or other foods which can leave the infant vulnerable to postnatal HIV infection.

#### *2.4.6 Stigma and Disclosure*

Stigma and disclosure of HIV status can also be an influencing factor in how an HIV positive mother chooses to feed her infant. In communities where there may be stigmatisation it is challenging for HIV positive mothers (and other infected individuals) to feel themselves being accepted by society. The negative connotations surrounding HIV has created an environment where the disease is frowned upon and in most instances women tend to be on the receiving end of the negative attitudes around HIV/AIDS. “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” (Thairu, Pelto, Rollins, Bland & Ntshangase 2005:6). For a mother failure to disclose her HIV status to her family can make the choice between EBF and EFF difficult.

Other dynamics of disclosure must be noted such as the immediate impact it may have on mothers and their life situations. Buskens, Jaffe & Mkhathshwa (2007) found that the mothers often hide their HIV status from their partners and families stating that they fear being rejected, losing financial and social support. The implication of non-disclosure is described as follows:

Exclusive breastfeeding or formula-feeding in the face of non- disclosure or limited gradual disclosure, HIV-positive mothers are also often confronted and questioned both by relatives and neighbours who wonder why water, solids or breast milk are strictly prohibited. They often lie rather than disclose their status but with limited success. (Buskens, Jaffe & Mkhathshwa 2007:1106)

The presence of social pressure and the fear of stigma for HIV positive women create situations in which adherence to one infant feeding method exclusively is near impossible. The influence of family members and neighbours, non-disclosure of HIV status, and entrenched mixed feeding practices (particularly in African communities), are in conflict with prescribed medical knowledge and existing PMTCT policies which means that the efforts to maximise child survival may be futile. In Ghana and Tanzania mothers face major social challenges if they engage in formula feeding because breast feeding in these communities is a deep culturally entrenched practice. The mothers often hide the fact that they are formula feeding for fear of being stigmatised (Laar & Govender 2011) since the practice of formula feeding has become

associated with being HIV positive in communities where breast feeding is the norm (De Paoli, Manongi & Klepp 2002).

Direct disclosure of HIV status by mothers to their partners and families may be crucial if their chances of adhering to one feeding method, particularly exclusive formula feeding, are to be increased. Maru & Haidar (2009) found that when husbands are not aware of the HIV status of their wives, they (the husbands) usually impose an inappropriate infant feeding method. However mothers' fears of physical abuse, divorce, and being forced to leave their homes and potentially raising their children alone (Maru & Haidar 2009), seem to outweigh the potential positive effects of disclosure, i.e. proper support structures.

#### *2.4.7 Conflicting sets of knowledge and beliefs*

Conflicting knowledge sets are also an influencing factor on infant feeding practices. Mixed feeding is a common practice for both HIV negative and HIV positive mothers, especially where family members are involved. Buskens, Jaffe and Mkhathshwa (2007:19) noted that "even where PMTCT programmes are not undermining the exclusive breastfeeding option, health workers have in most cases not been able to convince HIV-positive mothers that breast milk is sufficient infant food". Even though mothers (HIV positive) were aware of the dangers of mixed feeding in the first six months, infants were still given water, medicines and other foods. The information given to mothers is interpreted on the basis of the mothers' lived experiences and the beliefs they hold on infant feeding.

#### *2.4.8 Conflicting notions of motherhood and the conflicting nature of HIV-positive motherhood:*

Leshabari, Blystad & Moland (2007:552) portray the "power of breastfeeding as a culturally embedded practice and as a moral commitment on the part of the mother. These norms and moral commitments can carry additional or new meanings in the context of HIV/AIDS". Breastfeeding is identified as important to survival of a child, and is also interpreted as critical to on-going social relations surrounding mother and child. Not breastfeeding the infant but rather giving substitute milk (formula or cows' milk) in the early stages of the infant's life thus implies "going against the rules of good motherhood and entails immense personal emotional

stress as well as social pressure and censure” (Leshabari, Blystad & Moland 2007:552). Preserving the practice of breastfeeding is vital as it is perceived to create a bond between mother and child and to solidify the maternal-child relationship. Formula feeding should be encouraged if the mothers’ living conditions are favourable.

In an attempt to better understand motherhood and one must also take into account the conflicting nature of HIV-positive motherhood which is important in formulating an integrative approach that accommodates HIV-positive motherhood in society and also achieves the objectives of the PMTCT programme. Carol Long (2009) identifies “contradicting maternity” which explores the conflicting nature of motherhood experienced by HIV positive women. Long’s research on ‘HIV positive motherhood’ is used to understand the findings of this research and to elaborate on the different factors (socio-cultural, socio-economic, and psychosocial) faced by HIV-positive mothers, as well as how these factors frame infant feeding patterns. “HIV-positive motherhood (in South Africa) is located within a collision of opposites. Folded into the same person are profound contradictions of creativity and destruction, hope and despair, good and bad, self and baby.” (Long 2009).

In light of the above it can be concluded that the discourses around motherhood and notions of good mothering have changed in the face of HIV/AIDS. Even though breast feeding is vital for the infants well-being formula feeding has become critical to optimizing infant survival. This being said encouraging HIV positive mothers to formula feed (even exclusively) in environments such as the Umgungundlovu districts, where Project Masihambisane was undertaken, could be setting mothers up for failure and rather breast feeding should be promoted. Cournil, De Vincenzi, Gaillard, Cames, Fao, Luchtes, Rollins, Newell, Bork & Read (2013:1627) confirmed that “in research-constrained settings, it has been long recognized that promotion of breastfeeding is a key intervention for reducing the mortality among HIV-exposed and nonexposed children”. However with this being said the risk of post-natal infection still remains.

#### ***2.4.9 Factors contributing to successful EBF and EFF:***

In a study done in South Africa Doherty *et al* (2006) found that for mothers who opted for exclusive breast feeding they were driven by a belief that breast feeding was essential for the well-being of their infants. Furthermore “having someone in the home to whom the mother

had disclosed her status and who could support her infant feeding choice was important” (Doherty *et al* 2006:2424). Finally staying at home also contributed to successful exclusive breast-feeding.

Even though free formula milk was provided, some of the mothers exhausted the formula milk supply within the first three months. This resulted from insufficient supplies and the short time periods during which the formula was provided which therefore mothers had to travel to the clinics which may have also had a cost implication for them. During times when formula milk is not available from the State, having the means to purchase more supplies is critical in sustaining exclusive formula feeding. The study also noted that “other resources such as having electricity, a kettle, and a flask for storing hot water also contributed to the success of exclusive formula feeding” (Doherty *et al* 2006:2425).

The study acknowledged that HIV positive women faced many challenges in sustaining exclusive infant feeding. Not having enough support from health care workers, in some cases, led women to deviate from the initial feeding choice. The women also faced pressures from family members to start giving infants other foods, and this was perpetuated if their HIV status was not known by the family making it difficult for them to adhere to one feeding method. The women who were breastfeeding could not sustain this if they were away from the infants and those who were formula feeding feared the stigma around formula feeding which led them to introduce breast milk and other foods. It was evident that in some cases mixed feeding occurred within the first six months of life and that there were also social, cultural, and economic factors that influenced infant feeding practices. Whether women choose to breastfeed or formula feed, they face great interactional challenges because they strive to “not only be good mothers but also good partners and good women” (Murphy 1999:187).

## **2.5 Limitations identified in past/current research**

Gaps identified in the literature are that the focus has been more on the individual and child than on women/mothers located in the contexts of communities. Infant feeding choices and practices are largely influenced by the communities women live in and the culturally embedded beliefs in those communities. Research shows that infant feeding choices (and mothers ability to adhere exclusively to their chosen feeding methods” are more often than not influenced by mothers’ social environment. Leshabari, Blystand & Moland (2007:554) asserted that “decision-making on infant feeding is not only based on knowledge about medical risks, but



also on the social risks regarding disclosure, rejection and stigma”. Their study demonstrated “the gap between the individual woman’s intentions and her possibilities to put her intentions into practice, in a context where kin and neighbours make up part of the decision-making team surrounding infant feeding. The concept of ‘informed choice’ in this context therefore emerges as awkward and misleading, as it does not address the true challenges associated with decision-making and adherence to infant feeding as experienced by HIV positive mothers”.

In light of the above it can be suggested that effective interventions which address infant feeding practices need to find a way to marry the individual notions of motherhood, the community, and scientific medical knowledge in such a way that they will optimize infant survival.

## **2.6 Contribution the research will have to the field of interest**

This paper will provide insight into the complex environments that HIV positive women find themselves in when it comes to infant feeding choices. There are critical factors, particularly socio-cultural factors, that influence infant feeding practices which need to be addressed via effective PMTCT policies and interventions to significantly minimise and eventually eliminate threats of postnatal transmission of HIV/AIDS and other child infections caused by non-exclusive feeding practices.

# Chapter 3: Theoretical Framework

## 3.1 Introduction

This chapter illustrates the principle theory upon which this research project will be constructed, how this theory ties into the research problem and purpose of this study and the limitations of the theory.

## 3.2 Pierre Bourdieu's Theory of Social Action (Habitus and Theory of Practice)

Pierre Bourdieu's defines habitus as a “system of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organise practices and representations that can objectively be adapted to their outcomes without presupposing a conscious aim at ends or an express mastery of the operations necessary in order to attain them” (Bourdieu 1990b:53). Habitus consists of “our thoughts, tastes, beliefs, interests, and understanding of the world around us, and is created through primary socialisation into the world through family, culture, and the milieu of education” (Hawthorn 2013:1).

In applying the above definitions to the research topic I will make reference to Cames *et al.* (2010) in an attempt to relate habitus to my research statement. The study showed that opting for breast feeding seemed to be an informed ‘default’ choice for many mothers (2010:260). The study brings to light that breast feeding, gavages and enemas (in Burkino Faso) are considered to be an integral part of baby care. Such practices remain embedded within tradition and mystical beliefs as they are considered to be healthy for the infant (Cames *et al.* 2010). The authors continue to highlight that the infant feeding (particularly breast feeding) is considered to be a family matter entrusted to the elders who are the guardians of tradition (Cames *et al.* 2010). This study gives us an indication of how in this particular context habitus is created and perpetuated in individuals and particularly in this case mothers. If we look at the terms ‘informed default choice’ we get the sense that the practice of breast feeding is inherent in mothers, the practice is passed on from generation to generation (family, elders and culture) and it is the phenomenon that mothers associate with best baby care and this is how they are socialized to understand it. Therefore the inherent desire to breast feed an infant is also driven by the notion of habitus even in the context of HIV/AIDS. The challenge that arises though is that mother are not exclusively breast feeding (as noted above), mixed practices are

the common practice and it is this phenomenon that poses a big challenge to successful PMTCT post birth.

According to Bourdieu habitus can potentially “influence our actions and can also construct our social world as well as being influenced by the external world” (Hawthorn 2013:1). “Internal and external worlds are viewed by Bourdieu as interdependent spheres and because of the fluid nature of habitus (changing with age, travel, education, parenthood etc.) no two individual’s habitus will be the same” (Bourdieu 1984:170). He uses the word habitus to develop a link between social structures and social practice. He attempts to understand in what manner human action is organized, and how it follows “regular statistical patterns without being the product of obedience to some external structure such as income or cultural norms, or to some subjective conscious intention such as rational calculation” (Swartz 2002:61).

