ABSTRACT

A study looking at the challenges faced by breastfeeding mothers opting for exclusive breastfeeding was conducted in the Manzini region. Currently nursing, unemployed mothers living in the rural areas of the Manzini region were purposively selected. Mothers were visited at their respective homes and face to face interviews were conducted by the researcher, reading questions to the respondents and recording responses. Data from this study were analysed using Statistical Package for Social Sciences. The analysed data indicated that most mothers shared skin-to-skin couple contact and initiated breast milk within the first hour of delivery. Where breastfeeding was not possible for one reason or another, mothers still provided skin to skin couple contact. Mothers introduced mixed feed as early as birth, only a third of the infants studied were exclusively breastfeeding at the time of interview. From this third only less than a third were planning to introduce mixed feed at 6 months the majority were planning to do so as early as 3 months. These results indicate that modification of breastmilk will be an acceptable replacement option for infant feeding in context to HIV and AIDS. It was also observed that counselling seem to be a dilemma when it comes to influencing mothers make informed decisions on whether to or not to mix feed.
DEDICATION

I dedicate this work to all the babies that die to this pandemic through HIV and AIDS Mother-to-child transmission. May their souls rest in peace.
ACKNOWLEDGEMENTS

My sincere thanks and appreciation go to my supervisor Dr T.E. Sibiya for assisting me in everyway in the compilation of this study, her genuine interest in what I did and commitment to her quality work has contributed positively to my academic performance in my final year.

My deepest appreciation goes to my mother who assisted me during data collection process. God bless you, Langeni. You made my work much easier.

I am grateful to Sindzile Mdziniso and Ps. Themba Dlamini for careful proof reading and to Welcome Nxumalo and Sanele Dlamini for technical assistance.

Acknowledgement is also made of the contribution of Mrs Pauline Kisanga and IBFAN staff that assisted me greatly, making the compilation of literature a pleasant experience. Thank you for letting me use the IBFAN library and resources.

Last but not least, I would like to appreciate the mothers and their infants who participated in this study.

Finally, I am indebted to my colleagues and friends for their support as I went through this academic assignment.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>i</td>
</tr>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td>ANNEXES</td>
<td>x</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>xi</td>
</tr>
<tr>
<td>1. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>1.1 Background information</td>
<td>1</td>
</tr>
<tr>
<td>1.2 Significance of the study</td>
<td>3</td>
</tr>
<tr>
<td>1.3 Problem statement</td>
<td>4</td>
</tr>
<tr>
<td>1.4 Purpose of the study</td>
<td>4</td>
</tr>
<tr>
<td>1.5 Objectives of study</td>
<td>4</td>
</tr>
<tr>
<td>1.6 Definition of terms</td>
<td>5</td>
</tr>
<tr>
<td>1.7 Limitations of the study</td>
<td>5</td>
</tr>
<tr>
<td>2. LITERATURE REVIEW</td>
<td>6</td>
</tr>
<tr>
<td>2.1 Traditional roles of women</td>
<td>6</td>
</tr>
<tr>
<td>2.2 Breastfeeding and its benefits</td>
<td>7</td>
</tr>
<tr>
<td>2.3 Change of practice</td>
<td>9</td>
</tr>
<tr>
<td>2.4 Breastmilk and breastmilk substitutes</td>
<td>10</td>
</tr>
</tbody>
</table>
2.4.1 A comparison of breastfed babies and their counterparts ......................... 11
2.4.2 Dangers of artificial feeding ........................................................................... 12
2.5 Infant feeding practice ....................................................................................... 12
2.5.1 Breastfeeding and HIV .................................................................................. 13
2.5.2 HIV risk in infant feeding practice especially through breastfeeding .......... 14
2.6 Promotion of exclusive breastfeeding in Swaziland ......................................... 15
2.6.1 The objectives of the Ministry of Health in Swaziland in relation to infant feeding are: .................................................................................................................. 15
2.6.2 Guidelines on the Promotion of infant and young child feeding ................. 16
2.6.3 The Baby Friendly Hospital Initiative (BFHI) .................................................. 17
2.7 Counseling and support ..................................................................................... 20
2.8 Weaning .............................................................................................................. 21
3. METHODOLOGY .................................................................................................... 23
3.1 Design of the study ............................................................................................ 23
3.2 Target population ............................................................................................... 23
3.3 Sample size ......................................................................................................... 23
3.4 Selection of respondents .................................................................................... 24
3.5 Instrumentation .................................................................................................. 24
3.6 Validity ................................................................................................................ 24
3.7 Reliability ............................................................................................................. 25
3.8 Data collection ................................................................................................... 25
3.9 Data analysis ....................................................................................................... 25
4. FINDINGS ............................................................................................................... 26
4.1 Characteristics of study infants ................................................................. 26
  4.1.1 Ages of children studied........................................................................ 26
  4.1.2 Relationship of respondent and the baby and the method of delivery .... 27
4.2 Determinants of feeding times and the feeding mode.................................. 28
4.3 Initiation of breastfeeding and couple contact .......................................... 29
4.4 Ages perceived by exclusively breastfeeding mothers and ages used by mothers providing mixed feeding in introduction of mixed feed ........................................ 30
  4.4.1 Ages at which mixed food is introduced................................................. 30
  4.4.2 Months at which exclusively breastfeeding mothers plan to introduce mixed feed ............................................................................................................. 31
  4.4.3 Relationship of the ages used in introduction of mixed feed and ages at which exclusively breastfeeding mothers plan to introduce other foods ......... 32
4.5 The types of feed given to babies between the ages 0-6 months ................. 33
4.6 Groups that motivate mothers to initiate breastfeeding ............................ 34
4.7 Groups that assist mothers to introduce mixed feed ................................... 35
4.8 Why breastfeeding mothers choose to exclusively breastfeed their babies .... 36
4.9 How breastfeeding mothers manage to exclusively breastfeed .................. 36
4.10 Reasons exclusively breastfeeding mothers have for planning to introduce mixed feed to their infants before 6 months......................................................... 37
4.11 Advices that exclusively breastfeeding mothers can give to their counterparts ... 37
4.12 Reasons given during interviews on why mixed feed was given before the infant were 6 months. ........................................................................................................ 38
5. DISCUSSION .................................................................................................. 39
5.1 Characteristics of study infants ................................................................. 39

