The University of the Western Cape

Title: **Factors Influencing Infant Feeding Practices of Mothers in Kabwata Township, Lusaka, Zambia.**

By

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A Mini-thesis submitted in partial fulfillment of the requirements for the degree of

Master of Public Health at the School of Public Health of the University of the Western Cape.

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DECLARATION

I declare that Factors influencing infant feeding practices of mothers in kabwata Township, Lusaka Zambia as presented by me in partial fulfillment for the Master in Public Health is a product of my own work and that all the sources of information have been acknowledged by complete references. This piece of work has not been submitted before for any degree or examination to this or any other institution.

Mercy Mwansa Fwambo November 2012

Signed: 

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APPROVAL

This Mini-thesis is approved in partial fulfillment of the requirements for the award of a Masters degree in Public Health (MPH) by the University of the Western Cape.

ABSTRACT

Background: Appropriate and adequate infant feeding practices are an important factor in achieving optimal health in infants. Inappropriate and inadequate infant feeding practices contribute significantly to ill-health in infants. Both WHO and UNICEF recommend exclusive breastfeeding for the first six months both in the context of HIV and otherwise unless exclusive formula feeding can meet each of five conditions: acceptable, feasible, affordable, sustainable and safe (AFASS). The modes of infant feeding include exclusive breastfeeding, formula feeding and mixed feeding. Medical recommendations and social pressures related to infant feeding in high HIV-prevalence low-income communities may have shifted infant feeding practices. The aim of this study was to explore factors influencing infant feeding practices and decision making among women in one such community, Kabwata Township, in Lusaka, Zambia.

Method: An exploratory qualitative study was conducted at Kabwata Health Centre in Kabwata Township in Lusaka, Zambia. Convenient sampling was used to recruit 32 women for focus group discussions and three key informants (two nurses and one social worker) for individual interviews. Verbal consent was received from all participants. Semi-structured interview guides were used to elicit discussion by all participants. Discussions were tape recorded and transcribed verbatim. Thematic data analysis was used to analyze the qualitative data.

Results: Most FGD participants reported that they themselves initiated breastfeeding soon after giving birth, but not all of them breastfed exclusively for the first six months, as is currently

recommended. The major factors influencing infant feeding included; influence from family and friends, stigma and discrimination, influence from health care providers, practical realities such as maternal employment and poverty, and cultural/traditional practices.

Conclusion: While breastfeeding is valued and accepted, most women do not or cannot exclusively breastfeed for six (6) months for various reasons. Paradoxically, the social value of breastfeeding and the knowledge that breast milk can transmit HIV reinforce mixed feeding as the predominant feeding practice. Key informants reported that women attending health care services at Kabwata health centre were encouraged and taught to breastfeed their infants exclusively for six months. There is a need to re-look at the way the women are being encouraged, taught and supported so that the apparent knowledge and acceptance of breastfeeding can translate into improved infant feeding practices. Awareness campaigns need to include all stakeholders including family members, the community, employers and the women themselves in order to make exclusive breastfeeding easier for the women.

DEDICATION

I dedicate this Mini-thesis to my family, my husband Daniel and Children; Daniel Jnr, Twiza, Mwaka, Chipasha and Wila for their physical and moral support, understanding and encouragement they offered in so many ways throughout my study period.

I give glory and honor to the Lord almighty who made it possible for me to finally reach this far and I draw comfort from his word which says:

“ For your fellowship in the gospel from the first day until now, being confident of this very thing, that He who has began a good work in you will complete it until the day of Jesus Christ;” Philippians 1: 5-6.

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Definitions

AFASS Acceptable, Feasible, Affordable, Sustainable and Safe - conditions for the replacement feeding recommendations of 2010 UN guidelines: replacement feeding should not be used unless it met the conditions of AFASS

Bottle feeding: The infant's consumption of breast-milk or any breast-milk substitutes from a bottle.

Complementary Feeding: Feeding the child with both breast-milk and breast-milk substitutes and solid or semi-solid foods.

Culture: Learned behaviors which are socially acquired and transmitted from one generation to another, they may be in form of customs, beliefs, laws, religion or arts.

Exclusive Breastfeeding: The Infant's consumption of human milk with no supplementation of any type of food (i.e. no water, juice, non-human milk nor solids) except for vitamins, minerals and medicines.

Exclusive Formula Feeding: The infant's consumption of only formula milk.

Infant: A child from one month to twelve months of age.

Malnutrition: Different forms of poor nutrition resulting from various factors including; dietary inadequacy, infections and socio-cultural practices. May take the form of underweight, stunting or overweight.

Mixed feeding: The combination of breastfeeding and feeding with other breast-milk substitutes.

Unknown HIV Status: People who either have not taken their HIV test or do not know the result of a test they have taken.

Acronyms

AFASS Acceptable, Feasible, Affordable, Sustainable and Safe

AIDS Acquired Immunodeficiency Syndrome

BFHI Baby Friendly Hospital Initiative

EBF Exclusive Breastfeeding

EFF Exclusive Formula Feeding

CDC Centers for Disease Control and Prevention

FGD Focus Group Discussions

HIV Human Immunodeficiency Virus

IFPs Infant Feeding Practices

IYCN Infant and Young Child Nutrition

KHC Kabwata Health Centre

MCH Maternal and Child Health

MoH Ministry of Health

NFNC National Food and Nutrition Commission

PMTCT Prevention of Mother-to-Child Transmission

UNICEF United Nations Children Emergency Fund

UN United Nations

WHO World Health Organization

ZDHS Zambia Demographic Health Survey

ZHDR Zambia Human Development Report

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Chapter 1.0: Introduction

1.1 Background

Infant feeding practices have recently attracted the attention of many researchers around the world due to the impact they have on the health of infants and young children. Global studies show that the type of infant feeding in the first six months of life has a great impact on child health and survival (WHO, 2003). WHO/UNICEF recommends exclusive breastfeeding in the first six months. According to WHO and UNICEF recommendations on breastfeeding, initiation of breastfeeding should occur within the first hour after birth (UNICEF, 2008) and all infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods while breastfeeding continues for up to two years and beyond. However, despite these recommendations, exclusive breastfeeding rates remain low in many parts of the world. Inayati et al. (2012) report that delayed initiation of breastfeeding, deprivation of colostrum, supplementary feeding of other foods other than breast milk, early or late introduction of complementary feeding are common infant feeding practices among many women around the world. With a high burden of disease due to common childhood illnesses in the developing world especially in sub-Saharan Africa (Black et al., 2008), high infant mortality rates of 184/1000 live births (UN, 2010) as well as unhygienic and unsafe environments (UNICEF, 2008), making safe formula feeding difficult, it is important to support the best possible feeding practices to help promote infant health and help reduce infant morbidity and mortality. Compared with other feeding practices (predominant breastfeeding, mixed feeding and formula feeding or replacement), exclusive breastfeeding (EBF) has the greatest benefits for child health, growth and development (Saloojee, 2008). Exclusive breastfeeding in the first six months of life has been reported to prevent about 1.3 million child deaths worldwide (Inayati et al., 2012). Exclusive breastfeeding has also been shown to reduce the risk of breast milk HIV transmission compared with mixed feeding (Coovadia et al., 2007; Illif et al., 2005). UNICEF (2008) also reports that inappropriate feeding practices such as mixed feeding increases the risk of mother to child transmission of HIV while exclusive breastfeeding for up to six months has been associated with a three to four fold decreased risk of transmission of HIV compared to mixed feeding in

several African studies. Mixed feeding carries a higher risk of HIV transmission from mother to baby when compared to EBF, because the tissue around an infant's gastro-intestinal tract is not fully developed to absorb other foods other than breast milk and so mixed feeding can lead to malabsorption, increasing chances of transmission of the virus from the mother to the baby (Chisenga et al., 2005). In addition, inappropriate feeding is more likely to pose significant risks for malnutrition in infants and young children. Understanding infant feeding practices and the role they play in improving the health of infants may lead to significant reduction in infant and child morbidity and mortality.

According to the United Nations report on infant feeding, only 36% of the 0-5 months old babies in the developing world are exclusively breastfed, and only 43% started breastfeeding within the first hour of birth (UNICEF, 2008). At national level, the 2007 Zambian Demographic and Health Survey (DHS) revealed that 57% of Zambian women initiated breastfeeding within an hour and 93% within the first day of birth but only about 41% of the Zambian women breast feed exclusively (IYCN, 2010).

In Zambia, the recommendation is that breastfeeding should continue to be protected, promoted and supported, and that all infants be exclusively breastfed for the first six months unless the conditions for safe formula feeding are met (Ministry of Health: Food and Nutrition Commission of Zambia, 2007). These conditions were a recommendation in the UN guidelines of 2010 which brought about the concept of AFASS (Acceptable, Feasible, Affordable, Sustainable and Safe): replacement feeding should not be used unless it met the conditions of AFASS (UN, 2010). According to WHO, EBF is possible except for a few medical conditions (WHO, 2009) which include active untreated tuberculosis, mother on chemotherapeutic agents, mother exposed to radio-active materials and mother with herpes simplex lesions on the breasts (Mebrahtu, 2008).

The current Zambian and United Nations policies and guidelines in the context of HIV state that: all HIV-infected mothers should receive counseling, which includes provision of general information about the risks and benefits of various feeding options, and specific guidance in selecting the option that is suitable for their situation and whatever the mother decides, she should be supported (IYCF, 2009).

The policy in Zambia on infant feeding in the context of HIV as per 2007 recommendations is that either of the two main options should be used; exclusive breastfeeding for six months or exclusive replacement feeding with formula when AFASS is met. Despite circumstances, all women are told and taught to breastfeed exclusively, this is the main message that women receive, and however, other options are only considered when the women cannot breastfeed exclusively. (Ministry of Health: Food and Nutrition Commission of Zambia, 2007).

This study was conducted between August and October, 2010 at Kabwata Health Centre in Kabwata township of Lusaka, the capital city of Zambia. Kabwata Township is an urban township with an estimated population of 60 299 (Zambia Demographic Health Survey, 2007) and situated in Lusaka. It is a formal settlement with most residents living there permanently, and most of them living in rented accommodation. Some of the residents are in formal employment and others in informal employment. Kabwata Health Centre is a public health facility providing primary health care services to the people of Kabwata Township and surrounding areas. Among the services offered is antenatal care to expecting mothers, growth monitoring activities and vaccinations as well as immunization programs to children under the age of five. The women who participated in the study were either in formal employment, informal employment or full time housewives and were aged between 20 and 40 years. There is no documented literature on infant feeding practices among the women of Kabwata and therefore this study was carried out to explore these practices and associated factors.

1.2 Problem Statement

One important aspect of promoting and sustaining EBF is to understand how mothers are feeding their infants and what influences them towards particular infant feeding options. Several factors could be associated with infant feeding practices and are likely to vary from one society and even community to another, and to change over time.

During pregnancy, women receive information about infant feeding from various sources including family and friends, health professionals as well as reading materials such as

magazines. The accuracy and consistency of information from these sources matters, as it is likely to impact either positively or negatively on the way the women choose to feed infants. Inadequate and inappropriate infant feeding practices, which include no breastfeeding and early or late introduction of complementary feeding, have been linked to infant and child malnutrition (Ministry of Health, 2006). The 2007 Zambia demographic health survey (ZDHS) indicated that 45% of Zambian children aged up to 5years were stunted due to chronic under-nutrition with 18% of infants less than six months already showing this degree of chronic under-nutrition (ZDHS, 2007).

The 41% exclusive breastfeeding rate in Zambia (Ministry of Health, 2006), is still below the WHO/UNICEF's aim of achieving 75% and above EBF in Sub-Saharan Africa (Doherty et al., 2010).