If one observes the assertions made above about the fluid nature of habitus then one can deduce that practices/actions are subject to change as a result of different stimuli in the environment. If we consider mothers living with HIV and having to make an appropriate infant feeding choice, it may be said that most mothers would opt to formula feed (exclusively) because this eliminates the risk of infant feeding. Although habitus would suggest that culture would dictate that breast feeding (exclusively or non-exclusively) is the norm (in most settings) we can see how when the environment changes i.e. introduction of HIV/AIDS, this could result in a deviation from normal practices. In other words if a mother has HIV and is adequately counselled on the different feeding methods, the risks and consequences of their choices (the mother gains knowledge), that mother [this includes mothers living in traditional and poor settings (Cames et al. 2010:259)] may be inclined to opt for formula feeding because this is the best way to protect her infant. It can therefore be deduced that mothers’ desires to protect their infants is constant and they have the ability to adapt their practices to achieve for the best possible outcomes.

Bourdieu introduces two other concepts, capital and field, that along with habitus inform human action. Human action cannot be reduced to dispositions formed in the past only; dispositions require resources or what Bourdieu refers to as capital (economic, cultural, social, and symbolic) which are unequally distributed across social classes. Economic capital refers to the economic assets held (property owned and ability to earn); cultural capital is constituted by an individual’s knowledge, experience and connections; social capital can be defined as the social relations and social networks a person has. Habitus also generates action in what

Bourdieu refers to as fields which are “competitive arenas of struggle over different kinds of capital” (Swartz 2002:65-66)

According to Bourdieu, habits alone are not the driving force of human action; rather “human practices emerge from the encounter of individual biological units with certain types and amounts of capital, certain dispositions, and certain fields” (Swartz 2002:65-66).

Bourdieu maintains that society is divided into domains of actions which he refers to as ‘fields’ and defines a field as

...a field of forces, whose necessity is imposed on agents who are engaged in it, and a field of struggles within which agents confront each other, with differentiated means and ends according to their position in the structure of the field of forces, thus contributing to conserving or transforming its structure (Reed-Danahay 2004:32).

Habits are subject to change particularly as agents infiltrate fields in which certain behavioural traits do not work. The constitution of habitus can promote change as well as continuity (Swartz 2002:66).

The above indicates that there are different drivers of human action and we can conclude that habitus will differ from one person to another depending on the distribution of these drivers in a given environment. Indeed one cannot reduce infant feeding choices of mothers solely to notions created in the past but rather a combination of the past and the future where there are many factors (economic, cultural and social) that influence decision-making. This study has identified factors such as tradition, culture, partners and family, the community, stigma and disclosure, and the availability of resources (financial etc.) as some of the things that influence infant feeding choices. The degree to which these factors influence the actor may vary depending on age of the actor, level of education, employment status, whether one is living alone or not and whether or not one has social support.

In the context of HIV/AIDS mothers living with HIV find themselves functioning in a field that has different rules and in one way or another have to adhere to these rules that dictate how to live positively as an individual and practice good mothering within this context. However the field does not always speak to the habitus and capital (as defined above by Bourdieu) and furthermore fields may not speak to each other and therein may lie the challenge, the disjuncture that can occur between conflicting knowledge sets for e.g. scientific knowledge and recommendations vs local knowledge (local ideas, experiences, perceptions and actions).

Bourdieu identifies the characteristics of habitus and stresses the importance of “a sense of place in the social order; an understanding of inclusion and exclusion in various social hierarchies” (Swartz 2002:63). Different social classes and groups present with different natures of habitus. Habitus therefore “adjusts aspirations and expectations according to the objective probabilities for success or failure common to the members of the same class for particular behaviours. The dispositions of habitus predispose actors to select forms of conduct that are most likely to succeed in the light of their resources and past experience” (Swartz 2002:64).

The theory of social action would suggest that HIV positive mothers would choose the appropriate feeding method based on the probabilities of the best outcome which in this case would be formula feeding. However with that said referring individuals may not always correctly select the forms of conduct that are most likely to succeed particularly with reference with the changed nature of infant nurturing in light of the HIV pandemic. The previous chapter has highlighted the AFASS criteria which must be adhered to for successful formula feeding. In resource poor settings the probabilities of mothers (HIV positive and HIV negative) formula feeding may be low and mothers’ may be more inclined to breast feed. Even though the State in South Africa provides free formula for mothers (where applicable), the lack of consistency in this provision method creates problems. A mother living with HIV may decide to formula feed her infant, with the intention to protect the infant from infection from breast milk, but if the right support structures are not in place her decision could set her up for failure. If the primary habitus pertaining to infant nurturing adjusts itself in the new field (HIV/AIDS) to optimize success then it is important that the capital (economic, social and cultural) meet the demands of the new field. If the field is not aligned to the habitus and capital then for e.g. a mother who chooses to formula feed her infant but cannot sustain this practice may be setting herself up for failure and mixed feeding practices are more common in such instances.

### **3.3 Limitation/s of the above theory**

The theory of social action will provide a framework for understanding the data collected and analysed and also for providing insight into how mixed feeding practices may occur in the postnatal period. I am aware that there may be other theoretical frameworks better suited to understanding my research problem but for the purposes of this study I am confining myself to this one.

## **Chapter 4: Description of Research Methodology**

### **4.1 Introduction:**

This chapter discusses the research methodology that I use to analyse and interpret the data collected from Project Masihambisane. It also reflects on the research design and methods used in Project Masihambisane. The main issues discussed in the chapter are: the research method and method of data analysis, issues of validity and reliability, and the background of the research methodology for Project Masihambisane, the advantages and disadvantages of survey research and the ethical considerations.

### **4.2 Research method and method of data analysis used in this dissertation**

My research analyses and interprets the existing data from Project Masihambisane which means that this is a secondary data analysis. Secondary data are data that already exists such as census data or documents and texts were previously produced (Babbie & Mouton 2001). “Secondary analyses of large datasets provide a mechanism for researchers to address high impact questions that would otherwise be prohibitively expensive and time-consuming to study” (Smith, Ayanian, Covinsky, Landon, McCarthy, Wee & Steinman 2011:920).

### **4.3 Issues of reliability and validity**

Reliability is defined as “the extent to which a questionnaire, test, observation, or any measurement procedure produces the same results on repeated trials”. Reliability is concerned with “stability and consistency of scores over time and cross raters”. Validity is defined as “the extent to which an instrument measures what it purports to measure”, and is therefore concerned with the “degree to which the instrument measures the variables of interest” (Miller, MJ., RES 600 *Graduate Research Methods*).

### *4.3.1 Reliability issues*

Reliability is concerned with consistency found in repeated measurements. In secondary data use the researcher has to check whether the measurements used were reliable by checking if the instruments used were transparent, where they tested for stability (whether or not there are variations in answers the second time that the instrument is administered) and how the test administration and scoring errors had been eliminated.

Project Masihambisane used the test-retest method as certain questions were asked repeatedly on all assessments to ensure that the measurements would produce the same observations under the same conditions. A pilot study was undertaken before Project Masihambisane was officially implemented. Questionnaires were administered in the form of interviews with clinic staff to establish the number of women who come through the antenatal clinics, get enrolled in the PMTCT programme, and are likely to participate in Project Masihambisane.

### *4.3.2 Validity issues*

The issue of validity in secondary data raises questions about the soundness of the results drawn from the data. When the interpretations of the primary data collector do not match the theoretical definitions of the secondary data user this creates a problem of validity in secondary data research. Therefore when using secondary data the researcher must consider two things; how was the information gathered and whether or not the findings relate to the hypothesis or problem.

As a secondary data researcher I had to critically engage with the content of the research, the measures used to measure the content, as well as the final data to ascertain whether these were sufficient to draw valid conclusions. I was a data collector in the study so I am aware of how the constructs of the study were defined and how the data was collected.

I cannot claim or guarantee complete reliability and validity as I have drawn on already existing data, but I am aware of the reliability mechanisms that were put in place. I have thoroughly engaged with the research instrument (questionnaire and relevant sections) as well as the measures of constructs used in Project Masihambisane to see if they were aligned to my research questions (refer to research questions and the relevant sections to be analysed), and the variables I was interested in.

#### 4.4 Data to be analysed in this study

Project Masihambisane conducted survey research which is a method used in quantitative studies. Survey research is useful in describing the characteristics of a large population and the results are generalisable. The sample size (1200 participants) was adequate to draw conclusions about the research population of interest in my study. Furthermore the data collected in this study speaks to my research problem.

A structured questionnaire was used to collect the data for Project Masihambisane. Four assessments were used namely: (i) A baseline assessment (administered while the participant was still pregnant), (ii) A six days after birth assessment, (iii) A six months after birth, and (iv) A twelve months assessment. All four assessments provided important information towards improving the well-being of mothers and their children. However for the purpose of this research, I focused on the baseline survey, the six days after birth, and the six months after birth assessments. I did not investigate the twelve months assessment because after six months (as per the PMTCT guidelines) solid foods may be introduced to the infant and there would have been cessation of the prescribed feeding. I will be looking particularly at the following themes that the baseline survey covered:

##### **Part 1**

From the baseline assessment I analysed:

- Participant demographics
- Housing demographics
- Social support

##### **Part 2**

- Partnerships - father of the child

##### **Part 3**

- Baseline knowledge - disclosure and protection
- Maternal knowledge of child health - participant 6 month feeding plan



From the six days after birth assessment I analysed:

- Breast at birth
- Breast preparation and health
- Disclosure and protection
- Feeding - how baby was fed in the first week of life

From the 6 months after birth assessment I analysed:

- Feeding - past 6 months
- Knowledge
- Breast preparation and health

The data from Project Masihambisane was captured in SPSS format and I will provide descriptive statistics of the relevant sections. Using SPSS I was able to calculate frequencies and averages and to explore subgroup comparisons. I also undertook bivariate analysis of the relationship between two variables, and multivariate analysis of the relationships among several variables. The results will be depicted in tabular representations.

#### **4.5 Background of the research sampling for Project Masihambisane**

The intervention was tested through a randomised control trial in eight primary health care clinics mainly located in the Vulindlela area of the UMgungundlovu health district in KwaZulu-Natal from 2009-2010. Research shows that Kwa-Zulu Natal is one of the provinces worst affected by HIV with 40-60% of pregnant women attending antenatal clinics living with HIV (Rochat, Tomlinson, Bärnighausen, Newell & Stein 2011). Four pairs of matched clinics from two strata (large peri-urban clinics and small rural clinics) were identified. Each matched clinic pair was randomised to the intervention (four) or control (four) condition

HIV positive mothers in the control clinics received the Department of Health (DOH) delivered PMTCT programme. The fundamental aim of this programme is to increase the number of HIV negative babies born to mothers living with HIV decrease the number of HIV-infected babies born to HIV-positive mothers. The programme is delivered by clinic nurses and counselors and includes a voluntary counseling and testing (VCT) component, infant feeding counseling, preventative prophylaxis, dual therapy for mother and child, and replacement formula.

In the intervention clinics participants received the DOH delivered the PMTCT programme with the addition of the Project Masihambisane mentor mothers support programme. Mentor mothers (who were HIV positive and had been through the PMTCT programme themselves) were recruited and trained to deliver the intervention to pregnant mothers living with HIV (Clinical Trials 2013). The intervention was presented within four antenatal visits and four post-birth visits. Expectant mothers would receive these sessions either individually or in groups. The Masihambisane intervention programme aimed to test the effectiveness of Peer Mentor support in addressing health, mental health, and stigma challenges faced by women living with HIV (Rotheram-Borus, Richter, Van Rooyen, van Heerden, Tomlinson, Stein, Rochat, de Kadt, Mtungwa, Mkhize, Ndlovu, Ntombela, Comulada, Desmond & Greco 2011)

1200 HIV positive mothers were enrolled in the study using probability sampling. The women were recruited during antenatal visits to the clinic. At the antenatal visits a trained clinical research assistant from Project Masihambisane would conduct a group information sharing session with pregnant women which involved providing information about pregnancy and the well-being of mothers and their infants. All the pregnant women would then have a one-on-one information sharing session with the CRA, and the mothers that were HIV positive were then recruited into the study at this encounter. The mothers who agreed to participate in the study then scheduled appointments with the CRA for the baseline assessment.