5.1.1 Age group distribution ......................................................................... 39

5.1.2 Relationship of respondent and the infant, the method of delivery, determinants
    of feeding times and the feeding mode ....................................................... 39

5.2 Initiation of breastfeeding and couple contact ................................................. 40

5.3 The types of feed given to infants between the ages 0 - 6 months................. 40

5.4 Groups that motivate mothers initiate breastfeeding and assist mothers to introduce
    mixed feed ........................................................................................................... 42

5.5 Reasons given during interviews on why mixed feed was given before the infants
    were 6 months old ................................................................................................. 42

6.1 Conclusion ...................................................................................................... 45

6.2 Recommendation ............................................................................................ 46

REFERENCE ........................................................................................................... 48

ANNEX 1 ................................................................................................................ 52

ANNEX 2 ................................................................................................................ 57

APPENDIX ................................................................................................................. 63
LIST OF TABLES

TABLE 1: Age distribution of infants studied………………………………………..26
TABLE 2: Relationship of respondent and baby……………………………………..27
TABLE 3: Method of delivery…………………………………………………………..27
TABLE 4: Determinants of feeding times………………………………………………28
TABLE 5: Feeding mode…………………………………………………………………28
TABLE 6: Initiation of breastfeeding and couple contact …………………………..29
TABLE 7: Ages at which mixed food is introduced…………………………………30
TABLE 8: Months at which exclusively breastfeeding mothers plan to introduce mixed feed ………………………………………….. 31
LIST OF FIGURES

FIGURE 1: Relationship of the ages used in introduction of mixed feed and ages at which exclusively breastfeeding mothers plan to introduce other foods………………..32

FIGURE 2: The types of feed given to babies between the ages 0-6 months………………33

FIGURE 3: Groups that motivate mothers to initiate breastfeeding……………………34

FIGURE 4: Groups that assist mothers to introduce mixed feed……………………35
ANNEXES

Current infant and young child feeding practices……………………………………..52

The Swaziland Guidelines on counseling: Making Decisions on Optimal infant and
Young Child Feeding in HIV/AIDS………………………………………………….57
APPENDICES

Data collection instrument..................................................................................................63
CHAPTER 1

1. INTRODUCTION

1.1 Background information

Breastfeeding in Swaziland has always been practiced. Breastfeeding in public places is a common practice and generally it is not considered as an inconvenient exercise, since the infant and the food are readily available. There is no need for breast preparation or special diet when a mother plans to breastfeed, since women are designed to produce milk. The breast is a self-contained unit and functions by "supply and demand".

Breastfeeding is part of fundamental human rights; the right to food and to health (WABA, 2000).