Generally, most women in Zambia initiate breastfeeding at birth (Ministry of Health, 2006). The study conducted by Chisenga (2002) in Zambia's Mandevu Township, revealed that 78% of the respondents initiated breastfeeding within 30 minutes of delivery. While some breastfeed exclusively for six months (41%), others introduce complementary foods at four months (53%), yet others opt to exclusively formula feed from as early as the first month (Ministry of Health, 2006). According to Chisenga (2002), some reasons given for not breastfeeding exclusively include: influence from health workers, being in full time employment and the belief that breast milk alone is insufficient.

This study aimed at exploring and investigating factors that influence infant feeding in Kabwata Township, a low-income community in Lusaka, Zambia, a decade after this earlier study.

1.3 Rationale of the study

The choice of infant feeding a woman takes has a bearing on the health and development of an infant. In addition, the high prevalence of HIV in the reproductive age group in Zambia makes infant feeding even more challenging. This study sought to provide an insight in to some factors which influence infant feeding practices among women in Kabwata Township, Lusaka, Zambia. The findings of this study may help to improve infant feeding practices and specifically to

sustain exclusive breastfeeding among women in Kabwata Township and consequently improve the health of infants.

1.4 Aim

The aim of the study was to explore the factors that influence infant feeding practices among women attending health care services at Kabwata Health Centre in Kabwata Township of Lusaka.

1.5 Objectives

i. To understand women's perceptions about various infant feeding options.
ii. To understand the key informants' (two nurses and one social worker) perceptions about various infant feeding options.
iii. To identify factors influencing common Infant Feeding Practices (IFPs) among the women in Kabwata Township.

Chapter 2.0: Literature Review

This chapter will discuss the literature addressing social factors, cultural/traditional factors and factors related to the health system, in relation to women's decisions on infant feeding and infant feeding practices.

2.1. Social factors

Various social factors tend to influence infant feeding choices in families and communities. These factors may include influence of family and friends, maternal employment and stigma and discrimination due to HIV. A study by Kourtis et al. (2006) shows that in sub-Sahara Africa the HIV infection dynamics are further determined by the various levels of poverty. For instance, they state that in settings of poor access to clean water and sanitation, HIV-infected mothers in Sub-Saharan Africa are faced with the choice of breastfeeding, which confers an increased risk of HIV, or formula feeding, which increases the risk of malnutrition, respiratory tract infections, and diarrheal diseases. This in itself is sufficient evidence that the type of feeding option a mother adopts is not only dictated by what they already know about infant feeding but by various social extenuating circumstances for which they may not have full control. These include the influence of family and friends, employment pressures, and HIV-related stigma.

2.1.1 Influence of Family and friends

Information obtained and the way the women are advised by family and friends may influence the woman's choice of infant feeding. Scott and Mostyn (2003) described "significant others" as a person or groups of people who are most influential on others, including family. . They cite an example of a mother whose family has a tradition of formula feeding and wanting to formula feed also, but with a husband who is a "significant other" and supports and encourages breastfeeding and thus able to influence behavior change. In this case, the woman may try to use her family history especially if no problems were experienced, as the basis for her choice of feeding pattern. This indicates the importance that past experiences and family history play in shaping women's feeding practices. On the other hand, the husband who is now in daily contact with her and in many cases also considered the head of the family may influence decision making. Scott and Mostyn (2003) concluded from their study that most women who are

supported by husbands are more likely to sustain breastfeeding than those who have nobody to assist them. Direct, daily support can overcome background cultural or personal expectations and preferences. This is consistent with the findings of Dennis (2002) who concluded that most mothers who breastfeed receive strong support to breastfeed from their immediate family. Barton and Daniels (2004) in a longitudinal ethnographic survey conducted in the rural Appalachian countries in USA also reported that mothers who have family support are likely to sustain breastfeeding.

In a study by McFadden, Renfrew and Atkin (2012) which tried to establish whether cultural context can make a difference to women's experiences of maternity care, it was discovered that among the factors identified was the influential role that grandmothers play. Most grandmothers in this study as reported by the women themselves influenced the women to formula feed. They thought because they had the responsibility to help take care of the baby, by formula feeding they gave the mother enough time to recover and rest. Again where the grand mother has strong beliefs for example in culture and traditions, more so if they are negative factors such as stopping to breastfeed when the woman falls pregnant, chances of exposing the infant to inappropriate feeding practices are high and therefore, may have significant negative impact on the health of the child either in the short term or long term.

The study by Chezem, Friesen and Clark (2001), reports that there were some women who sought information from family and friends. To them family were traditionally viewed as a source of emotional support for nursing mothers. They argue that these women are more likely to be convinced by the practical positive breastfeeding experience of a friend or family member compared to theoretical knowledge gained from health professionals. They further noted that women who took part in their study were more likely to reach out to family and friends for the information about infant feeding than to their health care providers, probably because the health workers were not convincing enough in the way they passed on information to the women.

Similarly, Heinig et al. (2009), in their study of sources and acceptability of infant feeding advice among their participants in the US-based special supplemental nutrition program for women, infants and children, established that the women mostly relied on experienced family members

and friends for advice. However, the women in their study also frequently used their own intuition, meaning that they used their own practical experiences or what they had seen and believed as workable, to find solutions that worked to solve problems associated with infant feeding. Further, they found that professional advice to the women was only credible when care givers exhibited characteristics similar to those of experienced family members and friends.

In contrast, seeking and receiving advice from family is not necessarily associated with optimal feeding practices. For example, Sika-Bright (2010) found that about 66% of mothers who received advice from family members in his study were using mixed feeding. It is not clear as to what kind of advice they received from family members which caused them to mix feed. WHO through UNICEF/UNAIDS/WHO/UNFPA (2004) also observed that it is normal in sub-Saharan Africa to give the baby water, porridge, teas etc. as well as breast milk during the first few weeks of life because it is believed traditionally that breast milk alone is not enough to satisfy the baby. In some instances, other family members may even offer to buy formula to supplement. Sika-Bright (2010) observed that grandmothers especially were more likely to support mixed feeding as they "naturally" would like to see the baby eating always as echoed by the respondents in the study. This is consistent with Zekiye's study (2008) which observed that the frequent crying of a baby increases the likelihood of giving complementary foods to the baby because many family members, especially fathers and grandmothers, would often interpret the cries of the baby as baby being hungry. Zekiye argued that according to grandmothers, babies were crying because they were not having enough food and so these grandmothers suggested giving extra food to the babies.

2.1.2 Maternal employment

Maternal employment has been cited as a barrier to successful breastfeeding in a number of studies. Cooklin, Donath and Amir (2008) in their longitudinal study on maternal employment and breastfeeding, reports that maternal employment in the first six months of life contributes to premature cessation of breastfeeding. This was a large representative cohort study of Australian children where it was revealed that only 39% mothers who were in full time employment were breastfeeding predominantly at six months compared to 56% of non-employed mothers. Parkinson, Rusell-Bennet and Previte (2010) also observed that the need to supplement family

income and the many social changes compelled many women to work in formal employment and indicated that working full time at three months post partum decreases breastfeeding duration in relation to not working. Circumstances of employment including the length of the maternity leave, may influence infant feeding patterns as reported by Zekiye (2008).

Ogunjuyigbe & Ojofetimi (undated) revealed in their study in Nigeria that the traditional prolonged breastfeeding practice is broken as a result of full time maternal employment. This is supported by a study done by Sika-Bright (2010) in Ghana, who concluded that maternal employment does play a role in conditioning mothers' infant feeding practices and that a return to work within three months of birth is predictive of early mixed feeding.

Further, having to choose formula-feeding or mixed-feeding due to work related constraints, mothers were likely to end up dividing their income between buying formula and other domestic needs which is a constraint in most families in many developing countries (Sika-Bright 2010). Esterik and Butler (2011) estimated that the average cost of feeding a six months old baby for one month on infant formula was equal to at least the average household's monthly income in most developing countries. Where there is a history of food insecurity and poverty, as the situation is in Zambia where the majority of the population lives in poverty (ZHDR, 2007), women are likely to have difficulties in budgeting scarce resources for infant feeding and caring for other siblings in the household. Breastfeeding would at least enable families to apportion their resources appropriately and reduce their dependency on commercial products.

In summary, nursing mothers especially those in formal employment need support to be able to initiate and sustain breastfeeding later on exclusive breastfeeding. Even with a combination of unpaid domestic and child care work and formal employment outside home, mothers can successfully breastfeed if they are given adequate support (UNICEF, 2011) This support may be informal and provided by peers, for example when women working in markets cooperate in caring and feeding babies. Mother support groups are also important in formal work settings, policy initiatives such as paid maternity leave, infant and childcare facilities, flexible work hours and the opportunity for mothers to express and store breast milk are equally important as Esterik and Buttler (2011) seems to suggest. This support is required from all stakeholders who include

family, especially husbands and grandmothers, friends, employers, peer groups as well as healthcare providers.

On the other hand, the study by Februhartanty et al. (2010) revealed that although exclusive breastfeeding rates were low among working mothers in Indonesia, at 1.4%, the few working mothers who managed to exclusively breastfeed, were found to possess some important characteristics. Among them, these women were confident that they had sufficient breast milk and believed they could do it, also had sufficient information before they even became pregnant. In addition, these women knew exactly when to start complementary feeding, were able to express breast milk for the baby to feed when they were away at work and were strongly supported by their spouses. However, one other common factor revealed by the study was that they were all literate and had reached higher levels of education. This study seems to suggest that good knowledge and sufficient information helps create an attitude that can motivate a working mother to exclusively breastfeed. More so, the fact that there was an emphasis on literacy and higher levels of education is in itself suggestive of the importance that educational backgrounds is likely to play in shaping infant feeding decisions among nursing women.

2.1.3 Stigma and discrimination due to HIV

In 2009, the HIV prevalence among pregnant women was estimated at 19% and 68000 pregnant women were estimated to be living with HIV with more than 95% pregnant women undergoing voluntary HIV counseling and testing (VCT) (UNICEF, 2010). Most women were not willing to breastfeed exclusively if they were HIV positive, regardless of whether they met the AFASS standard or not, for fear of infecting their babies (IYCN, 2010).

The fear of stigma and discrimination is a factor influencing mothers to avoid EFF, especially among HIV-positive mothers (WHO, 2009). One major challenge is that confidentiality of the HIV status of HIV-positive women is likely to be compromised if they choose not to breastfeed their infants, therefore, most women end up mix feeding to avoid stigma (UNICEF/UNAIDS/WHO/UNFPA, 2004). In Kenya for example, some HIV-positive mothers

were reported to mix feed their infants to avoid stigma if seen using other feeding options other than breastfeeding (Muleshe, 2011).

In Malawi, Østergaard & Bula (2010) looked at patterns of exclusive breastfeeding as well as factors that motivate or hinder HIV-positive women to practice exclusive breastfeeding. They found that among the notable negative factors affecting IFPs was stigma and poor counseling of the women. Poor counseling of HIV-positive women by health workers hinders women from practicing exclusive breastfeeding as they remain uncertain whether it is the best practice or not. However, knowing that exclusive breastfeeding reduces the risk of transmission motivates the women to practice exclusive breastfeeding. In Malawi, HIV-positive women who cannot afford safe formula feeding are advised to practice exclusive breastfeeding which is then followed by prompt weaning. Despite many HIV-positive women expressing intentions to breastfeed exclusively, less than half do actually manage to do it and those who do it according to Østergaard & Bula (2010) were older, with support from fathers and live without the presence of mothers-in-law. However, the study also revealed that prompt weaning at six months, to the women was just as hard as practicing exclusive breastfeeding itself. Therefore, in conclusion Østergaard & Bula suggest that intervention programs be sensitive to social expectations by mothers and must involve mothers-in-law and fathers in order to help the women who have intentions to breast feed exclusively.