### **Inclusion criteria**

In order for women to be included in the study, they needed to meet the following criteria.

Mothers living with HIV needed to be:

- Enrolled in the PMTCT program at one of the 8 study clinics
- 18 years or older
- Less than 34 weeks pregnant at baseline and HIV positive
- HIV positive but not so ill as to be eligible for highly active antiretroviral treatment (HAART) The reason for this was that the treatment would then be primarily delivered at a tertiary centre rather than at the primary health centre, such as one of the study clinics.
- Intending to reside in the study area for duration of study
- Able to give informed consent as judged by the interviewer.

### **Exclusion criteria**

- Failure to meet any of the inclusion criteria.
- Unable to give informed consent

Four assessments were used to collect individual data: the baseline assessment, the six days after birth assessment, the six months after birth assessment and the twelve months after birth assessment. The baseline assessment was administered to mothers from 28 weeks to 36 weeks gestation. The six days after birth assessment was administered from the first week after the infant was born up to three months. The six months assessment was administered from the time the infant was six months and the twelve month assessment when the infant was twelve months old.

Questionnaires were administered to the participants at each visit. These assessments were strictly confidential. The assessments were administered by a research staff member (HSRC) reading the assessment questions in a side-by-side interview. When the mothers came for their interviews a research assistant would again introduce the study and its objectives to them and upon the mothers' agreement to participate in the study, the research assistant would ask them to sign (put a thumb print in the case of a woman being unable to write) the informed consent form.

Data collected during the assessments was stored electronically using cellular telephones. Responses were inputted directly into the mobile device handset. The phone "allowed for simple logic and range validation to be performed as questions were asked by the research assistant to improve data quality" (HSRC Research Protocol Phases II & III). The responses were securely stored on the phone until they were directly uploaded to the research centre via an encrypted internet connection.

## 4.6 Variables

Variables are characteristics that are given to units of analysis. They are the attributes or qualities of the units of analysis that we measure. This research project explored the factors that influence the infant feeding practices of mothers living with HIV. I identified the following independent variables to be measured to address the research problem which is aimed at identifying factors which influence the infant feeding choices of mothers living with HIV.

1. Highest education level
2. Employment status
3. Marital status
4. Housing description
5. Social support (family/relatives, community organisations, support organisations)
6. Disclosure of HIV status
7. Knowledge of breast health

The dependent variables I measured were:

1. Intention to breast feed
2. Intention for formula feed
3. Mixed feeding practices

This research attempts to explain the dependent variables through the use of one or more independent variables.

## 4.7 Advantages and disadvantages of survey research:

“Surveys are useful in describing the characteristics of a large population and allow researchers to make refined descriptive assertions about their unit/s of analysis” (Babbie & Mouton 2001: 263). The assessments for Project Masihambisane were administered by a trained research assistant (data collector) in the form of interviews. There is more flexibility in a personal interview, as opposed to a respondent being given a questionnaire to fill out, in that the interviewer can skip irrelevant questions and both the interviewer and respondent can ask for clarity if required. In addition the interviewer has some form of control over the order of the questions if that is pertinent. Nowadays surveys can be administered through the internet and

this is also a popular method of gathering data. As a result of the high representativeness brought about by survey research it is often easier to find statistical significant results as opposed to through other data collection methods (Explorable 2008). The disadvantage of personal interviews is that they are costly and time-consuming. There is also the issue of interviewer bias; an interviewer may not capture the respondents answer as it is or may change it to suit his/her interpretation, or may ask the respondent leading questions.

#### **4.8 Ethical Considerations**

This study uses already existing data and since I did not engage with the respondents I did not need an informed consent form. The secondary use of this data will not cause any harm to the respondents and the data was accurately and honestly reflected.

Project Masihambisane received ethical clearance from the Human Sciences Research Council Ethics Committee (Appendix 2). This study received ethical clearance from the University of Kwazulu-Natal Humanities and Social Sciences Research ethics committee (Appendix 3).

# Chapter 5: Research Results

## 5.1 Introduction

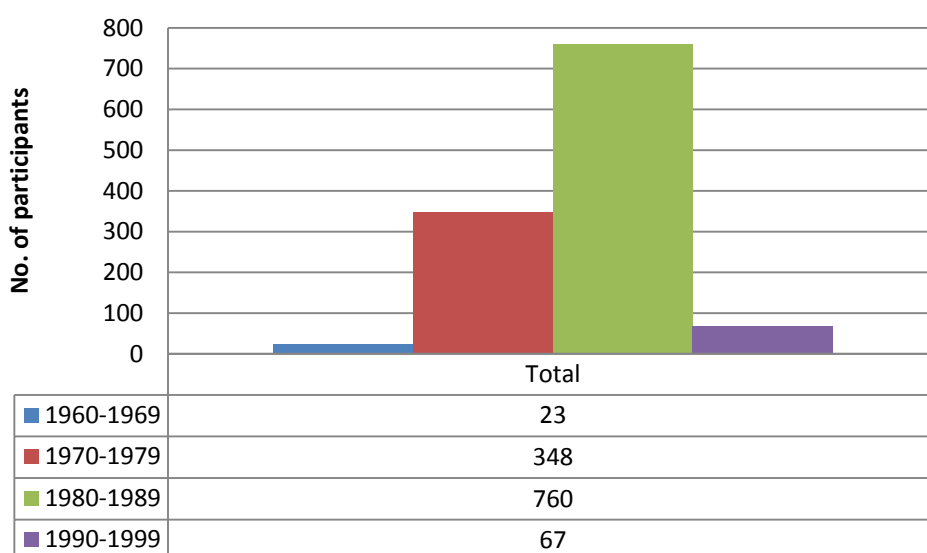
This chapter discusses the research results as well as the interpretation of the results. The data has been captured and the relevant sections analysed using IBM SPSS Statistics 21. The data were depicted using graphs and tabular representations (See Appendix 1).

## 5.2 Baseline Assessment Data

### 5.2.1 Participant Demographics

Questionnaires were administered to 1200 participants.

Figure 1: Participant age groups



23 participants were born in the year group [1960-1969], 348 were born in the year group [1970-1979], 760 were born in the year group [1980-1989], and 67 were born in the year group [1990-1999]. 944 participants were single, 76 were married and 179 were living with their partners but not married (Appendix 1: Table 1).

The majority, 451 (37.6%), of the participants across all eight clinics had received senior secondary education (Grades 10-12), followed by 328 (27.3%) participants who received junior secondary education (Grades 7-9). On average all the participants had Grade 1-3 education, 52 (4.3%) of the participants had tertiary education and only 24 (2%) participants had no schooling (Appendix 1: Table 2).

Overall 588 (49%) participants were unemployed, 317 (26.4%) were in part-time employment and 183 (15.3%) were in full-time employment. The rest of the participants (10.7%) fell in the categories of informal employment, students, and other (Appendix 1: Table 3-8). Table 10-20 (Appendix 1) shows other sources of income which the participants reported to be receiving.

A large majority of the participants (1028) were living with other adults in their households whereas only 170 of the participants were living alone (Appendix 1: Table 21). There is no data available on the description of the adults i.e. whether they were partners and/or family members.

### 5.2.2 Household Description

Table 9: Housing description

Type of Dwelling	No. of Participants with this type of dwelling	Percentage %
Dwelling / house or brick structure on a separate stand or yard or on farm	693	57.8
Traditional dwelling / hut / structure made of traditional materials	355	29.6
Flat or apartment in a block of flats	22	1.8
Dwelling / house / flat / room in back yard	8	0.7
Informal dwelling / shack in back yard	46	3.8
Informal dwelling / shack not in back yard, e.g. in an informal / squatter settlement or on a farm	70	5.8
Other	4	0.3

The majority, 693, of the participants were living in formal housing (dwelling/house or brick structure), followed by 355 who were living in traditional settlements (traditional dwelling/hut/structure made of traditional materials). 22 participants were living in a flat/apartment, 8 were living in a dwelling/house/flat/back yard, 46 were living in an informal dwelling/shack in back yard, and 70 were living in an informal dwelling/shack not in a back yard.

### 5.2.3 Social support

In this section of the questionnaire participants were asked if they participated in the following organisations:

*A temple / church (1), Community events (2), Community meetings (3), AIDS education group (4), An organisation for HIV+ person (5), AIDS activities outside my neighbourhood (6) and Other (99).*

78.1% of the participants indicated that they participated in church/temple; 24.7% indicated they participated in community events; 68.2% indicated they attended community meetings; 8.3% indicated they participated in an AIDS education group; 3.1% indicated they participated in an organisation for HIV positive people; 3.8% indicated they participated in AIDS activities outside their neighbourhoods, and 5.5% indicated participating in other organisations (Appendix 1: Table 22-28). Following this the participants were asked if they participated in any formal/informal support group and most of the participants (96.2%) reported that they were not a part of any support group and 3.7% reported that they participated in other support groups (Appendix 1: Table 29). *\*The questionnaire did not define the meaning of formal/informal support group.*

### 5.2.4 Partnerships - Father of the child

In this section participants were asked (among other questions) if their partners supported them financially - *no definition was provided in the questionnaire for financial support* - and what the fathers' feeding opinions were.

Figure 2: Father supporting financially

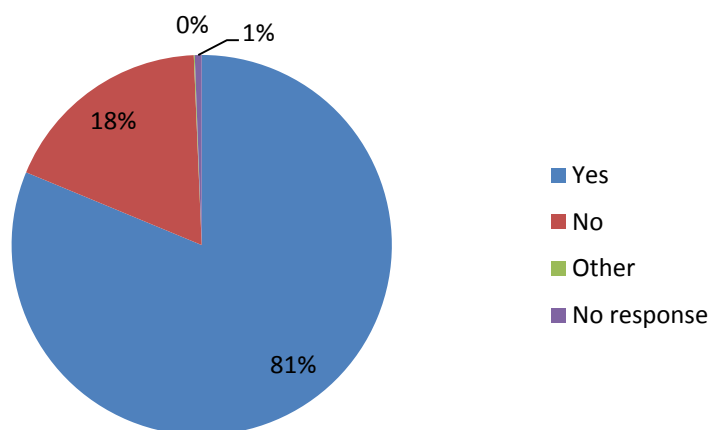




Figure 3: Fathers Feeding Opinion (as reported by participants)

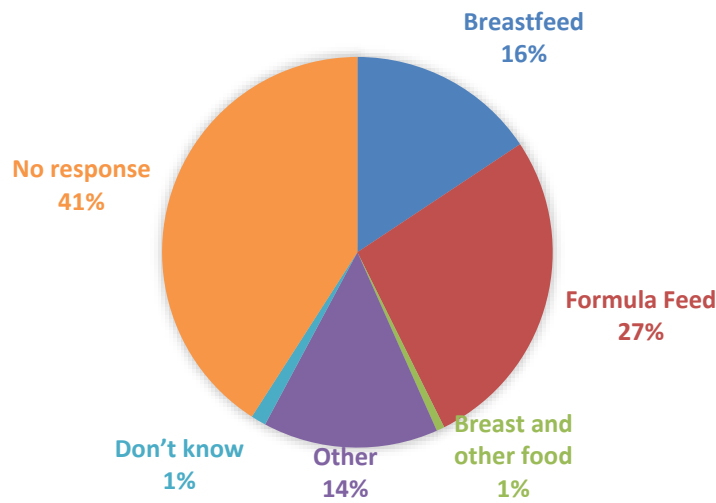


Figure 2 shows that 975 (81%) participants reported to being supported financially by the fathers of their children and 217 (18%) participants received no financial support from the fathers. Figure 2 reflects what mothers reported to be the fathers' opinions of how infants should be fed, and 324 (27%) participants reported that their babies' fathers wanted the babies to be formula fed. 188 (15.7%) reported that the fathers wanted their infants to be breastfed and 8 (0.7%) reported that fathers wanted babies to be breastfed with other foods (mixed feeding). 174 (14%) participants reported 'other' feeding methods which did not fall within EFF or EBF and would be considered forms of mixed feeding.