When it comes to the problem of breastfeeding, the reality is that until women are able to know their HIV status before giving birth and until they can afford to give artificial feeds if they have HIV, breastfeeding is the only provision (DFID, 2006).

Uncertainty of nursing mothers and their lack of knowledge on HIV and AIDS, mother-to-child-transmission often leads to opting against exclusive breastfeeding out of fear, which then deprives the infant of the potential protective, nutritional, and emotional benefits of breastfeeding exactly at the time when they are most needed (DFID, 2006).
The main objective of the Ministry of Health and Social Welfare in Swaziland is to improve the health status of the Swazi people by providing preventative, rehabilitative and curative health services, which are relevant and accessible to all. The Ministry of Health and Social Welfare has set guidelines on the promotion of optimal infant and young child feeding for the general population, these guidelines relate to some recommendations by the Global Strategy on Young Child Feeding, World Health Assembly Resolution, WHA.55.25(2002), and WHA.54.2(2000) (see ANNEX1).

The HIV and AIDS challenge is increased by high prevalence and stigmatization of HIV/AIDS in Africa; shortage of voluntary counseling and testing services (US Agency, 2004).

In support to the statement by US Agency (2004), Postnatal Mother-child Transmission Counselling and Testing (PMTCT) in the ministry serve to meet a need observed by Lawrence (1999) that at delivery, education about HIV and testing with consent of all women whose HIV status during pregnancy is unknown are strongly recommended, and that; knowledge on the women’s HIV status assist in counselling on breastfeeding and helps each women understand the benefits to herself and her infant of knowing her serostatus and the behaviour that would decrease the likely hood of acquisition and transmission of HIV.

A Baby Friendly Hospital Initiative (BFHI) was adopted and launched in the country in 1991. The BFHI is a global strategy of WHO and UNICEF that aims to give every baby the best start in life by supporting successful breastfeeding as the normal practice
behaviour.

Mngomezulu (10/2006) reported that Swaziland Infant Nutrition Action Network (SINAN) conducted some training, from June up to August, for health workers in all the 6 hospitals for a 20 hour session on BFHI and aim of SINAN is to restore this initiative.

During the 2006 breastfeeding awareness week, SINAN distributed an 'Act Now' Booklet outlining the five choices that mothers can implement. The implementations are enlisted as follows:

Choice 1: Breastfeed the baby for the first six months without giving the baby any other food. Do not give even water.

Choice 2: Express and heat breast milk to kill germs then give the milk to the baby.

Choice 3: Breastfeed the baby for less than six months without giving any other food.

Choice 4: Get an HIV negative mother to breastfeed the baby instead of the real mother.

Choice 5: From birth, give the baby other foods (such as formula or cow's milk) only. If you choose this method, do no breastfeed the baby at all. Do not give the baby breast milk.

1.2 Significance of the study

The study will serve as a baseline for future interventions by relevant structures in Swaziland in addressing issues relating to breastfeeding practice in the HIV/AIDS era.
1.3 Problem statement

Although it has been said that the unemployed mothers ca practice exclusive breastfeeding with ease, but a question arise as the rise of the HIV epidemic we now face and these mothers are currently in a dilemma as to whether to exclusively breastfeed or not in the context of high HIV and AIDS prevalence.

1.4 Purpose of the study

The purpose of the study is to investigate the challenges faced by nursing mothers in achieving the global recommendations on exclusive breastfeeding in the HIV era.

1.5 Objectives of study

1.5.1 To determine infant feeding practices for children 0-6 months in the context of HIV.

1.5.2 To determine possible reasons for introducing mixed feeding.

1.5.3 To determine possible factors that influence failure to exclusive breastfeed, in the context of HIV.

1.5.4 To document possible challenges for exclusive breastfeeding.

1.5.5 To recommend possible actions to improve exclusive breastfeeding.
1.6 Definition of terms

1.6.1 HIV: Human immuno-deficiency virus

1.6.2 AIDS: Acquired Immune Deficiency Syndrome

1.6.4 Breastfeed: feeding a baby with milk from the breast.

1.6.5 Bottle-feed: to feed a baby with artificial milk from a bottle.

1.6.6 Exclusive Breastfeeding: Breastfeeding the baby for the first six months without giving the baby any other food. Not giving even water.

1.6.7 Normal breastfeeding means exclusive breastfeeding for 6 months followed by continued breastfeeding with adequate complementary food from 6 months to 2 years and beyond.