In another study by Ngeno et al. (2004) in Kenya, it was found that women who chose not to breastfeed due to their HIV status were stigmatized, especially by close relatives. The influence of family and friends is closely linked to stigma. In some cases where mothers choose to formula feed, close relatives such as husband, mother-in-law and friends insist on knowing why the child is not being breastfed. Once they know the status of the mother then she is discriminated against. Similarly, in South Africa, the fear of disclosure of status and stigma has been reported to weaken the ability of some mothers who choose to formula feed exclusively to resist family and community norms that are against early introduction of fluids and foods and question non-breastfeeding (Doherty et al., 2006). This is likely to result in social isolation which makes mothers doubt their ability to care for their infants and therefore, affect the way mothers feed their infants.

2.2. Cultural/ Traditional Factors

Cultural practices differ from one society to the other. Literature indicates that some cultural/traditional practices are a hindrance to successful infant feeding. As result, some of these cultural/traditional practices have created a significant gap between infant feeding practices and WHO/UNICEF infant feeding recommendations. Setegn, Gerbaba and Belachew (2011), report that if all infants were put to the breast within the first hour of birth, 22% of neonatal deaths could be prevented. In UK for instance, in order to improve breastfeeding rates, women receive breastfeeding support from midwives in the hospital and community midwives when they are discharged. In addition, there are also public health nurses who visit mothers at home as well as breastfeeding support groups. But despite all this, breastfeeding rates remain low. The studies done to determine factors associated with infant feeding practices, according to McFadden, Renfrew and Atkin (2012) suggest that culture play a significant role in breastfeeding practices and attitudes.

Despite breastfeeding being regarded as a universal practice in Ethiopia, half the women do not initiate breastfeeding within the first hour of birth because it is highly bound to cultural factors. Current studies in Ethiopia show that 35% of mothers squeeze and discard colostrums due to the cultural belief that colostrum causes abdominal cramps in the baby (Setegn, Gerbaba and Belachew, 2011).

A cross sectional survey by Pak-Gorstein, Haq and Graham (2009) found that in Vietnam, colostrum (the first thick yellow milk) is considered to be "old milk" and is therefore discarded. Similarly, in Ethiopia, according to the 2005 Ethiopian Demographic Health Survey, only 45.8% of the new born babies received colostrum (Tamiru et al., 2012). Colostrum is considered to be unclean and therefore it is discarded. Despite breastfeeding being one of the major components of primary health care in Ethiopia, delayed initiation of breastfeeding due to some harmful practices such as discarding of colostrums are major challenges to successful infant feeding even after the implementation of infant and young child feeding recommendations. It is a traditional practice in Ethiopia to give pre-lacteal feed to new born babies until breast milk is clearer after a few days, when breastfeeding starts. Pre-lacteal feeds prevent mothers from giving colostrum to the babies and these mothers are more likely to non-exclusively breastfeed. This is likely to

interrupt hormonal feedback to stimulate milk production and the mother is likely to end up with inadequate milk production and therefore unable to breastfeed her baby. Instead the mother is likely to introduce breast milk substitutes which would constitute mixed feeding. Infants are fed on herbal tea or boiled sugar water for the first two to three days after birth. This early introduction of other foods other than breast milk according to Tamiru at al. (2012) increases the risk of diarrhea and mortality where access to health care, clean water and sanitation is a major challenge.

In the study done by Chisenga (2002) in Mandevu, a peri-urban setting in Lusaka, Zambia, it was revealed that there was a belief that once a woman conceived while breastfeeding, she should immediately stop to breastfeed because the baby would develop diarrhea, swell up and die. This is one example of the socio-cultural barriers to successful infant feeding. A similar finding was reported by IYCN (2010) that some women stop breastfeeding when they become pregnant whilst breastfeeding, because traditionally, it was believed that the breast milk is no longer suitable for the baby. The same study also revealed that some mothers do give babies water at as early as one month. They put a few drops on the baby's tongue when bathing the baby. Traditionally according to these mothers it is believed that through the baby's gestures, the mother can easily tell when the baby is ready to start eating. This therefore means that they are not practicing EBF. It may be important to understand whether the level of the woman's education and the knowledge about infant feeding have an effect on the way the women choose to feed their infants especially where infant feeding conflicts with cultural/traditional beliefs.

Among the major ethnic groups in Nigeria, Ogunjuyigbe and Ojofetimi (undated) found that the concept of healthy child is taken to mean "fat baby", therefore, good food according to them is that which increases the size and weight of the infant. Their belief on a healthy baby affects their choice of food for the baby, to them therefore, breast milk is insufficient and so most mothers end up mix feeding their infants. It is however not clear from the study whether this belief is among all the major ethnic groups in Nigeria.

In Luapula province of Zambia, situated in the northern region of the country, a number of factors have been cited as affecting infant nutrition and subsequent development. It was found

that most women did not practice exclusive breast feeding for the first six months instead, the children were regularly given water with salt during the first month of life. From the third month on, infants would already have been introduced to all sorts of foods, predominantly consisting of cassava or maize porridge with a bit of salt and sugar, thereby causing the displacement of milk and denying them of the protective factors that are present in breast milk and consequently, denying the infant the much needed energy and nutrients for their growth and development (NFNC, 2009).

2.3. Factors related to the Health system

Health systems can play a major role in educating mothers about appropriate infant feeding practices. One major factor related to the health system is the influence of health workers on infant feeding practices (Nakamba, 2006).

Mebrahtu (2008), reports that there is still some confusion and uncertainty around HIV and infant feeding among health workers. This confusion also exists among mothers, as found by the recent study conducted by the USAID's Infant and Young Child Nutrition (IYCN) project on formative assessment of infant and young child feeding practices at community level in Zambia. Some women in the IYCN study indicated that they were aware about the feeding options if they were HIV positive, while some still seemed confused about the relationship between HIV and infant feeding.

Mebrahtu (2008) reports that, there was poor information dissemination and orientation towards latest PMTCT and infant feeding policies and guidelines. This probably means that latest information was not flowing well down to the women and therefore, the women were not benefiting much from the latest information. In a study by Nakamba (2006) to determine maternal knowledge and breastfeeding practices in relation to HIV in Chibombo rural district in Zambia, it was revealed that 98% of the respondents were not of the view that an HIV-positive mother should breastfeed, for fear of possible transmission of the virus. According to Nakamba there seems to be little information shared with women about the links between breastfeeding and HIV, and that knowledge on infant feeding alternatives was limited, hence the author suggested that more information needed to be made available so that the women could make

informed choices. Nakamba seems to suggest that information was incomplete. The women needed to understand that exclusive breastfeeding was safe even in the context of HIV.

Where there is inadequate knowledge on IFPs among health workers, the health system has negatively affected IFPs. According to Mclnnes and Chambers (2008), mothers tended to rate social support as more important than health service support, because health service support was described unfavorably with emphasis on time pressures, lack of availability of healthcare professionals or guidance, promotion of unhelpful practices and conflicting advice. Zekiye (2008), in the study of factors affecting exclusive breastfeeding of healthy babies aged 0-4 months among the Turkish women, concluded that a deficit in knowledge among health workers and lack of adequate information to mothers are major factors affecting infant feeding. Further, Chezem, Friesen and Clark (2001), also concluded that lack of self confidence in breastfeeding counseling skills among health workers discourages the women from using the health workers as their source of information. Health care professionals can be a negative source of support if their lack of knowledge results in inaccurate or inconsistent advice.

However, contrary to the above finding, where there is adequate and correct information among health workers, the health system has positively influenced IFPs. Shirima et al. (2000), in a study where breastfeeding practices were compared among urban and rural women in Morogoro, Tanzania, it was found that exclusive breastfeeding rate was higher among women delivering in hospital settings than those delivered by TBAs. Shirima et al. (2000) observed that this is partly due to sustained breastfeeding support in hospital settings and other campaigns which may not have reached rural areas. This can be supported by a study that was done in Malawi which concluded that health facilities indeed play an important role in shaping the women's choices of infant feeding (Kamudoni, Maleta, Shi & Holmboe, 2007). This is also consistent with the study by IYCN (2010), which reported that the guidance through under-five clinics, antenatal care and other outreach programmes offered by health facilities, makes the health system an important source of information to the women.

In Australia where breastfeeding initiation rates have been reported to be high although duration remains low, a study by Jennifer et al. (2012) identified antenatal breastfeeding education offered

by midwives to child bearing women and partners as one key strategy. This was a study that aimed at examining the dominant discourses that midwives use to disseminate information to the women in group-based antenatal education sessions. By way of their personal and professional commitment to breastfeeding, through discourses such as "there is only one feeding option-breastfeeding" and "breast is best", which were presented within supportive and protective policy framework, the midwives contributed to increased rates of breastfeeding initiation.

2.4. Conclusions of the literature reviewed

In summary, women who receive support from both family and friends are more likely to succeed with breastfeeding. In some cases it is also true that family members may be responsible for mothers' inappropriate infant feeding choices due to excessive influence. This is partly because of a deep rooted belief that breast milk alone is never enough for the baby.

Working mothers find it very difficult to sustain exclusive breastfeeding because they are normally given three months maternity leave. At the end of this period, the mother must either extend her leave by using up annual leave days or revert to supplementary feeding of the baby when she is at work.

Poor nutrition, exacerbated by food insecurity leaves families and mothers with no choice but to feed their babies with any food items that they are able to secure.

The ambivalence of women and some health care providers about breastfeeding and HIV transmission risk has unfortunately resulted in higher risk choices in infant feeding. Stigma is sometimes to blame for women who are concerned that their HIV status will be brought into public domain if they just suddenly stopped breastfeeding. Therefore, the tendency is to practice mixed feeding.

Cultural beliefs surrounding breastfeeding may impact negatively on the success of campaigns on exclusive breastfeeding. Notable among these is the belief among many communities that colostrum, the first milk extracted as first milk after birth is believed to be harmful to the baby, when in fact the contrary is the case.

From the several studies done around the world, it is clear that infant feeding choices by women are influenced by a variety of factors which may be social, cultural, and economical or may be related to the health system. Therefore, it is imperative that developers of intervention programmes take in to account these factors and make intervention programs sensitive to social expectations by the women.

Chapter 3.0: Methodology

3.1 Study Design

This was a qualitative exploratory study which was conducted to develop an understanding of the factors that influence the women's choice of particular infant feeding practices. It was based on focus group discussions with the women and individual interviews with key informants. The advantage of an exploratory study design in this study was to try and develop possible explanations as to why women choose to feed their infants the way they do which would provide an idea on possible interventions. The study provided latitude to explore even beyond basic inquiry to widen the scope of information gathering. The information was solicited from the women themselves regarding their general perception about infant feeding. Health practitioners also formed a critical respondent group because they were in routine daily contact with breastfeeding mothers and those mothers arriving at the health centre with sick infants.

3.2 Study Setting

Kabwata health centre is among the several townships in Lusaka. Lusaka is among the heavily burdened city in Zambia by HIV. According to Stringer et al. (2008), public sector antenatal and delivery care occur in 24 government clinics spread out through the city of Lusaka and 45000 births occur in this system per year. Stringer et al. (2008) reports that between 2002 and 2006 the number of women attending ANC who accepted to be tested for HIV increased from 71% to 94% and HIV positive cases increased as absolute numbers of attendees increased. According to the UNICEF (2010) report, in 2009, about 68000 pregnant women in Zambia were estimated to be living with HIV.