### 5.2.5 Disclosure

The majority, 520 (43.3%), participants reported that they were unable to disclose their HIV status to anyone. 474 (39.5) participants reported they could disclose their HIV status and 204 (17.0) reported that they were unsure (Table 30).

Figure 4 A: Disclosed to Partner

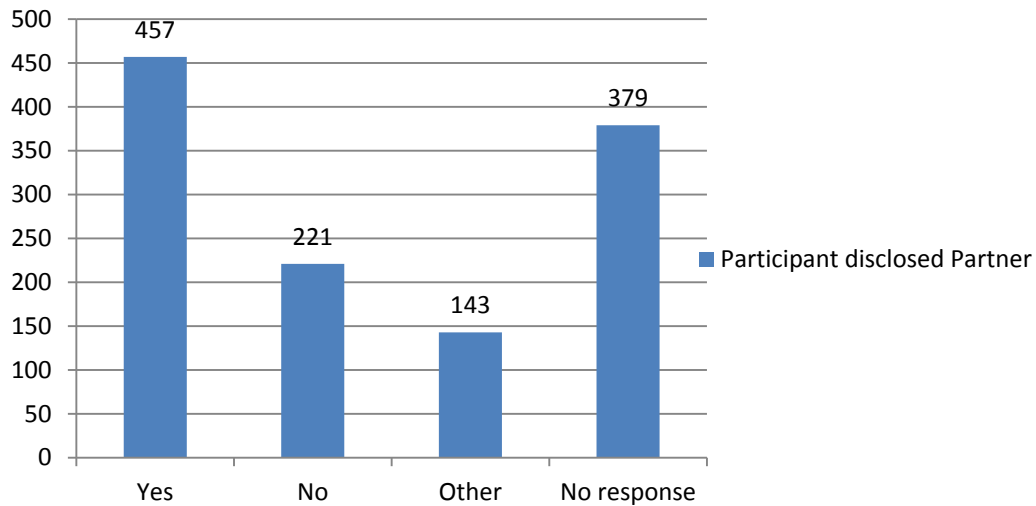
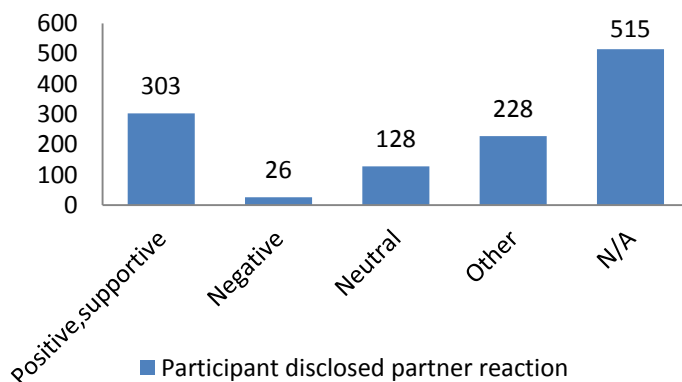


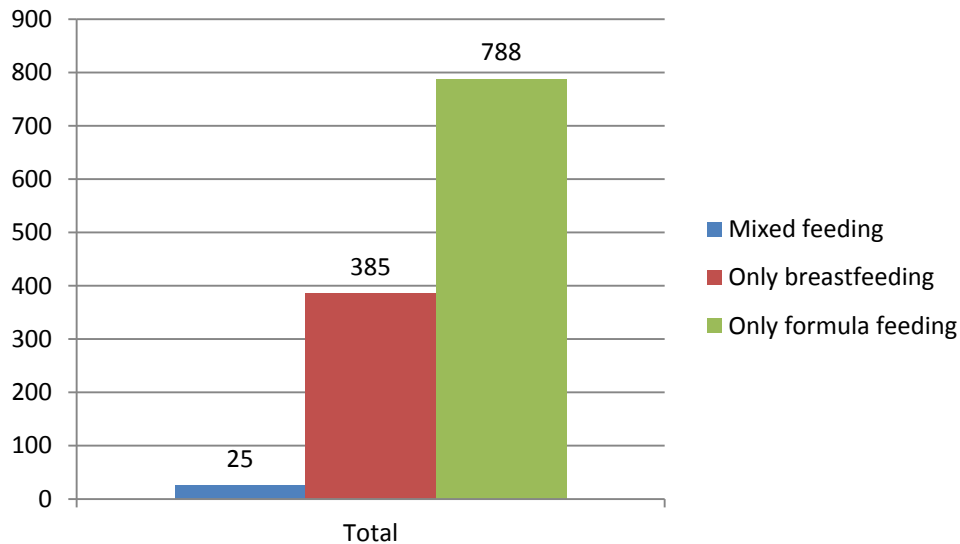
Figure 4 B: Disclosed Partner Reaction



All 1200 participants reported that they had disclosed their HIV status to someone (Appendix 1: Table 31, 32, 33, 34). The graph shows that disclosure to partners was higher (38.1%) than to family members, friends, and spiritual leaders. 25.3 % (303) of mothers who had disclosed to their partners reported that their partners had reacted positively and were supportive and 2.2% (26) mothers reported that their partners had reacted negatively to the disclosure of their HIV status (Figures 4 A & B).

### 5.2.6 Six month Feeding Plan

Figure 5: 6 month feeding plan



The majority, 788 (66%), participants reported that they intended to exclusively formula feed their infants and 385 (32%) reported that they would exclusively breastfeed. 25 (2%) said they intended to mix feed.

Mothers who had chosen to formula feed were then asked if they had the necessary resources to sustain formula feeding. The majority, 725 (60.4%), of the participants reported having means to obtain formula if it runs out at the clinic; 363 (30.3) reported to having running water in their houses, and 511 (42.6%) said they had electricity to boil water (Appendix 1: Table 35, 36 and 37).

Participants were also asked about their views on infant feeding, and I will focus on two views which are relevant to my research problem. Participants were asked to comment on the following statements:

1. *“Do you agree with the following statement: Breastfeeding helps the mother and baby to bond together and helps the baby's development”?*

1167 (97%) participants agreed and 11 (0.9%) disagreed that breastfeeding facilitates the bonding process between mother and baby and furthermore aids in baby's growth. (Appendix 1: Table 38).

2. “Do you agree with the following statement: Breastfeeding is easy and affordable”?

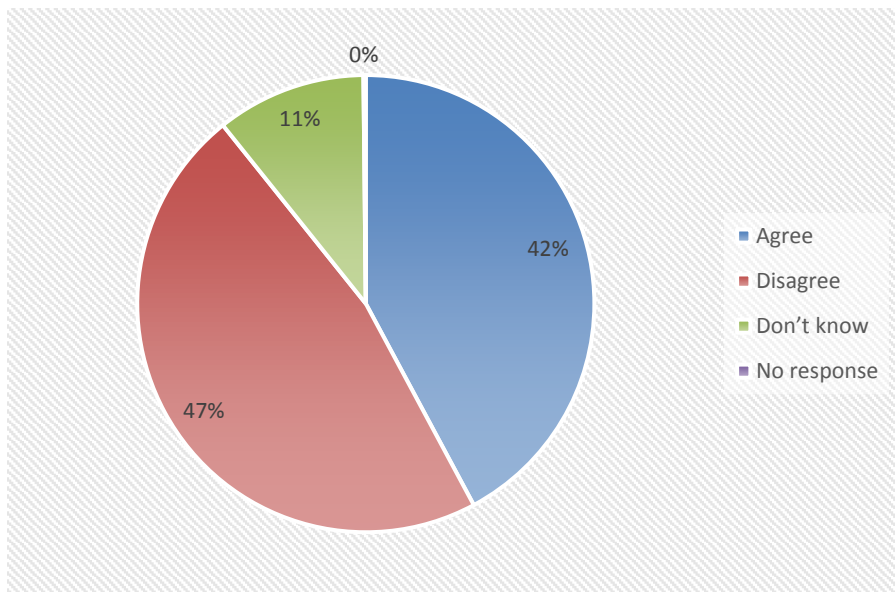
1130 (94.2%) participants agreed and 34 (2.8%) disagreed that breastfeeding is easy and affordable (Appendix 1: Table 39).

3. “Do you agree with the following statement: Breast milk protects a baby's health especially from infections”?

1075 (89.6%) participants agreed and 42 (3.5%) participants disagreed that breast milk promotes baby's health and protects against infections (Appendix 1: Table 40).

4. “Do you agree with the following statement: When a baby cries a lot it means that s/he is hungry and not getting enough food and it’s time to add pap to the diet”?

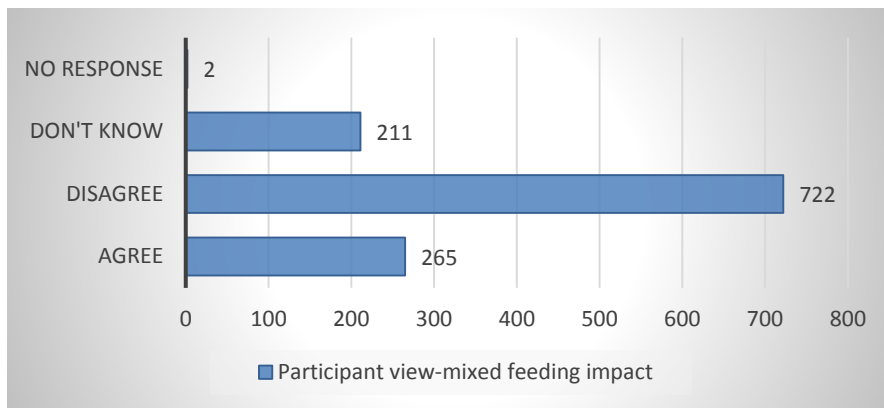
Figure 6: Cry Meaning



The majority, 565 (47%), participants disagreed with the above statement and 505 (42%) agreed. The rest of the participants (11%) reported that they did not know. Subsequently mothers were asked about the impact of mixed feeding on infant HIV infection, and whether or not they thought mixed feeding does not increase the infants’ chances of infection.

“Do you agree with the following statement: Mixed feeding before 6 months does not increase the chance of my baby getting HIV”?

Figure 7: Mixed feeding impact



The majority of the participants, 722(60.2%), disagreed with the question whereas 265 (22%) of the participants agreed. 17.6% of the participants indicated that they did not know.

### 5.3 Six days post birth assessment

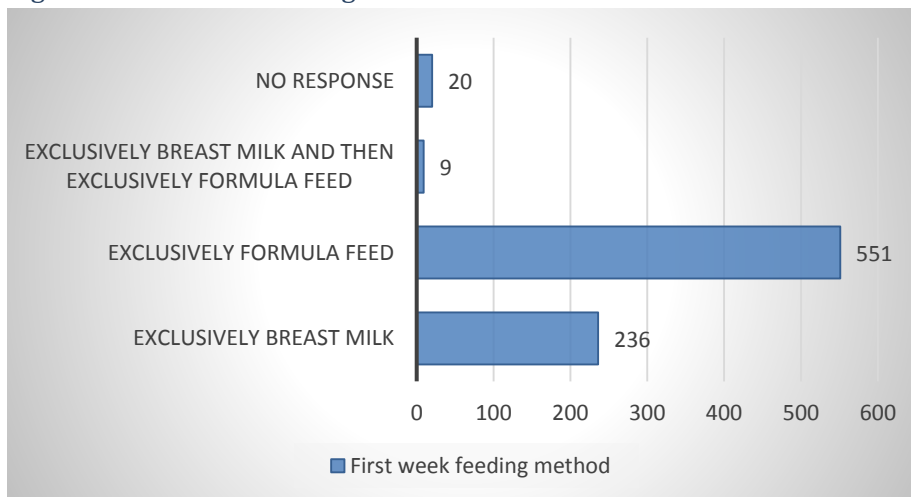
I will now show results of the data analysis from the six days post birth assessment. Of the 1200 women who were interviewed in the baseline assessment, only 843 were retained for the 6 days post birth assessment. The rest of the women were no longer contactable.