1.7 Limitations of the study

Limited funds and time restricted the study to the interviewing of a few mothers. The rural areas studied were remote and hiring of private transport was a necessity unfortunately the researcher had to travel long distances to the respondents’ homesteads.
CHAPTER 2

2. LITERATURE REVIEW

2.1 Traditional roles of women

Since women give birth, they are commonly believed to be nurtures and carers, whose place is in the home. As nurturers and carers, women's task include breastfeeding, caring for the elderly, and the ill seeking health care, doing domestic chores of cooking, feeding, washing, fetching firewood and water, and often farming, maintaining the kitchen garden, livestock etc (Holla-Bhar, 2006).

Holla-Bhar (2006) points out that, for some mothers home making is such an arduous and time consuming task and so important to giving the sense of value and identity, that they often opt to give the baby a few artificial feeds so that they can use the time for cleaning the house.

She gives the statistics that; women constitute 70% of the world’s 1.3 billion absolute poor stating that the number of rural women living in poverty nearly doubled in the past 20 years and that women constitute 60% of the one billion adults, who have no access to basic education.
2.2 Breastfeeding and its benefits

Holla-Bhar (2006), points out the benefits of breastfeeding, stating that, breastfeeding is of great economic value to both the family and the nation. A breastfeeding woman produces foods, which, in addition to helping the baby grow, also keeps the baby healthy.

Kisanga and Hollisey (2002) support these benefits pointed out by Holla-Bhar (2006) that breastfeeding is the cheapest way of feeding the baby, it saves money for the family and the country, and it does not damage the environment and reduces the cost of health care, as a result, breastfeeding also engenders immense domestic and national savings in terms of health expenditure.

Holla-Bhar supports her statement by mentioning that, scientific and medical research show that breastfeeding is essential not only to the physical well-being of the mother, but also to the baby's mental, emotional and intellectual growth.

New research funded by the Department for International Development DFID has shown that starting to breastfeed immediately after birth significantly increases the chances of survival of babies. Stating that, 'breastfeeding in the first hour of life could save almost one million babies lives each year'. Their reasons to this were that, early human milk is rich in a variety of immune and non immune components that are important for early gut growth and resistance to infection, deducing that, lack of feeding in the first hour or days of life may disrupt metabolic functions and cause acid build up (acidosis) and low glucose (hypoglycemia), (DFID, 2006).
When a baby is being breastfed, cuddled and rocked in its mother's arms as she smiles and coos at him, his brain is busily receiving signals through the sensations of warmth, touch, taste, sight, sound and smell. In the first three years, when the brain's pathways are being "wired", these experiences help to develop structures and functions of the brain in ways that will set the base for lifelong effects on learning, behavior, and emotions, influencing his sense of security and social relationships throughout life. They also affect the endocrine and immune systems, and hence responses to stress and risks of disease throughout life; so the quality of the early sensory stimulation and nurture can have far-reaching effects. When breastfeeding is not possible for some reason, then holding and cuddling the baby while feeding, with skin-to skin contact where convenient can still provide valuable loving sensory experiences for the nursing couple, MedicineNet (2006).

Results from NNC study (SINAN, 2000) indicate that early initiation on breastfeeding is being practiced in Swaziland, with 48% infants being put to breast within 30 minutes of delivery and a further 21% within one hour of delivery.

It has long been acknowledged that breastfeeding increases levels of oxytocin, resulting in less postpartum bleeding and more rapid uterine involution. Lactational amenorrhea causes less menstrual blood loss over the months after delivery. Recent research demonstrates that lactating women have an earlier return to prepregnant weight, delayed resumption of ovulation with increased child spacing, improved bone remineralization postpartum with reduction in hip fractures in the postmenopausal period and reduced risk of ovarian cancer and premenopausal breast cancer; The New Parents Guide (2006).
2.3 Change of practice

In his book, Eiger and Old (1987) give a brief highlight of change in infant feeding practice. He highlights that, at the beginning of the 20th century, psychologist, psychiatrist and physicians were convinced that babies developed best if they were raised according to certain hard-and-fast rules. Mothers were ordered not to feed or even pick their babies more often than every four hours, no matter how piercing or pathetic the infant wails. Bottle-feeding was far better adopted for this practice. Because the child care expects insisted that only they knew what was best for the children, mothers believed them and lost confidence in their own capabilities.

At the same time the mothers were being intimidated in the nursery, they were asserting themselves in the streets. Demonstrating to achieve the right to vote, smoking cigarettes in public, bobbing their hair, and daring to carve out their careers, women were eager to free themselves from their traditional roles in the house. The baby bottle became an instant symbol of emancipation. Further more as the quality of formula improve during the 1930's; the act of giving a bottle achieved a certain status of its own. Women who wanted to be modern wanted to bottle feed; Eiger and Old (1987).