Zambia's PMTCT programme was launched in 1999, antiretroviral drugs (primarily nevirapine) are offered to expectant mothers and newborn infants as prophylaxis. Since 2009, only a single dose of nevirapine is used to a third of all women PMTCT ARV recipients (UNICEF, 2010).

Kabwata Township is an urban township with an estimated population of 60 299 (Zambia Demographic Health Survey, 2007), situated in Lusaka, Zambia's capital city. It is a formal

settlement with most residents living there permanently, some of them in rented accommodation. Some of the residents are in formal employment and others in informal employment (mostly trading). Kabwata Health Centre is a public health facility providing primary health care services to the people of Kabwata Township and surrounding areas. The health centre is located just about half a kilometer away from the university teaching hospital, which is a public and referral hospital. Among the services offered is antenatal care to expecting mothers, growth monitoring activities and vaccinations as well as immunization programs to children under the age of five. Different activities took place on different days. For example, antenatal clinic was held on three days of the week while under-five clinic was held on the other two days. On average, according to one of the senior nurses, about 25 to 35 pregnant women were seen per day for antenatal clinic and about 45 to 55 children were seen for under-five clinic per day. The nurse reported that the health centre was facing a challenge of understaffing as they were only five nurses available. From among them others had to go for outreach programmes. The ART and other related programmes had their own days. Pregnant women who presented at the health centre were offered routine free HIV counseling and testing if they consented. Those found to be HIV positive were enrolled in prevention of mother-to-child transmission (PMTCT) programmes. Septrin was given as prophylaxis to the women who were found to be HIV-positive until such a time when their CD4 count dropped to levels recommended for ART commencement. According to the nurse, of the 25 to 35 pregnant women presenting at the clinic per day for ANC, at least 2 to 4 pregnant women were found to be HIV-positive. Kabwata Health Centre was used as a base for both participant recruitment and conducting research. All the participants were residents of Kabwata Township. The main languages spoken were Nyanja, Bemba and English**.**

3.3 Population and Sample

The study population comprised of all the women who attended antenatal clinic as well as those mothers who brought their infants for under-five clinic at Kabwata Health Centre. The study sample comprised 32 women who took part in focus group discussions and three key informants (two nurses and one social worker) who took part in individual interviews. There were four focus groups, each comprising eight women who came to the clinic either because they brought their children for under-five care or expectant mothers who came for antenatal care. The women in the

study sample were aged between 20 and 40 years. After the research topic was introduced to the women, they were asked to take part in the study and those who agreed were selected and recruited on separate days. A convenience sample was selected from among these women, all of whom were involved or would soon be involved in the actual practice of infant feeding.

Three key informants who were health professionals were also purposively selected for individual interviews. The sister-in-charge of maternal and child health (MCH) at KHC assisted in identifying two nurses and one social worker for individual interviews on the basis that they were directly involved in child health activities and in this case infant feeding. These nurses together with the social worker worked in the department of maternal and child health at the health centre.

3.4 Data Collection

Four focus group discussions were conducted as well as three individual interviews. The aim was to conduct one focus group discussion per day in order to minimize disturbing clinic operations. Further, because antenatal and growth monitoring services were only offered in the morning, conducting one discussion per day, in the mornings, was intended to avoid keeping mothers longer at the health centre. With the assistance from the sister in-charge, when the researcher identified herself and introduced the topic, the women who expressed interest in taking part in the study registered to take part. Information sheets and consent forms were reviewed and signed individually before discussions. The discussions were held within the health centre premises. One discussion was held per day. Mothers who agreed to participate were informed about the method of data collection (audiotape) before participating in interviews. All focus group discussions and individual interviews were tape recorded. Audiotapes were transcribed verbatim. Discussions and interviews took approximately 45-60 minutes. The questions to guide FGDs are contained in appendix 4 and those to guide individual interviews are contained in appendix 5. At the end of each discussion, the researcher summarized the key points to the members of the FGD. The facilitator's summary was to seek clarification from respondents to ensure that what was said was in fact what was meant by the respondent. The discussion questions were posed in English. The women understood the questions in English fairly well and therefore, only a few translations were done. English and the local languages such as Nyanja and Bemba were used

interchangeably, to allow the women express themselves freely. The researcher was quite fluent in all the three languages and facilitated all the focus group discussions. Recorded information was carefully listened to and relevant information written down on paper.

3.4.1 Focus Group Discussions

FGDs were an ideal method in this study because through group interaction, the women were able to relate to their own daily practices and discuss some of their own experiences. Through group interaction for example, they were able to argue about formula feeding especially in the context of HIV. While others agreed with exclusive breastfeeding, others argued that it was better than formula feeding especially for those found to be HIV positive. Focus group discussions helped to bring out information related to the women's day-to-day lives.

3.4.2 Individual interviews

The purpose of individual interviews with key informants was to use them as a rich source of information since they were actively involved with infant feeding activities such as breastfeeding awareness campaigns; in addition they had also undergone training in maternal and child health, and therefore, had a broader experience on infant feeding. The use of individual interviews, were also a form of triangulation. A further benefit derived from the information of the informants lay in the fact that during the study period it was not easy to mobilize a larger sample size, especially that the study did not include household interviews nor women who did not attend ANC. The researcher had to do with the respondents available at the time, with further information from the key informants. The two nurses were women aged approximately 50 years while the social worker was in her late thirties. This method was also used as a way of supporting some of the information gathered from participants during FGDs. The interviews were conducted by the researcher, in English.

3.5 Data Analysis

The demographic data and the frequencies of some responses from the interviews were analyzed using descriptive and simple statistical approaches to analyse the data. Overall, the data was approached from an interpretative perspective. This means that the researcher looked beyond the literal spoken words in trying to capture the meaning and interpret them. Similar responses from the transcripts and notes were grouped together, and the themes were generated in relation to the

objectives. Responses and quotes relevant to the identified themes were considered. According to Lacey & Luff (2001), a theme may be labeled by a word or expression taken directly from the data or by one created because it seems to best characterize the essence of what is being said.

Themes were generated and these were categorized under three broad headings: overall perceptions and evaluations of infant feeding practices; influencers of infant feeding practice choices; and women's own judgments of how to feed infants.

3.6 Limitations of this study

As a qualitative exploratory study, this study was not intended to be statistically generalizable. There are however limitations that should be mentioned. The study did not include women who did not attend the clinic. As a small study for a mini thesis, the number of FGD and individual interviews was limited; therefore, the level of saturation of information may not have been reached. Given the large population catchment area, the study would have been much more informative had it extended to household respondents. The time to cover such a large sample would again have been very long and costly for the researcher given the limited time and resources at hand. A further set of more probing questions may have led to more reflection by the respondents and additional or deeper insight. The researcher endeavored to find out about the policy changes that had taken place, but a follow up visit showed that tracking down the details of how exactly policy was communicated to managers and health workers, and whether they had training on how to counsel women about each of the specific changes in IFP guidelines, would take more time and different research instruments. The study also did not check whether women also got advice from other health centres, for example from private or traditional practitioners, and what advice regarding infant feeding these practitioners might give. This was not an ethnographic study but a small qualitative interview based study, so structured observation and thick description of actual daily practice was not part of the study.

Further it may be possible that the use of FGD might have meant that minority views and stigmatizing views may have been silenced. It may also be possible that the women's responses could be influenced by the fact that recruitment was done with the help of the health worker from

the same facility were FGD were being conducted especially knowing that seeking of health care services by the women was on-going. However, this limitation may also have been addressed by the fact that health workers were not present during discussions with the women.

3.7. Ethical Considerations

This study involved collecting data from human subjects. To ensure confidentiality, all participants were identified by numbers. All study participants were informed that participation in the study was voluntary and that they could withdraw from the study any time if they wished to without having to give any reason. Even though participants were not asked about their HIV status, HIV was mentioned and referred to by the women during the discussions. Permission was granted by management at KHC and Lusaka District Health Management Team (LDHMT) to carry out the study. Research ethics was approved by the University of Zambia Biomedical Research Ethics Committee and the University of the Western Cape Senate Research Committee.

Chapter 4.0: Results

Over the study period, the study recruited 32 women of unknown HIV status who consented to take part in focus group discussions. In addition to the 32 women, three key informants (two nurses and one social worker) were also recruited. All data was presented and supported by direct quotations.

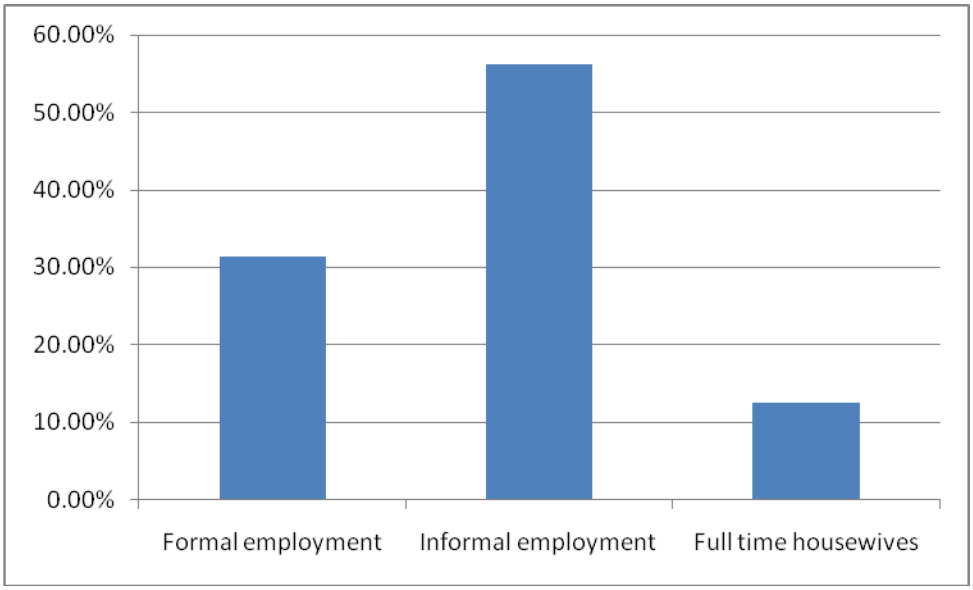
The women were aged between 20 and 40 years, with the mean age of 30 years. Most women were between the ages 30-34 years (Table 1).

Table 1: Age of the Participants who took part in FGDs

Age of Mother	Frequency	(%)
20-24	4	12.5
25-29	12	37.5
30-34	13	40.6
35-40	3	9.4

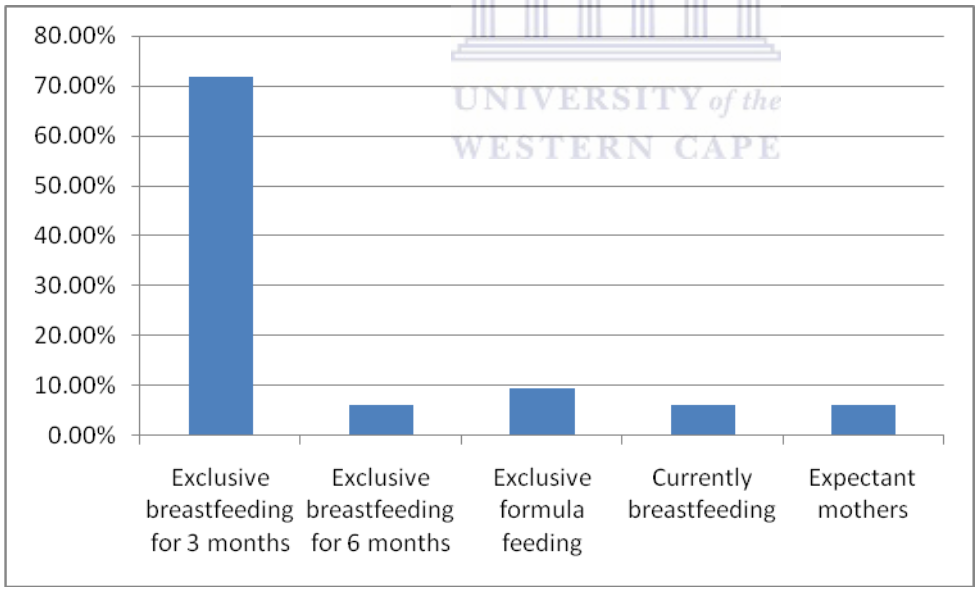
The table above shows the ages of the women who took part in focus group discussions. 12.5% aged between 20 and 24 years, 37.5% aged between 25 and 29 years, 40.6% aged between 30 and 34 years while 9.4% aged between 35 and 40 years. In this study the most prevalent age group was between 30 and 34 years.