#### 5.3.1 Breast at birth and Colostrum

The majority, 459 (54.4%), participants reported that they had given their infants breast after birth and 384 (45.6%) had not. 563 (66.8%) participants had not fed the infant colostrum and 280 (33.2%) had given colostrum (Table 41 and 42).

#### 5.3.2 Feeding

Figure 8: First week feeding method



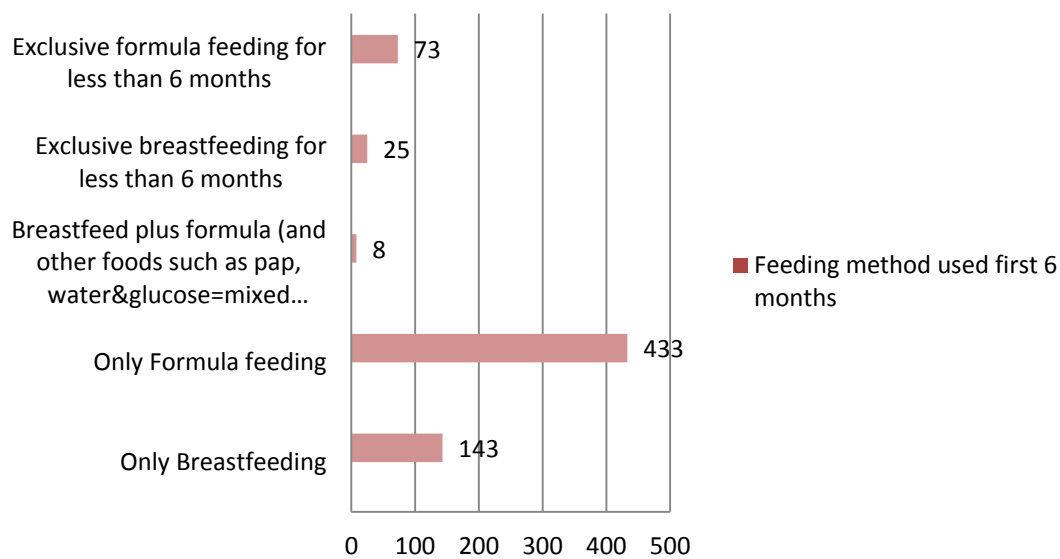
551 (65.4%) participants reported that they had exclusively formula fed in the first week, 236 (31.2%) participants reported they had exclusively breastfed in the first week and 9 (1.1%) participants reported mixed feeding. 88% of the participants reported not having any problems with their feeding methods and 9.6 % reported having problems with their chosen feeding methods (Appendix 1: Table 43). This data shows that in general mothers in both the intervention and control groups were consistent with their intended feeding methods.

#### 5.4 Six months post birth assessment (Intervention and Control groups)

The following results are from the 6 months post birth assessment. Of the 843 participants interviewed at 6 days post birth, only 682 were retained at the 6 months assessment. The rest of the women were no longer contactable.

##### 5.4.1 Feeding at 6 months

Figure 9: Feeding first 6 months



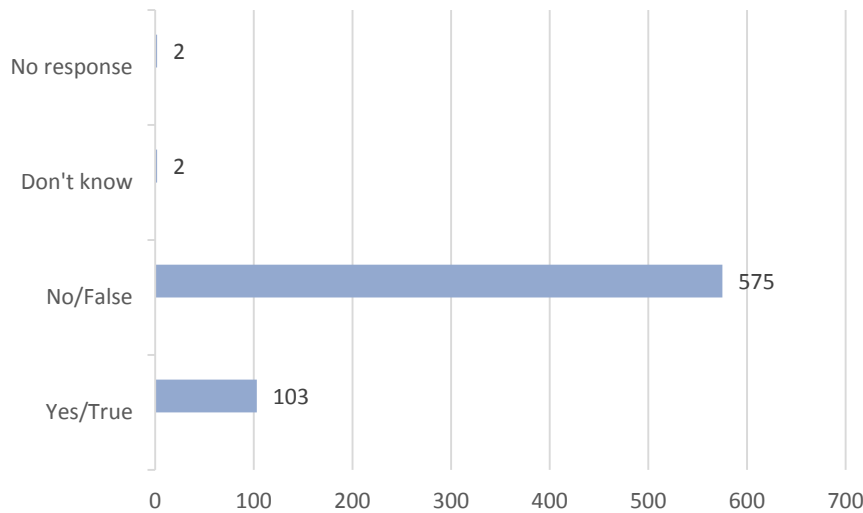
The majority, 433 (63.5%), of the participants undertook formula feeding only (no other liquids or foods introduced for 6 months), and 143 (21%) undertook breastfeeding only (no other liquids or foods introduced for 6 months). 8 (1.2%) chose to mix feed in the first 6 months and the rest (14.4%) reported to exclusive feeding (formula or breast feeding) for less than 6 months. These results show that between 6 days to 6 months mothers had generally been consistent in their feeding methods.

The participants were then asked if they planned to change their feeding methods after 6 months and the majority, 591 (86.7%), indicated that they would formula feed and also give other solid

foods; 32 (4.7%) indicated they would breastfeed, formula feed and give other foods as well; 21 (3.1%) indicated they would continue with exclusive formula feeding; 18 (2.6%) indicated they would rapidly cease breastfeeding and change to solid foods; 14 (2.1%) indicated they would give other solids and liquids; and 6 (0.9%) indicated they would continue with exclusive breast feeding (Appendix 1: Table 44).

### 5.4.2 Mixed Feeding in the first 6 months

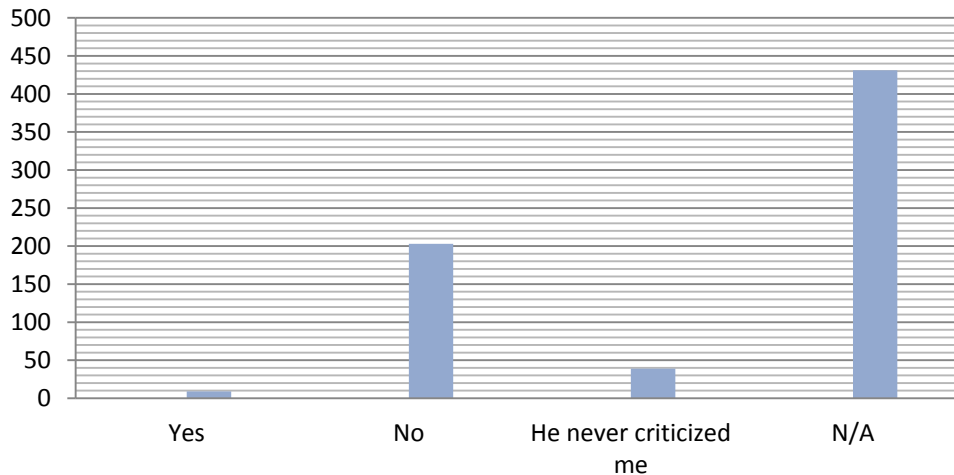
Figure 10: Mixed fed baby at any point



The mothers were asked if they had mixed fed their infants for any reason in the first 6 months and 575 (84.3%) denied mixed feeding the baby while 103 (15.1%) admitted to mix feeding their babies.

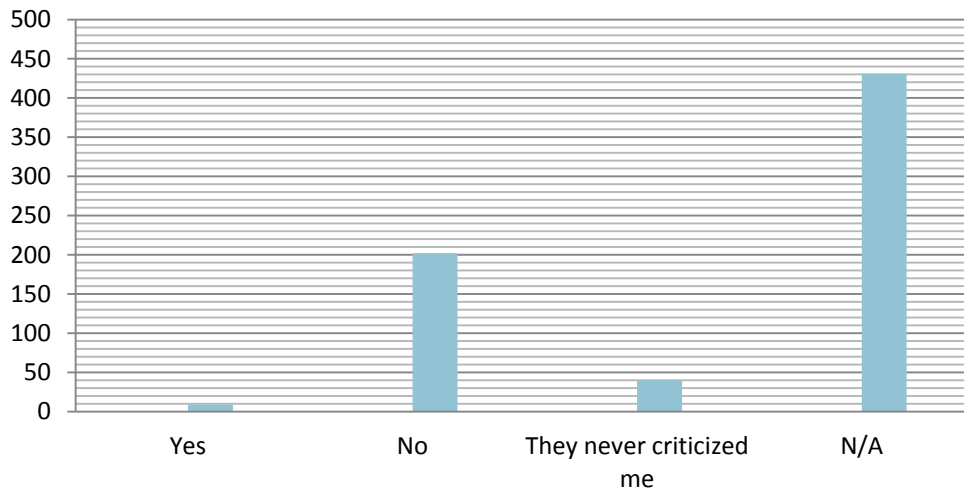
### 5.4.3 Criticism-Partner and neighbours

Figure 11: Partners' criticism stops you from breastfeeding



The participants who had breast-fed were asked if criticism from their partners stopped them from breastfeeding and 203 (29.6%) participants indicated that they had not stopped breastfeeding as a result of their partners criticism, 9 (1.3%) indicated that they had stopped, and 39 (5.7%) participants indicated that their partners had never criticised them.

Figure 12: Neighbour criticism stops you from breastfeeding



The participants were asked if their family's or neighbours' criticism had stopped them from breastfeeding and 202 (29.6%) indicated that they had not stopped breastfeeding as a result of family or neighbour criticism, 9 (1.3%) indicated that they had stopped, and 40 (5.9%) participants indicated that their families or neighbours had never criticised them.

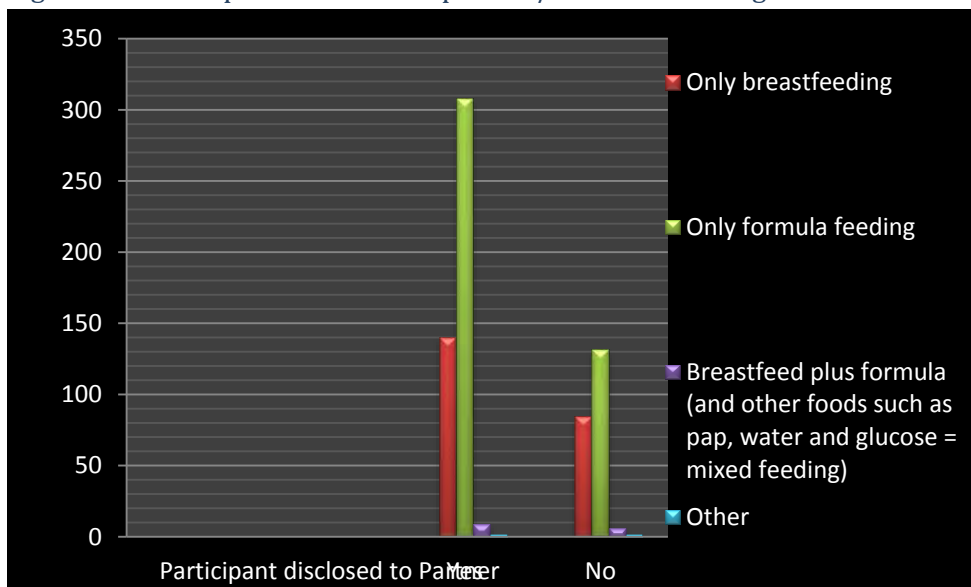


## 5.5 Crosstabs-Relationship between participant disclosure to partner and chosen feeding method in the first 6 months

I will now discuss the relationships between the following variables: (i) 6 month feeding plan and disclosure to partner and (ii) feeding method used in the first 6 months and disclosure to partner.