Eiger and Old (1987) also highlighted the unfortunately part, the urge to keep up with the "modern", saying that it has lured many women in both developed and underdeveloped countries around the world away from the breast, with disastrous results.
2.4 Breastmilk and breastmilk substitutes

According to the American Academy of Paediatrics Recommends Breastfeeding (AAP), "Human milk is species-specific, and all substitute feeding preparations differ markedly from it, making human milk uniquely superior for infant feeding. Exclusive breastfeeding is the reference or normative model against which all alternative feeding methods must be measured with regard to growth, health, development, and all other short- and long-term outcomes. In addition, human milk-fed premature infants receive significant benefits with respect to host protection and improved developmental outcomes compared with formula-fed premature infants.

Paediatricians and parents should be aware that exclusive breastfeeding is sufficient to support optimal growth and development for approximately the first 6 months of life and provides continuing protection against diarrhoea and respiratory tract infection. Breastfeeding should be continued for at least the first year of life and beyond for as long as mutually desired by mother and child”,

http://aappolicy.aappublications.org/cgi/content/full/pediatrics.

ADA also believes that "the bonding that occurs during breastfeeding makes it a special choice." The ADA actively promotes breastfeeding, stating "It is the position of the American Dietetic Association that broad-based efforts are needed to break the barriers to breastfeeding initiation and duration. Exclusive breastfeeding for 6 months and breastfeeding with complementary foods for at least 12 months is the ideal feeding
pattern for infants. Increases in initiation and duration are needed to realize the health, nutritional, immunological, psychological, economical, and environmental benefits of breastfeeding"; http://www.eatright.org/Public/NutritionInformation/92_8236.cfm.

2.4.1 A comparison of breastfed babies and their counterparts

Breastfed babies differ in many respects from their bottle-fed counterparts. The ratio of vitamins in their systems is different, as is the composition of various substances in their blood. The bacteria in their intestinal tract are strictly different, consisting largely of *Lactobacillus bifidus*, a beneficial organism that prevents the growth of certain harmful bacteria and that present in only small numbers in the stools of bottle fed babies, Marvin *et al.* (1987). She adds that, breastfed babies even grow differently from bottle fed babies, who do not only grow longer and faster, but also develop bigger and heavier bones during the first year of life, growing faster than nature intended them to. Marvin *et al.* (1987) also highlight the advantage of tooth and jaw development of breast fed babies to their counterparts. The nursling has to mouth much or all of the areola, move his jaws back and forth and squeeze hard with his jaws to extract the milk. Endowed jaw muscles and their pulling encourage the growth of well informed jaws and straightly healthy teeth.
2.4.2 Dangers of artificial feeding

The use of formula instead of breastfeeding in industrialized countries is associated with:

i. A five times higher risk of admission to hospital with diarrhoea and vomiting.

ii. More and more severe respiratory infections.

iii. Greater risk of ear and urinary tract infections.

iv. Lower average scores on tests of neurological development.

v. Increased risk of allergies and greater intensity of problems from allergies.

vi. Increased risk of developing insulin-dependent diabetes as a child.

vii. Greater risk of overweight and higher blood pressure as children.

viii. Increased risk of breast cancer in mothers who don't breastfeed.

2.5 Infant feeding practice

Successful breastfeeding is facing several challenges, especially optimal feeding, which has been recommended by WHO and UNICEF to mean exclusive breastfeeding (giving a baby no other food or drink except for breastmilk) from birth to six months, and continued breastfeeding with adequate complementary feeding till two years and beyond; Holla-Bhar (2006).

The shift of focus from breastfeeding to exclusive breastfeeding for six months has intensified the challenge to breastfeeding especially because biology detects that only a
woman can produce breastmilk. No one but the mother can exclusively breastfeed the child; even when care givers are available, the mother has to find the time to express the milk and store it safely; Holla-Bhar (2006).

2.5.1 Breastfeeding and HIV

The advantages and the hazards of breastmilk substitutes have led the World Health Assembly to recommend that all babies be exclusively breastfed for six months. Over the last decade, however, that conviction has been shaken by the spectre of HIV/AIDS Annelies and Andy (2002). The factors that add to the complexity of the problem of MTCT are that, very often, pregnant women do not know their HIV status. At birth it is also not possible to test the HIV status of the baby, as the child of an infected mother may have maternal antibodies to HIV for about 15 months and not have the virus itself; Kisanga and Hollisey (2002).