Graph 1: Employment Status of Participants in FGDs



The graph above shows the employment status of the women who participated in focus group discussions. Out of the 32 women who participated in FGDs, 31.25% were in formal employment, 56.25% were in informal employment and 12.25% were full time housewives. In this study most of the women who took part were in informal employment (mostly trading).

Graph 2: Percentages of infant feeding Practices



The above graph shows infant feeding practices of the women who took part in focus group discussions. Out of the 32 women, 71.8% breastfed exclusively for the first three months and then started mixed feeding, 6.2% breastfed their last children for six months, 6.2% were

presently breastfeeding and intended to do so exclusively while 9.4% previously practiced exclusive formula feeding for about three months then introduced solid foods. The other 6.2% were expectant mothers.

4.1 General Perceptions on Infant feeding Practices

Three broad perceptions finally emerged: (i) Breastfeeding is best for babies and is sufficient, (ii) Formula feeding causes diarrhea in unhygienic conditions (iii) If a mother is HIV positive, formula feeding is best for the baby but socially difficult for the mother.

Generally three modes of infant feeding in the first six months were, exclusive breastfeeding, exclusive formula feeding and mixed feeding. It was clear that breastfeeding was the universal infant feeding practice. According to the social worker "a pregnant woman should know the importance of infant feeding particularly breastfeeding even before she delivers her baby". It was clear from the interviews that the women were in full support of breastfeeding generally because they believed that breast milk was the best food for the baby and that it protects the baby from diseases. They however argued amongst themselves when it came to formula feeding. "Formula feeding may cause diarrhea". Others also argued, "But when one is HIV-positive, it is better to feed the baby with formula milk".

4.1.1. Women's perception on infant feeding practices

In this study, more than 80% of the women believed that exclusive breastfeeding was the best choice for the baby although not all of them practiced it. They believed that breast milk was sufficient, convenient and just the natural way of feeding the baby. Although only about 9% practiced formula feeding there were others who supported formula feeding especially in the context of HIV.

> "Breastfeeding is the best food for the baby, but I think when one is HIV positive it is better to give formula milk to the baby" (FGD #2, Respondent #3).

Those that did not agree with formula feeding were worried about the diarrhea that is associated with unhygienic conditions and also that it was unnatural.

> "A lot of children who take formula milk suffer from diarrhea. We see this among some of our neighbours" (FGD #4, Respondent #1).

The perception on mixed feeding by some women was that, breast milk needed to be supplemented by other foods because it was insufficient to meet all the nutritional requirements for the baby to grow well.

> "I don't think breast milk alone can be enough for the baby, maybe that's why some babies even cry a lot because they fill hungry" (FGD #3, Respondent #5).

Without discriminating among the infant age groups, some women just thought that mixed feeding was an unhealthy way of feeding infants especially as related to HIV transmission..

4.1.2. Key informants' perception on infant feeding practices

Health workers believed and taught the women that exclusive breastfeeding was the only best option for infant feeding and they discouraged the women from practicing formula and mixed feeding.

> "We try our best to educate the women, but you know most of these women when they give birth, their mothers come to help out and these parents also bring their own ideas. So sometimes these women face a challenge to choose between what they learn at the clinic and what their mothers teach them" (Nurse 1).

While the nurses encouraged the women to exclusively breastfeed, one nurse revealed that where the women felt they were unable to breastfeed, the option of formula feeding was given.

"But in cases where the mother is HIV positive or other conditions for example, we tell them exclusive breastfeeding is still the best but we give them other options and usually the next option is formula feeding" (Nurse 2).

"Sometimes it feels as if we just do it as a job because most of these women already have their own ideas about the way they want to feed their infants" (Nurse 1).

4.1.3. General perceptions on exclusive breastfeeding

Out of the 32 women who participated in FGDs, 23 (71.8%) breastfed exclusively for three months, two (6.2%) breastfed exclusively for six months and two (6.2%) were currently breastfeeding and intended to breastfeed exclusively (Graph 2). This means that about 84.4% breastfed their babies. These women believed that breastfeeding was best for the baby and gave reasons among others that it was convenient and it contained all the nutrients that the baby needed to grow well. Health workers also emphasized the importance of breastfeeding.

"We have leant to just talk about breastfeeding, hoping that every woman should breastfeed if they are able to" (Nurse 1).

"Breast milk is good for the baby, it is fresh, at right temperature, you don't need to buy or prepare" (FGD #1, respondent #1).

In addition the women who had an experience of breastfeeding indicated that the good health status of the baby was as a result of breastfeeding.

"Breastfeeding is the best food for the baby. You can tell that the baby is growing well when he/she is growing in body size, is active and you don't go to the clinic often because of the baby being sick" (FGD #3, respondent #5).

Some women also agreed that it was a natural way of feeding the baby.

"Exclusive breastfeeding is good for the baby, but six months is too long for a mother to be with the baby all the time to breastfeed whenever the baby needs to eat" (FGD #4, respondent #8).

"I just breastfed exclusively for three months because I had to go back to school to improve my career, I am a teacher" (FGD #4, respondent #1).

"I managed to breastfeed exclusively for six months and am happy that my baby is ok and healthy" (FGD #2, respondent #5).

"I feel the baby at five or six months is too old to depend on breast milk alone, that is why you find some babies crying too much because they don't get satisfied" (FGD #2, respondent #6).

Generally, if 84% were reported to breastfeed, then it may be assumed that most of them understood the importance of breastfeeding and how beneficial it was to their babies, hence associated the good health status and growth of a baby with breastfeeding.

4.2. Formula Feeding in Unhygienic Conditions

Formula feeding was one of the choices some women made. In this study only 9.4% practiced formula feeding. This study did not establish the HIV status of the 9.4% women who formula fed and therefore could not establish whether the women who formula fed were HIV positive or not. The general perception by the women about formula feeding was around hygiene, since formula feeding is usually associated with diarrhea as recorded during focus group discussions.

"Most of the times formula brings diarrhea in babies if the bottles are not kept clean" (FGD #1, respondent #3).

"At the clinic we learnt that formula feeding if not handled hygienically, the baby was more likely to suffer constant episodes of diarrhea**.** (FGD #3, respondent #3).

> "Most women are aware about the hygiene when it comes to formula feeding, although practicing it is a challenge because of the number of factors." (Nurse 2).

Although statistics show that it is not a common practice, those that opted to formula feed had their own reasons for opting to formula feed, for example, one participant opted to formula feed because she had to return to work in a few weeks.

> "You can manage to have a healthy baby even with formula feeding; you just need to educate the people feeding the baby about how to keep the feeding utensils clean. My baby is a healthy baby than even some babies I know were breastfed" (FGD #3, respondent #6).

Although there was generally a negative perception about formula feeding, one respondent reported that even after she breastfed her first child, this child grew up a weaker child than her second child who she formula fed and so she wondered whether the choice of feeding had an impact on the health of her children.

4.3. Women's perception's on Formula feeding in the Context of HIV.

In some circumstances, notably when a mother was HIV positive, formula feeding was considered to be clearly the best choice for the baby if at all possible. Some women said directly that they would rather use formula than breast milk for fear of transmitting the HIV virus to the baby in case they were found to be HIV positive.

> "If I was HIV positive, I would prefer formula feeding than breastfeeding," (FGD #3, respondent #8).

> "I think formula feeding is best if mother is HIV positive, but I think as a mother it would also be good to have a feeling of breastfeeding" (FGD #1, respondent #8).

"I think I wouldn't mind even if people knew my status, because the health of my baby is more important, so I would just go on and give formula" (FGD #2, respondent #1).

"Some women, even if we advise them to exclusively breastfeed, they would just say their husband can afford to buy formula and so they formula feed" (Nurse 2).

"If I was HIV positive, I would prefer formula feeding than breastfeeding, but I think people would definitely suspect that I am HIV positive and it would make me uncomfortable" (FGD #3, respondent #8).

"I was advised by the doctor to breastfeed exclusively or to put my baby on formula because of my condition, but my husband can't afford the formula, so am breastfeeding exclusively. If only we had the resources, I would have put my baby on formula" "FGD#4, respondent #6).

However, the fear to some is that, since society expects every mother to breastfeed, they feel when they are seen to formula feed exclusively, it's like a direct indication that they were HIV-positive and they wouldn't want other people to know they were HIV- positive for fear of being stigmatized. This view came from both the women and the key informants. One of the nurses reported that because of the fear of stigmatization some women decided to breastfeed. One of the nurses also indicated that there were peer educators from the health centre who followed HIV positive mothers in the community to monitor how they were feeding their infants.

"Some HIV-positive mothers breastfeed exclusively for six months, others prefer formula for fear of infecting their babies" (Nurse 2).

None of the mothers indicated being stigmatized, but it was obvious that some feared that formula feeding would definitely disclose their HIV status and might therefore, lead to stigmatization.

4.4 Factors influencing infant feeding practices.

The main influencers were identified from individual statements and the overall content of the discussions, and were classified under (i) influence by family and friends, (ii) influence by heath workers, (iii) practical realities including employment, poverty, and cultural/traditional practices.

4.4.1 Family and Friends

Family and friends influence decision-making around infant feeding. While some responses point to negative influence others were positive.

> "My mother came to live with us when I gave birth to my child to help take care of our small baby. When he was three months old, we started giving him fine porridge as per my mother's advice. I then realized that older people would usually like to see the baby eating all the time. When the baby cries she would usually suggest giving him food" (FGD #4, respondent #5).

> "I chose to breastfeed my baby because I, my sisters and brothers were also breastfed by our mother. My mother told me the importance of the first yellow milk and I made sure my child got it" (FGD #2, respondent #1).

> "I remember how I envied my friends when they were breastfeeding their babies. Now that I am breastfeeding myself, they encourage me so much and I feel happy and proud to breastfeed. I intend to breast feed beyond one year" (FGD #3, respondent # 7).

4.4.2 Health Workers as influencers of infant feeding practices.

As most women related their feeding practices to the health services provided at the health centre, it may therefore, be worth noting that health professionals actually play a critical role in shaping the women's infant feeding practices.

> "I was advised by the doctor to breastfeed exclusively or to put my baby on formula because of my condition, but my husband can't afford the formula, so am breastfeeding

exclusively. If only we had the resources, I would have put my baby on formula" "FGD#4, respondent #6).

During the discussions, it was noticed that most women were informed through interactions with the health workers during their clinic visits about the advantages and disadvantages of various feeding options. They also seemed informed about the feeding options in case mother was HIV positive.

Influence from health workers may impact positively or negatively on the way women choose to feed their infants. For example, one of the women indicated that she chose to breastfeed after learning about the advantages and disadvantages of various feeding options from health workers during her antenatal visits.

"When we come to the clinic, the nurses advise us to breastfeed and that's why I have chosen to breast feed" (FGD #1, respondent #1).