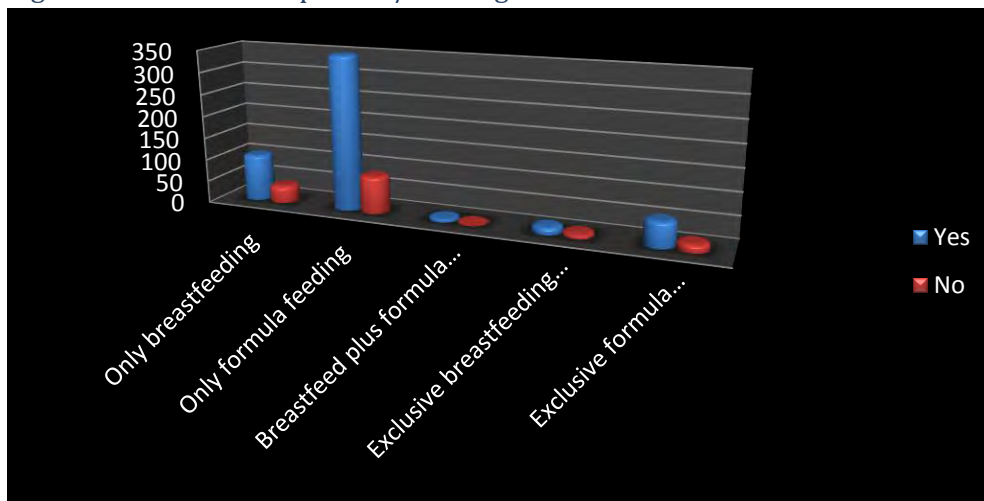
### 5.5.1 Disclosure and Feeding

Figure 13: Participant disclosed to partner/6-month Feeding Plan



Of the 457 participants who had disclosed their HIV status to their partners 308 (67.4%) were planning to exclusively formula feed, 140 (30.6%) participants were planning to exclusively breastfeed, and only 9 (2%) were planning on mix feeding.

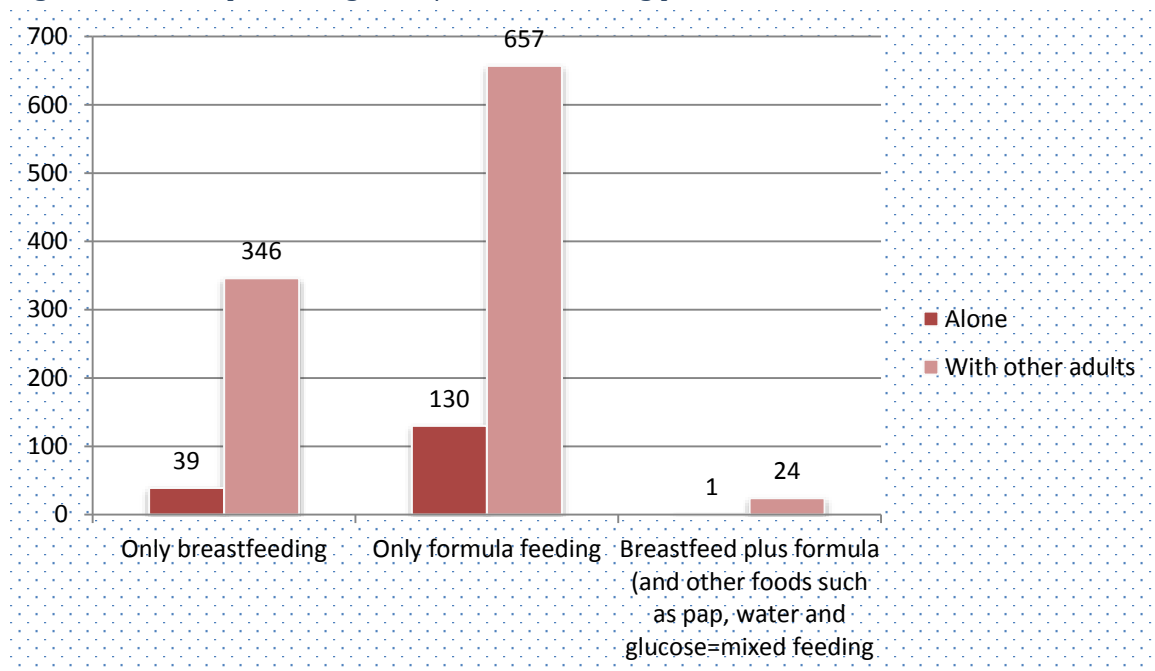
Figure 14: Disclosed to partner/Feeding method first 6 months



Of the 532 participants who had disclosed their status to their partner in the first 6 months, 348 (65.4%) had exclusively formula fed their infants, 105 (19.7%) participants had exclusively breastfed, 7 (1.3%) participants reported they had mixed fed, and the rest (72) had either exclusively formula or breast fed for less than 6 months.

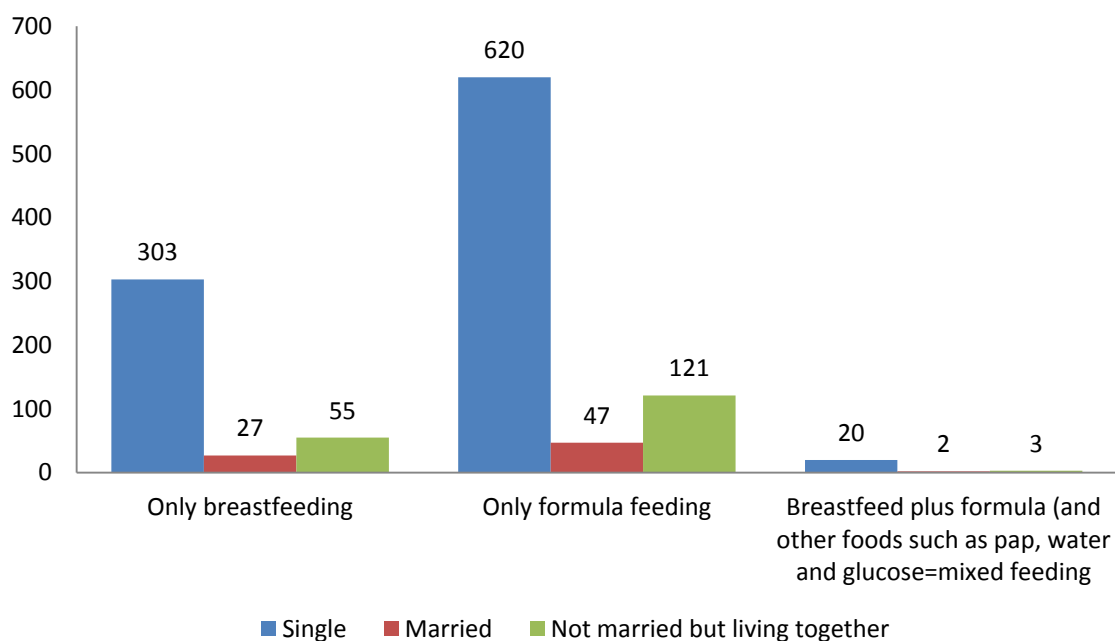
### 5.5.2 Participant demographics/6 month feeding plan

Figure 15: Participant living alone/6 month feeding plan



A majority of participants who were living alone [130(17%)], or with other adults [657(83%)], reported that they intended to formula feed. 39 (10%) of the participants living alone were intending to breastfeed and 346 (90%) living with other adults intended to breastfeed. Of the group of participants who intended to mix feed, 1(4%) participant was living alone and 24 (96%) were living with other adults.

Figure 16: Participant marital status/6 month feeding plan



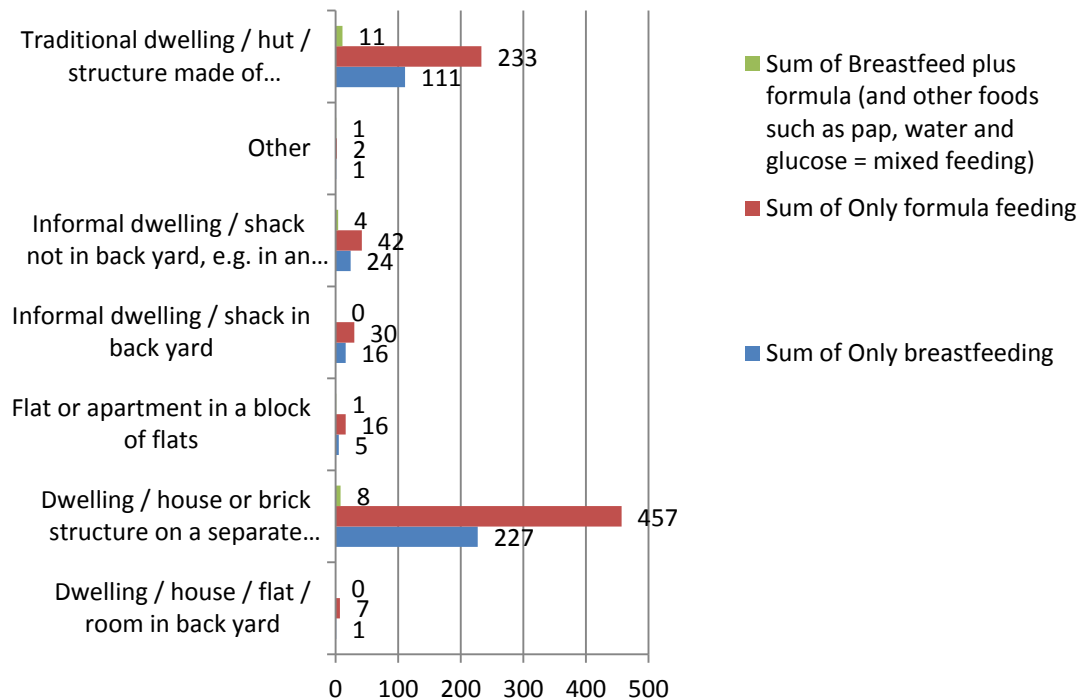
A majority of participants [620(66%)] and who were single intended to formula feed, followed by 303 (32%) participants in the same group who intended to breastfeed, and 20 (2%) participants intended to mix feed. The number of married/single/cohabiting participants who intended to formula feed / breast feed / mixed feed was much lower than that of the single participants.

Table 45: Highest level of education/6month feeding plan

Participant Highest education level	Participant 6 month feeding plan		
	Only breastfeeding	Only formula feeding	Breastfeed plus formula (and other foods such as pap, water and glucose=mixed feeding)
Grade 1-3	14	32	1
Grade 4-6 (Senior Primary)	46	69	3
Grade 7-9 (Junior Secondary)	112	209	7
Grade 10-12 (Senior Secondary)	139	299	12
Senior certificate passed and complete	47	128	2
Tertiary Education	19	33	0
No schooling	8	16	0

A majority of the mothers in all the education categories indicated that they intended to formula feed. Of the 450 mothers who had a Grade 10-12 education, 139 (31%) intended to only breastfeed, 299 (66.4%) intended to only formula feed and 12 (2.6%) intended to mix feed. This group had the highest number of each intended 6 month feeding plan.

Figure 17: Housing description/Feeding method first 6 months



457 (66%) of the participants intended to formula feed, 227 (32.8%) intended to breastfeed and 8 (1.2%) intended to mix feed. These mothers were living in a dwelling / house or brick structure. Of the participants who were living in a traditional dwelling / hut / structure made of traditional materials, 233 (65.6%) intended to formula feed, 111(31.3%) intended to breastfeed and 11 (1.7%) intending to mix feed. Formula feeding was the predominant intended feeding method for the first 6 six months of the infants life for all participants across all housing descriptions.