Staff nurse, Mrs Thembi Masuku (nee Dlamini) working under the Elizabeth Glazer Pediatric AIDS Foundation, at Sobhuza II Clinic, indicated that in 04/2004 42.6% of breastfeeding mothers tested for HIV had the virus. She said that the pregnant mothers receive postnatal counselling and testing under the PMTCT program in place at the Clinic. A national sero surveillance among women attending antenatal care services at health facilities in Swaziland 2004, indicated that 40.3% of mothers in the rural regions are HIV positive, citation from the Ministry of Health and Social Welfare (2004).
2.5.2 HIV risk in infant feeding practice especially through breastfeeding

Although HIV can be clearly transmitted through breast-milk, the relative risk is not well quantified. According to Lawrence (2000), estimates suggest that approximately one third of infants are infected prenatally (intra-uterine transmission), almost two thirds are infected perinatally (contact with maternal blood and secretions during delivery) and a small number are infected postpartum (contact with maternal secretions or breast milk).

In countries, such as Swaziland, where HIV infection is high, the WHO recognizes that exclusive breastfeeding rather than mixed feeding remain the best option for many poor women with HIV who don't have access to clean water or cannot afford artificial milk (DFID, 2006). Allain and Chedey (2002) say, the fact that the HIV can be passed by a mother infected by HIV to her child through breast milk, must not be allowed to undermine breastfeeding, placing emphasis on that it is precisely in poor communities that breast milk can make the difference between healthy growth and malnutrition, between life and death.

A study conducted in Durban, suggested that exclusive breastfeeding reduced infant's risk of postnatal HIV infection; it was observed that infants who were exclusively breastfed for at least three months had no excess risk of HIV infection at six months of age, compared to infants who were not breastfed. The hypothesized explanations for the reduction in HIV transmission risk were that, exclusively breastfed infants are exposed to fewer bacterial contaminants and food antigens, which can damage the gut lining and

2.6 Promotion of exclusive breastfeeding in Swaziland

Swaziland has developed a draft of guidelines on counseling: Making of decisions on Optimal Infant and Young Child Feeding in HIV/AIDS. These guidelines were developed by representatives in the health sector (National Nutrition Council, Infant Baby Food Action Network (IBFAN) Africa, Swaziland Infant Nutrition Action Network (SINAN), Ministry of Agriculture and Ministry of Health and Social Welfare) in May 2005 (see ANNEX 2 for draft).

2.6.1 The objectives of the Ministry of Health in Swaziland in relation to infant feeding are:

i. To empower policy makers on scientific evidence for decision-making;

ii. To provide health workers with facts/ scientific information on infant feeding to avoid mixed messages;

iii. To provide Information, Education, Communication to the general public on the transmission of HIV/AIDS and the benefits of breastfeeding and other feeding options;

iv. To improve, through optional feeding, the nutritional status, growth and development, health, so that it contributes positively to the survival of
infants and young children;

v. To raise awareness on the main problems affecting infant and young child feeding, identify approaches to their solution and provide a framework on essential interventions;

vi. To increase the commitment of governments, international organizations and other concerned parties for optimal feeding practices for infants and young children; and

vii. To create an environment that will enable mothers, families and other caregivers in all circumstances to make and implement informed choices about optimal feeding practices for infants and young children,

Ministry of Health and Social Welfare (June 2005).

2.6.2 Guidelines on the Promotion of infant and young child feeding

The guideline relate to some recommendations by the Global Strategy on Infant and Young Child Feeding, World Health Assembly Resolution, WHA.55.25 (2002) and WHA.54.2 (2000).

These guidelines are followed by some sectors including Postnatal Mother-child Transmission Counselling and Testing (PMTCT) in the ministry and are;

i. All mothers shall be counselled on the importance of breastfeeding and be supported to implement it successfully;
ii. Optimal feeding with nutritionally adequate, hygienically safe, locally available food shall be promoted for all children up to the age of five years using health care and community systems;

iii. All people, men and women, especially those in child bearing age shall have counselling in primary prevention and need for testing for HIV/AIDS. Those who opt to be tested shall be referred to Voluntary Confidential Counselling and Testing (VCCT), services. This will also facilitate infant feeding decisions for families where the woman is HIV positive;

iv. All VCCT counsellors shall be trained in HIV/infant feeding and breastfeeding counseling; and all pregnant and breastfeeding mothers shall be counseled and supported to achieve adequate nutrition and provided skills for breast care.