"We come to the clinic because that is where one can be advised properly on how to take care of our babies and also the correct food for our babies" (FGD #4, respondent #6).

"The nurses encourage us to breastfeed exclusively for six months because breast milk contains all the nutrients for the baby and also protects the baby from diseases" (FGD #2, respondent #7).

"At the clinic there are doctors and nurses who are able to give us the best advice" (FGD #3, respondent #6).

"If we didn't respect what we learn when we come to the clinic, we wouldn't be coming" (FGD #4, respondent #4).

4.4.3 Other factors influencing infant feeding Practices.

i. Employment

Maternal employment has been reported as one of the major obstacles to successful breastfeeding. Most women who are in full time employment have been reported to opt for formula feeding or mixed feeding. More than 80% agreed that exclusive breastfeeding was the best choice for the baby, but some argued that it was a difficult option to implement especially for working mothers.

> "I would love to exclusively breastfeed for six months, but I have to go to work" (FGD #3, respondent #7).

> "I breastfed exclusively for three months, but since my maternity leave was ending, I had to introduce formula to my baby for him to take when am at work. However, I do breastfeed when I knock off from work" (FGD #2, respondent #3).

> "I started my baby on formula immediately he was born, because I couldn't go on maternity leave and my workplace is far from home, my mother came to help take care of my baby" (FGD #3, respondent #6).

> "We encourage working mothers to go home to breastfeed at lunch if they can afford to, so that the baby does not miss out on breastfeeding too much" (Nurse 1).

> "I just started on a new job so I couldn't breastfeed exclusively even though I wanted to, so I started giving my baby fine porridge at two months, but I was breastfeeding when I was home" (FGD #4, respondent# 8).

> "When I gave birth, I only had four weeks to return to work, my family advised me to put the baby on formula so that my baby could get used to the bottle as I get back to work" (FGD # 2, respondent #4).

More than 80% agreed that exclusive breastfeeding was the best choice for the baby, but some argued that it was a difficult option to implement especially for working mothers.

> "I would love to exclusively breastfeed for six months, but I have to go to work" (FGD #3, respondent #7).

ii. Poverty

There was a belief among some women that their breast milk supply was inadequate to satisfy their infants. As a result these women end up mixed feeding.

> "I tend to feel that my diet affect the quality of my breast milk and because my baby has a big body, I feel giving him other foods beside breast milk makes him satisfied" (FGD # 3, respondent #3).

Due to economic hardships, some women tend to feel their poor diet means their breast milk is not as nutritious as expected to satisfy the nutritional requirements of the baby, as a result most women tend to mix feed.

> "I have tried to eat a balanced diet so that my breast milk can be nutritious, but sometimes it is too expensive for me. That is why I decided to mix feed my baby" (FGD #1, respondent # 7)

In situations as reported in the quote above, it may be necessary to consider the effects of poverty and the specific ways in which they condition mother's infant feeding decisions especially in the developing nations if infants are to be better nourished.

iii. Cultural/ Traditional Beliefs and Practices

Some women indicated that breastfeeding was considered a taboo in the community when a woman became pregnant whilst breastfeeding and therefore, traditionally women were discouraged to continue breastfeeding.

> "I stopped breastfeeding my baby at seven months because I accidentally got pregnant and family advised me to stop because it was traditionally believed that the baby could get sick and may even die". (FGD #2, respondent #6).

During interviews some responses indicated that traditionally people believe that babies do not get satisfied with breast milk alone, this is why it is common to find some women mix feeding. Similarly, it is also common to see grandmothers putting water on the babies tongue during baby baths as the social worker indicates

> "…because they believe babies also feel thirsty and also that water cleans the body" (Social Worker).

In view of these cultural/traditional beliefs, it is therefore important to understand them and how they impact on infant feeding practices and also include husbands and grandparents in intervention programmes.

4.5. Women's Own Judgment of What is Best for Baby and Feasible for the Mother

Most women agreed that a woman needed to assess her own condition before deciding on the type of feed for her baby. They believed that they were capable of deciding on what was best for their babies but also with consultation with people that had the knowledge about infant feeding especially health workers, "I think it is important to attend both antenatal and under-five clinic so that we learn. As a mother you need to know what is best for your baby" None of the women opposed breastfeeding as the number one choice of infant feeding. They however, encouraged each other that stigma should not deter them from deciding on what was best for the baby because what was important according to them was the health of the baby "What is more important, is it what people gossip or the health of the baby?" They however had challenges. For

example, one major challenge was in a case where a mother decided to formula feed in order to safe guard the health of her baby but cannot afford to source the formula, “I am breastfeeding because we cannot afford the formula. I am scared that my baby may get the HIV”. Similarly, another mother would want to breastfeed, but is deterred by a condition.

Chapter 5.0: Discussion

5.1 Introduction

In this chapter, the findings of the study are discussed under the following headings: perceptions of infant feeding practices, influencers of feeding options and the women's own judgment of what is best for the baby and feasible for the mother.

In Zambia, current messages from the National Food and Nutrition commission (NFNC) are advocating and encouraging mothers to ensure that they breastfeed their babies within one hour after birth and to continue doing so for the next six months. Correct and appropriate infant feeding is beneficial to infant's physical and mental development. Although exclusive breastfeeding is being strongly advocated for in both urban and rural areas, this study indicates that, while most mothers are receptive to most messages about exclusive breastfeeding for the first six months followed by alternative breast feeding thereafter, a number of challenges have been faced by mothers. For those that are working, the fact that normal maternity leave in Zambia is three months, most mothers will be tempted to find alternative ways of sustaining their babies while they report back to work at the end of leave. Many factors continue to affect infant feeding decisions and practices and they include economic, social-cultural, family influence among others.

Infant feeding in the context of HIV poses significant challenges due to the risk of transmission of the virus through breastfeeding. Prior to the 2010 guidelines on HIV and infant feeding, avoidance or early cessation of breastfeeding was recommended. However, there was significant evidence with many studies showing an increase in higher mortality rates due to diarrhea and malnutrition in non-breastfed infants (WHO, 2003). The 2010 UN guidelines recommend that the national authorities in each country should decide which infant feeding practice and interventions (i.e. breastfeeding with and antiretroviral (ARV) intervention or avoidance of all breastfeeding should be promoted and supported as a single public health recommendation contrary to the previous recommendation in which health workers were expected to individually counsel all HIV-positive mothers about the various infant feeding options and so the women were free to choose which option to take. Significant evidence has been reported that ARV

intervention to either the HIV-positive mother or the HIV exposed infant can significantly reduce the risk of post natal transmission of HIV through breastfeeding (UN, 2010).

In this study, qualitative data was collected on infant feeding practices with a special focus on factors associated with infant feeding practices in the local context, as was the aim of the study. The data collected may be used as the basis for promoting appropriate and healthy infant feeding interventions. More so, improving infant feeding practices will not only improve the health of children but also, more infant and child deaths will be prevented especially in resource-poor countries like Zambia.

5.2 Women's Perceptions of infant feeding practices

In this explorative qualitative study, an overall picture of universal breastfeeding emerges. Despite the high prevalence of breastfeeding, there is a need to improve exclusive breastfeeding rates according to WHO recommendations. In this study, exclusive breastfeeding rate was low at 9.2%. Early introduction of other foods other than breast milk was a common practice. These feeding patterns are consistent with earlier findings from Mozambique (Arts et al., 2010) and Ethiopia (Tamiru et al., 2012), also by Lande et al. (2003) who in their studies revealed low exclusive breastfeeding rates. Lande et al. in their study in Norway on Infant feeding practices and associated factors in the first six months of life, state that 90% children who participated in the study were breastfed exclusively for one month, 44% for four months, 7% for six months and 1% were never breastfed. There are still some traditional beliefs to address in order to increase the rate of exclusive breastfeeding in Zambia. The Ndola Project (Muleshe, 2011), revealed that many mothers introduced supplementary feeds early "because breast milk alone is not enough for the baby".

In this study the majority of women initiated breastfeeding within the first day. The Food and Nutrition Commission of Zambia and Zambian Ministry of Health promote early initiation of breastfeeding. Recent findings have emphasized the risk of delayed onset of breastfeeding as it is a risk factor for neonatal mortality especially in sub-Saharan Africa (Wamani et al., 2007).

In addition, this study shows that the majority of women started early supplementation of feeds to the infants, which seems to be a common practice among many African women, a practice that is discouraged by WHO in their international infant feeding guidelines due to the possible harmful effects it is likely to have on the health of an infant. However the women's comments show that they strongly support breastfeeding. While some women started early supplementation because they or their family members felt that babies need more food (which is almost never the case), in the case of women who worked it was almost the other way around: instead of weaning the baby early and going to EFF or formula with solid feeds at 6 months, women opted to breastfeed whenever they could, so that they were "supplementing" with breastmilk. WHO and other guidelines need to distinguish between early supplementation that ends up giving less breast milk and more risk of infection and malnutrition, from unwillingness to wean completely because women want to give some breast milk. Of course, supporting women to make it realistic for them to breastfeed and to express milk would be ideal.

Looking at the mean age range of 25-34 years, being a critical reproductive age group and significantly affected with HIV (ZDHS, 2007), it raises serious concerns about the need to critically provide the much needed counseling to the women. HIV has further complicated the subject of infant feeding. There are chances that most HIV positive women have to choose replacement feeding without considering the criteria of doing it safely as Chisenga et al. (2011) noted. There are some notable barriers to replacement feeding which include: the cost of replacement food (commonly being formula milk) and fuel for preparing it, unreliable supply of electrical power, poor access to safe water and poor access to storage facilities (Abiona et al., 2006). These are barriers that are common among most African women, which hence make it even more challenging for these women to practice replacement feeding safely. More research needs to be done on how these women may be helped to successfully feed their infants with minimum risks.

While the dominant theme was that "breastfeeding is best for babies and is sufficient", the FGDs also revealed that breastfeeding was not always considered to be the best for babies. In some circumstances, notably when a mother was HIV-positive, formula feeding was considered to be clearly the best choice for the baby if at all possible. Some women said directly that they would

rather use formula than breast milk for fear of transmitting the HIV virus to the baby in case they were found to be HIV-positive.

In this study, the proportion of women practicing exclusive breastfeeding for six months (6.2%), was comparatively lower than the national statistics reported by the Ministry of Health (Zambia) which is at 41% (Ministry of Health, 2006). This could be due to different feeding habits of women depending on their location. For example, in this study most women were in informal and low income employment and therefore, it may be possible that they may not feed their babies the same way as where most women were fulltime housewives or high income employment. Deep-rooted family and society norms make it difficult for most women in Kabwata Township as in most parts of the country as well as in most developing countries to opt for replacement feeding even where women convincingly believe it's the best choice for their babies for fear of being stigmatized because that is like an indirect way of disclosing one's HIV status.

5.3 Factors influencing feeding options

Infant feeding practices, including all the feeding options which include exclusive breastfeeding, predominant breastfeeding, formula feeding and mixed feeding, are influenced or promoted by health care providers, non-governmental organizations as well as the industry. However, the women base their infant feeding decisions on a number of factors, including family and friends influence, health workers influence, traditional/cultural practices as well as the socio-economical factors such as stigma related to HIV and poverty.

5.3.1 Family and Friends

In this study, the family was a significant factor in influencing infant feeding practices. From the number of studies that have been done, it is clear that family influence infant feeding practices both negatively and positively. In a positive way for example, it has been reported that many women who sustain breastfeeding rely mostly on family support. Women who continue breastfeeding for one year are more determined to succeed and overcome any barrier, relying mostly on family support and proper time management. The study by Baughcum et al. (2010) found that low income parents were strongly influenced by their parents' ideas about infant

feeding practices. In a negative way, it seems grandmothers encourage the use of cereals in formula milk bottles and early weaning onto solid foods (Baughcum et al., 2010). Baughcum et al. study findings suggest that there is often a conflict between parents and family members in relation to infant feeding and further suggest that interventions to alter infant feeding practices may need to include the education of grandmothers.