## Chapter 6: Discussion

This research paper interrogates the findings based on 1200 HIV positive mothers who were enrolled in Project Masihambisane with the focus, specifically, on the infant feeding practices of these mothers. The Clinical Guidelines: PMTCT 2010 prescribes that HIV positive mothers should choose to either exclusively breastfeed or exclusively formula feed their infants for the first six months of life to lower the risks of infant HIV infection. To comprehend the factors which influence infant feeding practices this research identified a number of variables, namely socio-economic, socio-cultural, and psycho-social influences.

Project Masihambisane was carried out in the Vulindlela area in the uMgungundlovu District which consists of peri-urban and mostly rural areas. The majority of the participants in the cohort were in the age group (1980-1989), were single, had junior secondary education, were unemployed, and were living in households with other adults. Most of the participants were living in formal settlements but there was also a significant number living in traditional settlements. The participant demographics give an indication that most of the mothers in Project Masihambisane came from impoverished backgrounds with limited economic resources. This is corroborated by the number of mothers who (although they were unemployed or had informal employment) were receiving other sources of income; significant number were relying on social grants, and money from sexual partners, families, and friends. Such findings could suggest that these mothers would most likely opt for breastfeeding (in conjunction with the use of ARVs) as their reported sources of income would not be sufficient or consistent enough to support formula feeding. However the extra sources of income (that some of the mothers reported receiving) could sustain formula feeding depending on how much it is.

The overall findings showed that a majority of the mothers indicated, in the baseline assessment, that they would be formula feeding their infants. There was also an indication of partner support in terms of finance (no data was collected indicating the monetary value of this support), and this too could have been a means of obtaining formula milk. Partner support was also identified as a contributing factor to mothers opting to formula feed in a study done by Cames *et al* (2010). The majority of mothers who had chosen to formula feed indicated having the means to obtain formula should the clinics run out; an indication that they were not entirely dependent on health care facilities. This is encouraging because if mothers are to avoid

mixed feeding practices and if successful adherence to one feeding method is to be achieved, the necessary support structures need to be in place.

Although the majority of the participants wanted to formula feed, the findings also showed that mothers in this cohort generally had positive thoughts about breastfeeding. They agreed that breastfeeding helps mothers and babies to bond and also aids the development of babies which speaks to a belief in the positive psychological and physical impacts of breastfeeding on both mother and child. Mothers agreed that breastfeeding was easy and accessible which speaks to the practicality of breastfeeding, and they agreed that breast milk protects babies' health. This finding speaks to the conflicting nature of HIV positive motherhood that Long (2009) refers to in that the decision to formula feed is one based on protecting the infant. However judging from mothers' thoughts about breastfeeding we can deduce that mothers are aware that the decision not to breastfeed is denying their infants something crucial (Long 2009), in the same breathe expressing a desire to formula feed is in an indication that mothers wanted to prevent their infants from HIV infection.

Of the mothers who indicated that they were breastfeeding at the six days post birth assessment, more than half had indicated they had given their newborns colostrum. Colostrum, the first milk that the breasts produce during pregnancy, contains antibodies and immunoglobulins which protects newborns from bacteria and viruses and assists in expelling the first stools (Barger 2014). Although breastfeeding can transmit HIV to an infant, its health benefits cannot be ignored particularly in developing countries where it can save an infant lives (Jones *et al* 2003). We may conclude that the mothers who had not given colostrum to their newborns were the ones that had not opted to breastfeed.

Mixed feeding was also identified in this cohort but there was only a very small percentage of mothers who indicated that they would be mix feeding in the first six months of their infants' lives. Although the number of mothers who had mixed fed (for the first six months), was significantly lower than those who had not mixed fed, mixed feeding was still occurring. Mixed feeding can result from factors such as family and community influence, and also from mothers' 'historical' notions of child nurturing. For example when mothers were asked if a crying baby means that it is not getting sufficient nutrition and that it was time to introduce other foods, 42% of mothers were in agreement with the statement. Basset (2000) also found that weaning foods were introduced early (at three months onwards) in the infant's life to ensure that they were getting enough food Furthermore when asked about the impact of mixed

feeding and whether or not it increased the chances of HIV infection, 22% of the mothers said it did not. This finding is pertinent to my research as it gives an indication of the disjuncture between medical recommendations and what one can refer to as the inherited habitus which mothers have of child nurturing through “thoughts, tastes, beliefs, interests, and understanding of the world around them created via primary socialisation through family, culture, and education” (Hawthorn 2013). When a mother tests HIV positive she enters into a new field of child-nurturing where an entrenched practice such as breastfeeding becomes potentially detrimental to her infant’s survival. Economic and cultural capital also play a vital role in this ‘new’ field and ultimately can determine mothers’ actions which may not be in line with policy recommendations. The conflict between these knowledge systems creates challenges in reducing the risk of infants’ HIV infection particularly where mixed feeding is common practice (National Department of Health South African Demographic and Health Survey 1998).

Social support and disclosure of HIV status can also be influencing factors to successfully following PMTCT guidelines. Infant feeding practices are seldom an individual decision as families, partners, and communities have a say about how mothers feed their infants. In light of this it is advisable that HIV positive mothers disclose their HIV statuses to their partners and families (particularly if they are living with them) so that the correct support can be given to according to the mothers’ chosen feeding methods. Disclosure, however, also has its own challenges in that it may give rise to stigma and mothers being ostracised by their partners, families, or communities. Some mothers therefore hide their HIV status for fear or rejection and losing financial and social support (Buskens, Jaffe & Mkhathshwa 2007). Other issues explored in this research paper was that of disclosure to partners, whether mothers felt free to disclose their status, how their partners reacted to the disclosure, and what impact this had on the mothers’ adherence to feeding practices.

Most mothers indicated that they had disclosed their status to their partners and that the majority of these partners had reacted positively to the disclosures. However the findings showed that there were also partners who reacted negatively (there was no data collected on the nature of the negative reactions). Negative reactions could have been problematic because it could have resulted in the women being alienated and abandoned by their partners; a difficult life particularly if the mothers and infants were financially dependent on their partners. In a study conducted in Ethiopia (Maru & Haidar 2009) more than one third of mothers had not disclosed their status to their partners out of fear of consequences such as divorce, physical abuse or being thrown out of their homes.

Of the participants who had disclosed their HIV status to their partners, 308 had intended to only formula feed but according to the data 348 actually formula fed in the first 6 months. 140 participants had intended to only breastfeed but only 105 actually breastfed. 9 participants had intended to mix feed but only 7 mixed fed in the first 6 months. The rate of adherence for formula feeding was high and lower for breastfeeding. This could be an indication that mothers who had disclosed their HIV status received support from their partners for their chosen feeding methods. Of the participants who had not disclosed their HIV status to their partners 131 had intended to only formula feed but only 84 formula fed in the first 6 months. 84 mothers indicated they intended to breastfeed but only 38 breastfed in the first 6 months. 6 mothers had intended to mix feed but only 1 mixed fed in the first 6 months. The rate of adherence to each feeding method was low in this group possibly because mothers had not disclosed their status, and the correct support structures were not in place.

With regards to social/ organizational support a majority of the mothers indicated participation in a temple/church organisation and there were mothers who also indicated participation in AIDs activities, education groups, and other organisations for HIV positive people. This is the social capital which Bourdieu refers to, that influences human action in certain fields. These findings seem to indicate that organisations may be playing an added supporting role for mothers in their communities and enhancing their psycho-social well-being because they have people they can engage with about their HIV status as well as being an HIV positive. These positive impacts on mothers can also translate to infant well-being.

Motherhood in the context of HIV/AIDS is taking on a new dynamic and formula feeding is giving a new meaning to 'good mothering'. The choice to formula feed is driven by the desire to eliminate risk of infection, although it can be interpreted as mothers denying their infants something valuable (Long 2009). The influence of families, partners, members' of the community, mother's 'intuitive' knowledge of child-nurturing (habitus, capital, and fields), and the conflicting nature of HIV-positive motherhood as defined by Long (2009), poses challenges to PMTCT objectives.

There were no data collected from Project Masihambisane regarding the infant feeding methods mothers would have preferred if they were not HIV positive. However the discourses around infant feeding practices are universal and still continue around the benefits of breastfeeding and the social challenges which face mothers who choose to formula feed. The



problems of infant feeding are intensified in the context of HIV/AIDS, particularly in developing countries.

## Chapter 7: Conclusion and recommendations

### 7.1 Conclusion

PMTCT programmes are one of the cornerstones of the drive to reduce infant HIV infection. Through counselling at health care facilities mothers living with HIV can make appropriate choices about infant feeding to achieve best results. This study aimed to identify the factors that influence infant feeding practices of HIV positive mothers who were enrolled in Project Masihambisane. The factors identified were socio-cultural, socio-economic, and psycho-social in nature. The study also aimed to highlight the fact that there is still a disjuncture between medical recommendations and cultural practices which gives rise to mixed feeding practices which were reported (although the number was small) in Project Masihambisane. The existing data received from Project Masihambisane (relevant sections in the baseline, six days post birth, and six months assessments) were analysed and the results are presented in graphs, frequencies, and cross-tabulations.

Reviewing the literature around HIV and infant feeding it is clear that infant feeding choices are rarely individual decisions. Families, partners, and communities play a pivotal role in influencing how mothers feed their infants. Disclosure of HIV status also seems to be an influencing factor in the successful adherence to a particular feeding method. The findings show that where mothers had disclosed their HIV status to their partners, the rate of adherence to their chosen feeding methods was higher than where mothers had not disclosed. Furthermore the findings of this study also reflect that a majority of mothers reported intentions to exclusively formula feed and the results in the six days post birth and six months assessments were consistent with this. Breastfeeding was the second popular option for mothers in this cohort with a smaller number practicing mixed feeding.

In South Africa the National Department of Health provides free formula to primary health care facilities to assist mothers who choose to formula feed. Inconsistent supplies of the formula however creates challenges, particularly to mothers who cannot afford to buy formula. When formula is not available PMTCT objectives are then greatly compromised particularly if mothers do not have other means to acquire formula. More often than not this leads to mothers mix feeding their infants (they may put the child on the breast/cow's milk, give water, or introduce solids) within the first six months of the infants' life, increasing the chances of

infection. Project Masihambisane did not provide data on whether or not a lack of supply of formula milk affected their choices.

The National Department of Health South African Demographic and Health Survey (1998) indicated that “neither exclusive breastfeeding nor exclusive non-breastfeeding (exclusive formula feeding) are the norm in most African settings”. The findings of Project Masihambisane however, may be an indication that mixed feeding is becoming less practised. This could be the result of better quality of infant feeding counseling, and the fact that mothers are now better informed on how best to protect their infants against postnatal HIV infection. This could also be an indication that stigma around HIV/AIDS is diminishing and that families and communities are perhaps becoming more accepting and supportive of individuals/mothers who are infected which leads to better decisions being taken particularly around infant feeding.

The fight to eradicate postnatal infant HIV infection is a continuous endeavour. Successful adherence to an exclusive feeding method depends on proper support structures being in place for mothers. Health care givers need to assess each individual case, for mothers who come through PMTCT programmes, so that they provide appropriate infant feeding counseling. A move towards eliminating mixed feeding practices in the first six months of the infants life will involve successfully placing women in the context of their communities and the practices embedded in those communities (particularly where mixed feeding practices are common) if interventions are to succeed in encouraging behavioural changes.