2.6.3 The Baby Friendly Hospital Initiative (BFHI)

Dr. Muriel Sugarman, articulated the urgent need for doctors to support early mother baby contact. Klaus and Kennels’s research on mother-infant bonding reinforce the importance of a supportive environment before, during and after delivery to foster bonding between the infant, the new mother and sometimes the new father. With an observation that a low anxiety would imply higher self confidence, self influence, self control and self esteem; Kroeger and Smith (2004).

Kroeger and Smith (2004) indicated that, women who are in labour generally feel greater control and cope better with the pain and are better prepare for breastfeeding and
mothering. She supported her statement by giving a study undertaken in Mexico. In the study data from the Mexico city study in labour support allowed for a tandem qualitative study in which in depth interviews were conducted early in the postpartum period which eight mothers from the ‘support in labour’ and eight who received “routine care”. The most significant finding was that women who had doula felt they had taken an active part in their labour, had more control, coped better with pain, and helped their own baby along.

All the hospitals in Swaziland are doing their best into becoming baby friendly. In all the hospitals, there are support groups which were formulated by the Alliance of Mayors initiative for Community Action on AIDS at the Local Level (AMICAAL): however SINAN wants each hospital to formulate specifically breastfeeding support groups because seemingly the groups that were formulated by AMICAAL are doing very well in issues of HIV such that even the beneficiaries, that is; mothers are well versed on these issues.

A. Strengths of Raleigh Fitkin Memorial Hospital and the Baby Friendly Hospital Initiative
   i. There is a policy and guidelines which cover the 10 steps of successful breastfeeding.
   ii. Policy is routinely communicated to all staff and also the mother. For instance, it is placed all over for every one to see.
   iii. The facility complies with the International code of Marketing of Breast Milk
substitutes.

iv. There is a room where health workers use to show mothers who opt to use artificial feeds how to prepare it.

v. Rooming and also bedding is well done.

vi. Their VCT is very active such that mothers are well informed on issues of HIV, such as PMTCT.

vii. Their in service training is very active such that even non–clinical staff has been oriented on IYCF.

viii. The hospital is mother friendly. For instance mothers are allowed to move around during labour. Mothers who attend ANC are allowed and encouraged to bring their partners.

B. Weaknesses of Raleigh Fitkin Memorial Hospital and the Baby Friendly Hospital Initiative

i. No breastfeeding support groups

ii. Skin-to-skin was not fully practiced. In fact most health workers do not know the full meaning of skin-to-skin.

N.E.E. Mgomezulu, monitoring report June to December 2006

In her report, Mngomezulu (10/2006), stated that; in the RFM hospital the policy and guidelines was written both in English and siSwati and posted in various places, health talks are given daily to waiting and discharged mothers and there are no rooms for demonstrating formula feeds. The challenges faced by this hospital are that of under staff
and that their hospital is too old and lacking many types of equipment.

In all the hospitals due to lack of space, they do not allow companions of the women’s choice to be with them during labour and at birth. In almost all the hospitals, the issue of skin-to-skin was done and the question that comes to mind is, ‘is it not because seemingly some of the health workers do not understand what is meant by skin-to-skin’.

### 2.7 Counseling and support

Nine out of ten women who stop breastfeeding in the first six weeks are stopping before they want to. The most common reasons given for stopping reveal that these women often didn't receive the accurate information and support that they needed; Greiner (2006).

Society has a crucial role in supporting women and by creating a culture where breastfeeding is the norm, more mother will have the confidence to start breastfeeding and their babies will benefit from something unique and special; Greiner (2006).

Counseling staff is generally confused about how to counsel HIV positive mothers about infant feeding. According to Dr Rolling, in South Africa early weaning studies "the counselors have the same stressful experiences as the mothers. A presentation on infant feeding counseling in Tanzania made similar observations, noting that counselors lacked confidence and had high levels of stress and frustration. According to survey, the
counselors did not know how to access women's individual situations in order to advice mothers about which infant feeding option were best for them. A grave finding was that the counselors did not agree with exclusive breastfeeding or exclusive formula feeding; Greiner (2006).

Another study at four sites in South Africa, Namibia and Swaziland, reported that clients as well as counsellors have described encounters as disempowering. Counsellors experience burn out and clients report feeling judged, blamed and stigmatized; Greiner (2006). MTCT puts blame on the mother; we do not use means of transmission to label other diseases (Symposium, 2005).