5.3.2 Health Workers

Influence from health workers may impact positively or negatively on the way women choose to feed their infants. Although this study did not endeavor to establish whether the health workers were appropriately equipped with counseling skills to appropriately guide the women, it may be possible that poor counseling skills may be a possible hindrance to successful dissemination of information. This therefore calls for the need for health workers to be equipped with correct, latest information and guidelines on infant feeding as well as counseling skills as they can be an important source of information to the women. During interviews, one of the nurses responded that sometimes talking to these women feels like just a job. Now this in itself shows lack of confidence in oneself suggesting that some health workers may be ill-equipped to counsel the women. One thing that should be remembered is that these women come from different backgrounds with information about infant feeding from many sources, therefore, only a well equipped health worker is able to convince women on how to adequately feed her baby.

The few key informants that were interviewed revealed a compassionate and practical understanding of the reality facing the women, it would therefore, be realistic to incorporate them when designing exclusive breastfeeding support programmes that could take these realities in to account and thus make them more successful.

Poor counseling skills to mothers have been strongly cited in similar studies and therefore, the need to be given critical attention. Antenatal breast-feeding education has been cited as a key strategy in promoting breast feeding to childbearing women. The findings by Jennifer et al. (2012) revealed how the midwives used one dominant discourse 'There is only one feeding option: breastfeeding' to promote breast feeding during group-based antenatal education sessions. Through this discourse, the midwives used their personal and professional commitment to breast

feeding, within supportive and protective policy frameworks, to convince as many pregnant women as possible to commit to breast feeding. According to Jennifer et al., sessions were organized to ensure women and their partners were 'armed' with as much information as possible about the value of breast milk, and practical strategies to deal with early breast-feeding problems. This is consistent with the study by Kamudoni et al. (2007), of infant feeding in Malawi in which the conclusion emphasized the importance of health facilities in the promotion of appropriate feeding practices such as breastfeeding.

There is a need to understand and to relate the social support offered by family and friends and the professional advice offered by health care professionals. A better understanding may be achieved through a more rigorous qualitative research especially that mothers continue to report mixed feelings about influence of family and friends and influence of health care providers. While in some reports mothers tended to rate social support as more important than health service support for example in the study by Chezem, Friesen and Clark (2001), there are also studies that state otherwise for example in the review report by IYCN. It is where health service support was described as unfavorable that influence of health care providers impacted negatively on the way women chose to feed their infants. There is need to also address the challenges faced by the health services such as understaffing, training among others, in order to address the needs of both mothers and health care providers.

5.3.3. HIV, Stigma, and fear of infecting one's baby

The fear of stigma and discrimination is a factor influencing mothers to avoid EFF, especially among HIV-positive mothers (WHO, 2009). Stigma related to HIV has been reported to be a hindrance to successful infant feeding. There are chances that those that have not chosen a feeding option, are likely to mix feed their infants, risking transmission of the virus through breastfeeding. The women could be mix feeding because they want to be seen to be breastfeeding and probably they are only breastfeeding a few times, while they believe formula is best. It is therefore, prudent that the new policy promoting exclusive breastfeeding even for HIV-positive women takes in to account the deep ambivalence across the many stakeholders who include women, family, health workers, researchers and policy makers.

According to ZDHS of 2007, urban areas, Kabwata inclusive, have a higher percentage of people living with HIV and AIDS. Researchers have documented that some decisions made by mothers in relation to infant feeding depended on the HIV status of the mother. Omari et al. (2000), in their study on infant feeding practices of mothers of known HIV status in Lusaka, Zambia, revealed that most Zambian women receiving advice on infant feeding appeared aware of the increased risk of HIV infection through breastfeeding. It was noticed during interviews with the key informants that most HIV positive women preferred formula feeding than EBF, if only they could afford to buy the formula. However, while WHO and UNICEF recommends replacement feeding in the context of HIV and only when it was affordable, feasible, acceptable, sustainable and safe UNICEF/UNAIDS/WHO/UNFPA (2004), economic barriers such as low incomes, were likely to affect the way HIV positive women choose to feed their infants.

Malambo (2006) in her study on maternal knowledge and breastfeeding practices in relation to HIV revealed that 98% of the respondents in the study were not of the view that an HIV-positive mother should breastfeed for the reason of possible transmission. She suggests that it is possible that adequate techniques and information on how to breast feed despite the HIV status have not been taught.

5.3.4 Maternal employment and poverty

Maternal employment was also identified as an obstacle to successful breastfeeding, both because women themselves found it difficult or impossible to breastfeed while working, and because family members reinforced how impractical and feasible it would be. In a study by Grzywacz et al. (2010) which looked at individual and job-related variation in infant feeding practices among working women, it was established that nearly all the women in the study had used commercially prepared foods. Working mothers according to Grzywacz et al. (2010) have been found to rely heavily on commercial and pre-packaged food stuffs. It may be concluded then that maternal employment shapes infant feeding. Nearly twice as many mothers of infants in today's world are engaged in the labor force compared to a number of years back. Employed mothers working 30 or more hours per week are less likely to initiate and sustain exclusive breast feeding (Grzywacz et al., 2010). With the report that exclusive breastfeeding prevents 1.3 million

child deaths as reported by Inayati, then it is significant that the option is promoted the best way possible. For instance, researchers have reported that it is possible for a nursing mother to express breast milk, but whether it is feasible and well accepted in African society, more studies need to be conducted.

Similar to the study done by Mebrahtu (2008), which looked at barriers to successful breastfeeding, this study found maternal employment as one of the major obstacles to successful breastfeeding. Mebrahtu also seems to suggest that maternal employment is one of the main reasons for exclusive formula feeding and mixed feeding by the women. Chatterji and Frick (2003) who also looked at how returning to full time work after child birth affect breastfeeding practices, reported that returning to work within three months of the infant's life is associated with a reduction in the probability of initiating breastfeeding as well as a reduction in the duration of breastfeeding among the women who initiate breastfeeding.

However, this is contrally to the study that was done in Indonesia. Perhaps as the study that was done in Indonesia suggested, women really need enough and correct information about infant feeding. Februhartanty et al. (2010) adds one important factor that the working women who successfully breastfed exclusively had reached higher levels of education. Considering the higher levels of illiteracy and lower levels of education among most African women it is then most unlikely that most women would achieve successful exclusive breastfeeding, no wonder may be that even in Indonesia, these women only accounted for 1.4%. But the fact that these women succeeded, then it is possible that women can successfully breastfeed exclusively even under difficult conditions if only they themselves believe their capability of doing it.

During interviews some respondents indicated that traditionally people believe that babies do not get satisfied with breast milk alone, this was why it was common to find some women mix feeding. Similarly, it is also common to see grandmothers putting water on the babies tongue during baby baths as the social worker indicated because they believed babies also feel thirsty and also that water cleans the body. It is important to understand these cultural/traditional beliefs and how they impact on infant feeding practices. Intervention programmes should include husbands, grandmothers and the women themselves among others as suggested by Pak-Gorstein,

Haq and Graham (2009). It is a common practice also in cases where babies cry too much to think that they cry because they are hungry, as found for example in a study done by the Infant Feeding Surveillance System (2008), where baby crying too much "because of hunger" was one of the reasons why some mothers could not breastfeed exclusively.

The conditions of poverty also have a significant impact on infant feeding practices. Poverty is an important determinant of food insecurity, malnutrition and micronutrient deficiencies. According to the World Bank Country Assessment, nearly 40% of Zambia's total population live in urban areas and 80% of this urban population live in poverty (WHO, 2003). The continuing rural to urban migration has created a challenge that has resulted in limited access to clean water and sanitation resulting also in vulnerability to disease. Zambia and Lusaka in particular has majority of families living in abject poverty due to high urbanization against inadequate opportunities for gainful employment for both men and women. Most of these people find themselves in overcrowded townships, where they face critical challenges of accessing clean and safe water and sanitation. Therefore, findings by Koutis et al. (2006) where they have reported on how HIV-positive women are faced with the challenge of infant feeding (both breastfeeding and formula feeding) in the face of HIV and poor access to clean water and sanitation are consistent with the Kabwata senario. Given the overwhelming evidence of how poverty can influence infant feeding practices, the World Health Organization in an attempt to stem the negative effects brought about by socially influenced decisions, produced a policy that recommended avoidance of all breastfeeding only "when replacement feeding is acceptable, feasible, affordable, sustainable and safe" and exclusive breastfeeding if those conditions are not met (UNICEF/UNAIDS/WHO/UNFPA, 2004).

It is necessary therefore, to consider the effects of poverty and the specific ways in which they condition mother's infant feeding decisions especially in the developing nations if infants are to be better nourished. As described in several places above, many guidelines seem to acknowledge poverty, but then assume that if women have the correct attitude and moral support they can overcome their circumstances.

5.4 What the women think about infant feeding practices

It is clear that the majority of women were well informed about infant feeding options. Most of these women expressed willingness to breastfeed exclusively for six months. This is because they were aware of the benefits that have been proved to be associated with exclusive breastfeeding. Formula feeding remains an unpopular choice to the women due to the well documented facts of its contribution to the high diarrhea disease burden in infants. Though unpopular, it is common in a resource-poor country like Zambia that a working mother will not abandon her job in order to breastfeed exclusively; instead they would opt for either formula feeding or mixed feeding.

Mothers who opted for exclusive breastfeeding indicated that children where much healthier and they were satisfied that breast milk was nutritionally adequate and they were willing to practice it even in future if they were to have more children. Most mothers took it up because health workers recommended so. In addition, they believed that EBF reduces episodes of diarrhea in children and children were also likely to be active and intelligent in school. Coughs and other upper respiratory infections were reduced to a large extent.

Given that most women were aware of the many benefits of EBF, it is then significant that the practice is given the attention it deserves by making sure that the prevailing environment is conducive to support the practice. However, while exclusive breastfeeding is the best infant feeding option in most circumstances, it is not always possible in real circumstances faced by the women. While much more effort needs to be made to make it possible and easy for women to breastfeed exclusively, women must be allowed to freely choose a feeding option if they were to use an alternative feeding.

Chapter 6.0: Conclusions and Recommendations

6.1 Conclusions.

Proper infant feeding practices are an important factor in the promotion of infant good health as well as general welfare. Having sufficient counseling skills, the health workers may help create a positive attitude among the women towards appropriate feeding practices. According to WHO (2003), as a global public health recommendation, WHO emphasizes that all infants be exclusively breast fed for the first six months of life to achieve optimal growth, development and good health.

In this study, most women were not able to practice the recommended feeding practices of exclusive breastfeeding for the first six months. This could mean that a significant number of infants are at risk of the effects of inappropriate feeding practices. It is therefore important that key stakeholders in infant feeding such as the health system and the community at large increase awareness and translate it in to improved infant feeding practices. This can be done for example through community outreach sensitization programmes. According to the social worker for instance, there were peer educators who go in the communities for follow up visits on HIV-positive mothers to monitor how they feed their babies. It is also important to distinguish between beliefs that are beneficial to breastfeeding and those that should be discouraged. The belief for example that colostrum is dirty or can cause diarrhea should be discouraged because it is just a myth but can influence infant feeding practices negatively. Similarly, women with poor diets can produce enough breast milk for the infant and therefore should be encouraged to breastfeed. But nursing mothers should be encouraged to eat a balanced diet to improve their own health.