More still needs to be done to educate and inform communities about HIV/AIDS and to strengthen support structures for mothers living with HIV in health care facilities. Young *et al* (2011:233) state that “PMTCT interventions, postnatal and otherwise, will be better understood and therefore more effective if they are evaluated more holistically, i.e. in terms of their psychosocial and economic consequences as well as their biological ones” They advocate the importance of knowing and understanding the psychosocial ramifications such as indirect disclosure, rejection by partners, and isolation by family members in the constant battle to better improve the success rates of PMTCT interventions.

## **7.2 Recommendations**

More in-depth research needs to be done to fully comprehend the nature of HIV positive motherhood and the actual lived experience of infant feeding practices. PMTCT programmes, ANCs, and PNCs need to be strengthened. These programmes need to not only be about

mothers but also encourage partner/family involvement so that mothers as well as partners/families get tested for HIV, and if they are positive receive appropriate counseling, and relevant information about ARVs and PMTCT which includes appropriate infant feeding counselling. Understanding HIV positive mothers' / women's backgrounds and the sometimes complex environments they find themselves in, and how these conditions shape life-strategies in terms of behaviours and actions, will go a long way towards developing effective interventions that ensure family, mother and child well-being.

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## Appendix 1: SPSS Frequencies

*Table 1: Marital Status*

<b>Participant Marital Status</b>	<b>No. of Participants in this category</b>	<b>Percentage %</b>
Single	944	78.7
Married	76	6.3
Not married but living together	179	14.9
No response	1	0.1

*Table 2: Highest Education level*

<b>Participant Highest Education</b>	<b>No. of Participants in this category</b>	<b>Percentage %</b>
Grade 1-3	47	3.9
Grade 4-6 (Senior Primary)	118	9.8
Grade 7-9 (Junior Secondary)	328	27.3
Grade 10-12 (Senior Secondary)	451	37.6
Senior Certificate passed and complete	177	14.8
Tertiary Education	52	4.3
No Schooling	24	2
Declined to answer	2	0.2
No response	1	0.1

*Table 3: Full time employment*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Full time employment (formal labour market)	183	15.3

*Table 4: Part-time employment*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Part-time employment (formal labour market)	317	26.4

*Table 5: Self-employed or informal work*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Self-employed or informal work	48	4

*Table 6: Student*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Student	65	5.4

*Table 7: Unemployed*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Unemployed	588	49

*Table 8: Other*

<b>Occupation</b>	<b>No. of participants</b>	<b>Percentage %</b>
Other	16	1.3

*Table 10: Social grant disability*

<b>Participant receiving social grant disability</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	39	3.3
No	1160	96.7
No response	1	0.1

*Table 11: Social Grant: foster care grant*

<b>Participant receiving foster care grant</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	22	1.8
No	1177	98.1
No response	1	0.1

*Table 12: Care dependency grant*

<b>Participant receiving care dependency grant</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	181	15.1
No	1018	84.8
No response	1	0.1

*Table 13: Social Grant: Child support*

<b>Participant receiving child support</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	482	40.2
No	717	59.8
No response	1	0.1

*Table 14: Money or goods from a sexual partner on a regular basis*

<b>Participant receiving money or goods from a sexual partner on a regular basis</b>	<b>No. of Participants</b>	<b>Percentage %</b>
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Yes	560	46.7
No	639	53.3
No response	1	0.1

*Table 15: Money or goods from a sexual partner – sometimes*

<b>Participant receiving money or goods from a sexual partner sometimes</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	122	10.2
No	1077	89.8
No response	1	0.1

*Table 16: Regular money from family members*

<b>Participant receiving regular money from family members</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	272	22.7
No	927	77.3
No response	1	0.1

*Table 17: Regular money from friends*

<b>Participant receiving regular money from friends</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	32	2.7
No	1167	97.3
No response	1	0.1

*Table 18: Regular money from neighbours*

<b>Participant receiving regular money from neighbours</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	11	0.9
No	1188	99
No response	1	0.1

*Table 19: Pension grant*

<b>Participant receiving pension grant</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	7	0.6

No	1192	99.3
No response	1	0.1

*Table 20: Other*

<b>Participant receiving any other sources of income</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	111	9.3
No	1088	90.7
No response	1	0.1

*Table 21: Participant living alone- 'Are you living alone or with other adults (18+years old)?*

<b>Participant living alone</b>	<b>No. of participants</b>	<b>Percentage %</b>
Alone	170	14.2
With other adults	1028	85.7
No response	2	0.1

*Table 22: Participation in organisation 1*

<b>Participation in Temple/Church</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	937	78.1
No	257	21.4
No response	6	0.5

*Table 23: Participation in organisation 2*

<b>Participation in Community Events</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	296	24.7
No	898	74.8
No response	6	0.5

*Table 24: Participation in organisation 3*

<b>Participation in Community Meetings</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	376	68.2
No	818	31.3
No response	6	0.5

*Table 25: Participation in organisation 4*

<b>Participation in Aids education group</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	99	8.3
No	1095	91.2
No response	6	0.5

**Table 26: Participation in organization 5**

<b>Participation in an organisation for HIV+ person</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	37	3.1
No	1157	96.4
No response	6	0.5

**Table 27: Participation in organization 6**

<b>Participation in AIDS activities outside my neighbourhood</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	46	3.8
No	1148	95.7
No response	6	0.5

**Table 28: Other**

<b>Participation in any other organization</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	66	5.5
No	1128	94
No response	6	0.5

**Table 29: Participation in Support group**

<b>Participation in support group</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	44	3.7
No	1154	96.2
No response	2	0.2

**Table 30: Participant able to disclose**

<b>Participant able to disclose HIV status</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	474	39.5
No	520	43.3
Unsure	204	17
No response	2	0.2

**Table 31: Disclosed to father**

<b>Participant to disclosed HIV status to father</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	39	3.3
No	639	53.3

Other	143	11.9
No response	379	31.5

*Table 32: Disclosed to mother*

<b>Participant to disclosed HIV status to mother</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	224	18.7
No	454	37.8
Other	143	11.9
No response	379	31.6

*Table 33: Disclosed to Friend*

<b>Participant to disclosed HIV status to a friend</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	240	20
No	438	36.5
Other	143	11.9
No response	379	31.6

*Table 34: Disclosed to Spiritual leader*

<b>Participant to disclosed HIV status to a spiritual leader</b>	<b>No. of participants</b>	<b>Percentage %</b>
Yes	35	2.9
No	643	53.6
Other	143	11.9
No response	379	31.6

*Table 35: Means to obtain formula*

<b>Participant has means to obtain formula</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	725	60.4
No	69	5.8
Other	154	12.8
No response	252	21

*Table 36: Running water in the house*

<b>Participant has running water in the house</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	363	30.3
No	323	26.9
Other	262	21.8
No response	252	21

*Table 37: Electricity to boil water*

<b>Participant has electricity to boil water</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	511	42.6
No	222	18.5
Other	215	17.9
No response	252	21

*Table 38-Breastfeeding Bond*

<b>Participant-Breastfeeding bond</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Agree	1167	97.3
Disagree	11	0.9
Don't know	20	1.7
No response	2	0.2

*Table 39-Breastfeeding Easy Affordable*

<b>Participant-breastfeeding easy and affordable</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Agree	1130	94.2
Disagree	34	2.8
Don't know	34	2.8
No response	2	0.2

*Table 40-Breast Milk Protects Health*

<b>Participant-breast milk protects health</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Agree	1075	89.6
Disagree	42	3.5
Don't know	80	6.7
No response	2	0.2

*Table 41: Breast after birth*

<b>Participant gave breast after birth</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	459	54.4
No	384	45.6

*Table 42: Fed Colostrum*

<b>Participant gave breast after birth</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	280	33.2
No	563	66.8



**Table 43: Feeding method problems**

<b>Participant had any problems with their feeding method in first 6 months</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Yes	81	9.6
No	742	88
No response	20	2.4

**Table 44: Change of feeding strategy after 6 months**

<b>Participant-Change in feeding strategy after 6 months</b>	<b>No. of Participants</b>	<b>Percentage %</b>
Continue exclusive breastfeeding	6	0.9
Continue exclusive formula feeding	21	3.1
Breastfeed plus formula (and other foods such as pap, water and glucose = mixed feeding)	32	4.7
Rapid cession of breast feeding and change over to solid foods	18	2.6
Formula and other solid foods such as porridge and other solid foods	591	86.7
Other solid foods and other liquids	14	2.1

## Appendix 2: Project Masihambisane Ethical Clearance



Human Sciences Research Council  
Leqenla la Dinyaliso lile Gembhale lile Sebo  
Road nr Geesbeekwileraplativa Nkroning  
Umkhando Wazokuzenonga Ngeyeyani Yabantu  
Ibhunga Lophando Ngentsulu-Lweni Kanti

**HSRC Research Ethics Committee**  
FWA Registration: Organisation No. 0000 0347  
SID No. 00002962

20 July 2009

Professor Linda Richter  
Child, Youth, Family and Social Development Research Programme  
Human Sciences Research Council

Dear Professor Richter

**Ethics clearance of HSRC Ethics Committee Protocol REC 4/07/03/07: PHASE II AND III - A randomised trial to test the effectiveness of health information materials and a clinic-based peer support and mentoring intervention to improve the health and wellbeing of HIV positive mothers and their babies during pregnancy and the early post partum period**

At its meeting on 15 July 2009, the Research Ethics Committee considered and subsequently granted ethics clearance on an amendment to the above Protocol.

The Committee wishes you success in your research.

Yours sincerely,

Prof. D R Wassenaar PhD  
Chairperson: HSRC REC

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[www.hsrc.ac.za](http://www.hsrc.ac.za)

## Appendix 3: UKZN Ethical Clearance



11 November 2013

Ms Buysile Ntaka (204508289)  
School of Social Sciences  
Pietermaritzburg Campus

Protocol reference number: HSS/1167/013M

Project title: Factors that influence infant feeding practices of Mother Living with HIV (MLH): The case of Project Masihambisane

Dear Ms Ntaka,

Expedited Approval

I wish to inform you that your application has been granted Full Approval.

Any alteration/s to the approved research protocol i.e. Questionnaire/interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shamila Naidoo (Deputy Chair)

/ms

cc Supervisor: M Bydawell  
cc Academic Leader Research: Professor Sabine Marschall  
cc School Administrator: Ms Nancy Mudau

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Humanities & Social Sciences Research Ethics Committee

Dr Sheruka Singh (Acting Chair)

Westville Campus, Govan Mbeki Building

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Website: [www.ukzn.ac.za](http://www.ukzn.ac.za)

## Appendix 4: HSRC Permission Letter for data usage



Human Sciences Research Council  
Leqoqa la Dinyakaliko lila Semaphile dia Setho  
Tsaai si-Goselawonololoqa Ncwang  
Umkhendu Wazokwanga Ngeayeni Yakhulu  
Ibhunga Lophando Ngizulu-Laxet Kanti

To: Ms. Buyi Ntaka  
Organisation: University of KwaZulu-Natal  
17<sup>th</sup> August 2011

From: Professor Linda Richter

Subject: Project Masihambisane Data Access

Dear Ms. Ntaka,

In response to your email request dated 31<sup>st</sup> October 2010, this letter supports your request to gain access to a subset of the Masihambisane data for the purpose of your Masters thesis titled "Factors influencing infant feeding choices of Mothers Living with HIV (MLH): The case of Project Masihambisane a Mentor Mother Intervention Trial".

We can provide you with survey items, code book and data for the requested data fields (Appendix I) with the following conditions and limitations.

1. Data may not be used for any purpose other than your thesis
2. Any publications arising from the thesis must include as co-author at least one of the core Masihambisane investigators, provided that they contribute actively to all aspects of the manuscript.

Yours,  


Prof. Linda Richter (PhD)  
Distinguished Research Fellow  
Principal Investigator (South Africa): Masihambisane

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