The dominant theme that emerged from the FGDs was that "breastfeeding is best for babies and is sufficient". However, this study also revealed that breastfeeding was not always considered to be the best for babies by these same mothers. In some circumstances, notably when a mother was HIV-positive, formula feeding was considered to be clearly the best choice for the baby if at all possible. Some women said directly that they would rather use formula than breast milk for fear of transmitting the HIV virus to the baby in case they were found to be HIV-positive.

Clearly women have deeply accepted the fact that HIV can be transmitted through breastfeeding, and therefore would prefer to formula feed if at all possible if they were HIV-positive. The recommendation for exclusive breastfeeding even if a mother is HIV-positive causes conflict with their desire to do best for their babies, but the broad social pressure to breast feed and HIV stigma make exclusive formula feeding difficult, even for women who can afford it.

Several other factors, such as non-affordability of alternative feeding, non-availability of safe and clean water, and lack of information on appropriate feeding practices, especially for those who do not know their HIV status, may hinder the use of other feeding options other than breast milk especially in resource-poor settings like Zambia.

The main factors that were cited as being associated with infant feeding decision making were social factors including; influence from family and friends, maternal employment, stigma and discrimination due to HIV, influence from health workers, and also cultural and traditional factors.

As most women related their feeding practices to the health services provided at the health centre, it may therefore, be worth noting that health professionals actually play a critical role in shaping the women's IFPs. It may also be important to critically look at counseling skills as well as the knowledge of health professionals so that they can positively help improve infant feeding practices. In 2011, the Ministry of Health and IYCF adapted the counseling package developed under strategic collaboration between UNICEF and the combined technical and graphic team of Nutrition Policy and Practice (NPP).

Among the women generally, there seemed also to be awareness about exclusive breastfeeding and most women expressed interest and willingness to practice it. However, lack of maternity protection, where mothers are not allowed to take the recommended number of 120 days maternity leave in some institutions, among others, are important barriers to exclusive breastfeeding. The perception of milk insufficiency seems most justifiable to some women for introducing other foods to the baby. However, WHO in 2000, recommended that women be

encouraged to continue breastfeeding when they think they have insufficient milk and awareness be increased through primary health care facilities (Roy, De Groot, Shafique, & Afroz, 2002).

In conclusion, the findings of this study show that most mothers have come to understand the importance and benefits of EBF although it may not be likely that they would be able to breastfeed exclusively for the recommended six months. However, this broad support for EBF may be considered as the starting point to create more awareness and create favorable and supporting environments to enable the women to be able to effectively breastfeed exclusively. Health workers can play a vital role in ensuring this, as well as "significant others" who include husbands, grandmothers and friends.

6.2 Recommendations

- With the view of a low exclusive breastfeeding rate and a higher rate of early complementary feeding as observed, this study recommends that all mothers should receive quality infant-feeding counseling, with exclusive breastfeeding being encouraged but with more opportunity for mothers and health workers to discuss challenges and how these might be addressed

- There is need to closely evaluate the ability of HIV-positive mothers to provide replacement feeding in terms of its acceptability, feasibility, affordability, sustainability, and safety in line with the recommendations of the World Health Organization, as part of infant-feeding counseling based knowledge and policy guidelines. Simply telling mothers that they should breastfeed is not enough, as mothers are deeply concerned about transmitting HIV to their babies.

- Realizing that maternal employment is among the factor in influencing IFPs, there is need to increase awareness on maternity protection for working mothers in favor of improved maternal conditions that are related to optimal infant feeding. Further research is needed on how to support women in informal employment to breastfeed exclusively

- While infant feeding should be closely monitored, it should be supplemented by a regular and constant evaluation of hindrances and barriers to optimal infant feeding such as advice from health workers and food insecurity.

- The general assumption by most government's cooperating partners that are concerned with IYCF is that the rural areas are needier of their services than urban areas. This may not be out rightly true because some very poorly resourced, not so educated urban dwellers also require assistance. Therefore, the need for government to target urban households too.

- There is need for developers of intervention programmes to make these intervention programs sensitive to social expectations by mothers and must involve mothers-in-law and fathers in order to help the women who have intentions to breast feed exclusively.

- There is need to improve staffing at the health center in order to improve service delivery as well as quality of the service.

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Appendices:

Appendix 1: Participant Information Sheet for Focus Group Discussions

UNIVERSITY OF THE WESTERN CAPE

School of Public Health

Private Bag X17 ● **BELLVILLE** ● 7535 ● South Africa

- Tel: 021- 959 2809, Fax: 021- 959 2872

Topic: Factors influencing Infant Feeding Practices of mothers in Kabwata Township, Lusaka, Zambia.

Dear Participant

I am a student at the University of the Western Cape. I am trying to gather information about the factors that influence infant feeding practices among mothers in Kabwata Township. This research is being conducted for a mini-thesis and will be used for research purposes only.

Purpose

This study is aimed at developing an understanding of the various factors (such as hospital practices, maternal employment and feeding preferences of husbands, among others), that affect

the choice of infant feeding among mothers. It is hoped that the information collected will give a better understanding of these factors.

Who are the participants?

All mothers aged between 18 and 40 who are either expecting or have had children before, coming to Kabwata Health Centre are eligible for the study. Two key informants (a nurse and a community health worker) will also be selected to take part in the study.

What do we expect from the participants?

We ask that you participate in a focus group discussion which will take approximately 60 minutes. Questions about infant feeding practices will guide the discussions. We ask that all participants keep the information that will be discussed confidential.

What can participants expect?

All the information collected will be treated confidentially and only the researcher will have access to it. The discussions will be taped and then written down on paper. The tapes and text will be kept safe and only the researcher will have access to them and will be destroyed once the research is completed.

What are the benefits of participating?

You may not get direct benefits from the study, but we hope that your participation will help us gather information that will be used for future infant feeding interventions as well as to promote healthy infant feeding practices. There are no costs for participating in this study other than the time you will spend in the group discussion.

Can you withdraw from the study?

Your participation in this study is voluntary and you may withdraw from the study any time, without having to give a reason. You are not forced to answer any questions should you not wish to. The discussion will take approximately 60 minutes.

Any further questions?

If you would like to receive any feedback on our study, I will record your phone number on a separate sheet of paper and can send you the results of the study when it is completed sometime after September, 2011.

If you feel you have been harmed in any way by participating in this study, please contact me on 0955 459185 or E-mail m-fwambo@hotmail.com OR you can call my supervisor Mrs Naeema Hoosain at the Medical Research Council at 083 332 2225.

Appendix 2: Consent form for Focus Group Participants

UNIVERSITY OF THE WESTERN CAPE

School of Public Health

Private Bag X17 ● **BELLVILLE** ● 7535 ● South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

Your signed consent to participate in the study is required before I proceed with the discussion. If you are willing to participate in the study, please read and sign below.

I hereby agree to participate in the focus group discussion which looks at experiences and opinions regarding the various factors associated with infant feeding practices.

I understand that am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I decide not to continue and that this decision will not in any way affect me negatively.

I understand that everything that is discussed is confidential, and that participants' names will not be linked to what is being said.

I also agree to keep the content of the discussions confidential, and not to repeat statements made by other members of the focus group or their identities to people outside the group.

Signature---------- Date----------

Witness---------- Date----------

Appendix 3: Consent form for Key informants

UNIVERSITY OF THE WESTERN CAPE

School of Public Health

Private Bag X17 ● **BELLVILLE** ● 7535 ● South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

Your signed consent to participate in the study is required before I proceed with the discussion. If you are willing to participate in the study, please read and sign below.

I hereby agree to participate in the interview which looks at experiences and opinions regarding the various factors associated with infant feeding practices.

I understand that am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I decide not to continue and that this decision will not in any way affect me negatively.

I understand that everything that is discussed is confidential, and that my name will not be linked to what is being said.

Signature---------- Date----------

Witness---------- Date----------

Appendix 4: Participant Information Sheet for key informants.

UNIVERSITY OF THE WESTERN CAPE

School of Public Health

Private Bag X17 ● **BELLVILLE** ● 7535 ● South Africa

Tel: 021- 959 2809, Fax: 021- 959 2872

Topic: Factors influencing Infant Feeding Practices of mothers in Kabwata Township, Lusaka, Zambia.

Dear Participant

I am a student at the University of the Western Cape. I am trying to gather information about the factors that influence infant feeding practices among mothers in Kabwata Township. This research is being conducted for a mini-thesis and will be used for research purposes only.

Purpose

This study is aimed at developing an understanding of the various factors that are associated with the choice of infant feeding among mothers. It is hoped that the information that will be collected will give a better understanding of these factors.

Investigating the factors that influence infant feeding practices is essential as this plays a critical role in achieving optimal health outcomes in infants and children

Who are the participants?

All mothers aged between 18 and 40 who are either expecting or have had children before, coming to Kabwata Health Centre are eligible for the study. Two key informants (a nurse and a community health worker) will also be selected to take part in the study.

What do we expect from the participants?

We ask that you participate in individual interviews which will take approximately 60 minutes. Questions about infant feeding practices will guide the interviews. We ask that all participants keep the information that will be discussed confidential.

What can participants expect?

All the information collected will be treated confidentially and only the researcher will have access to it. The individual interviews will be taped and then written down on paper. The tapes and text will be kept safe and only the researcher will have access to them and will be destroyed once the research is completed. Your names will not appear on paper.

What are the benefits of participating?

You may not get direct benefits from the study, but we hope that your participation will help us gather information that will be used for future infant feeding interventions as well as to promote healthy infant feeding practices. There are no costs for participating in this study other than the time you will spend in the interview.

Can you withdraw from the study?

Your participation in this study is voluntary and you may withdraw from the study any time, without having to give a reason. You are not forced to answer any questions should you not wish to. The interview will take approximately 60 minutes.

Any further questions?

If you would like to receive any feedback on our study, I will record your phone number on a separate sheet of paper and can send you the results of the study when it is completed sometime after September, 2011.

If you feel you have been harmed in any way by participating in this study, please contact me on 0955 459185 or E-mail m-fwambo@hotmail.com OR you can call my supervisor Mrs Naeema Hoosain at the Medical Research Council at 083 332 2225.

Appendix 5

Topic Guide for Focus Group Discussions

QUESTION 1: BREAST FEEDING

a. What do you know about breast-feeding?

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b. Who talked to you about breastfeeding, keep questions simple and short
what information did you receive and
did this affect your decision on the way you were going to feed your baby?

---

c. How long would you like to breastfeed and why?

---

d. In your opinion, why do you think some women choose to breast-feed?

QUESTION 2: FORMULA FEEDING

a. What do you know about formula feeding?

---

b. In your opinion, what makes women to opt for formula feeding?

---

c. What do you think are the advantages and disadvantages of formula feeding?

QUESTION 3: MIXED FEEDING

a. What do you know about mixed feeding?

---

b. In your opinion, why do you think some women practice mixed-feeding?

---

c. What do you think are the advantages and disadvantages of mixed feeding?

QUESTION 4: GENERAL

a. As individuals, what methods of infant feeding are you practicing and why?

---

b. How much do you know about exclusive breast feeding?

---

c. Did you consult anybody when deciding on what infant feeding method to use, if so, then who?

---

d. How do you earn your living, are you engaged in any formal or informal activities to earn your living to help in feeding of your baby?

---

e. Do you think culture and traditions affect infant feeding practices, if so, how?

f. How do you think infant feeding practices may be improved considering your particular circumstances?

Appendix 6: Guided themes for Individual Interviews

- Women's perceptions about various infant feeding options.
- Key informants perception about various infant feeding options
- Factors that influence infant feeding practices.

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