2.8 Weaning

When her baby cries, a mother becomes measurably tenser. When a mother becomes tenser, her baby's crying accelerates. The best way to break this vicious cycle is for the mother to boldly take care of herself. Sleep when the baby sleeps. Let others take care of the chores. This seemingly selfish move will actually enable her to love and enjoy her baby with fresh patience, enthusiasm, and skill, http://www.drgreene.com.

Theo Smart found that, crying is the new factor for mother to child transmission because it is crying and the behavior of the child that drives mixed feeding and it s the crying of the baby in public, that really drives mothers' behaviors; Greiner (2006).

Laurette Cucuzza of Centre for Development for Population Activities (CEDPA) raised a
concern about abrupt weaning and the psycho-social impacts on women, from her personal experience about the difficulties of weaning her own child gradually. Other women interviewed found (abrupt weaning) uniformly awful, isolating and very, very stressful. Normally mothers do not form a clear plan of how they will feed their infant once it is weaned and when no suitable alternative food can be found, it is difficult to stick to weaning- especially when the baby is hungry and crying; Greiner (2006).

If nutritional safety and anti-HIV activity is confirmed, Israel-Ballard believes that flash heat should be included in comprehensive infant feeding counseling; Greiner (2006). This can save the situation faced by mother during abrupt weaning and be used as complimentary food.
CHAPTER 3

3. METHODOLOGY

3.1 Design of the study

This is a descriptive survey. This survey type is the type of research that factually, systematically and accurately describes facts, opinions, perception of the given population.

3.2 Target population

The target population constituted nursing mothers who were currently nursing. The assumption was that these mothers can share their current experience as they nurse their babies. These mothers were from the rural areas of the Manzini region. The survey focused on the unemployed mothers so as to get the challenges they face as other relevant studies focused on the challenges faced by nursing mothers who are employed.

3.3 Sample size

A small size of 40 breastfeeding mothers was interviewed. The choice in sample size was influenced by the nature of the interview, that is, home visits and in depth questions.
3.4 Selection of respondents

Phase 1: Selection of Tinkhundla in the Manzini region purposively, by identifying those that are in the rural areas. The Tinkhundla were identified from the 14 Tinkhundla available with the Manzini Regional Administrator.

Phase 2: Selection of respondents from each Inkhundla purposively. Mothers with infant between the ages 0-6 months were selected to get a sample size. Home Economics Extension Officers (EO), mother support groups (MSGs), Nurses and Rural Health Motivators (RHMs) in these Tinkhundla assisted the researcher in identifying the nursing mothers. The identified mothers were the representative sample of the Manzini region.

3.5 Instrumentation

Open ended questions with items in line with the specified objectives were developed from literature review, with help from experts and through consultation. Consultation was done so that with the developed instrument accurate information would be collected.

3.6 Validity

Questions were validated by experts working with nursing mothers and their comments were used in revising the instrument. This was done to ensure that questions asked were officially accepted, useful and of an acceptable standard.
3.7 Reliability

A pilot test was carried out to check appropriateness of the instrument. Nursing mothers at Luyengo clinic were used in testing reliability of the questionnaire. Luyengo was not part of the Manzini Tinkhundla studied and the clinic was closer to UNISWA Luyengo campus and this was of convenience.

3.8 Data collection

The researcher liaised with the EO, MSGs, Nurses and RHMs, in organizing home visits and centers of the nursing mothers as these groups work with the nursing mothers. The data collection took six weeks. Chiefdoms were visited at least twice a week; that was one week day and a Saturday. The researcher visited the nursing mothers in person and conducted face to face interviews. Questions were read to respondents and the researcher recorded responses.

3.9 Data analysis

The Statistical Package for Social Science (Windows 10.0) was used in analyzing data. This method makes it possible to analyze data both qualitatively and quantitatively. Analysed data was presented in table form and narrative without changing meaning for ease of understanding.
CHAPTER 4

4. FINDINGS

4.1 Characteristics of study infants

4.1.1 Ages of children studied

A total number of 40 infants were studied. Mothers of children between ages 0 - 6 months were interviewed. The age group had a fair distribution as indicated by the standard deviation with 3.75 as the mean and 1.79 as standard deviation. The standard deviation indicates that there is no significant deviating from the mean. Table 1 below outlines the age group distribution.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 month</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>2 months</td>
<td>8</td>
<td>20.0</td>
</tr>
<tr>
<td>3 months</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td>4 months</td>
<td>6</td>
<td>15.0</td>
</tr>
<tr>
<td>5 months</td>
<td>6</td>
<td>15.0</td>
</tr>
<tr>
<td>6 months</td>
<td>10</td>
<td>15.0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
4.1.2 Relationship of respondent and the baby and the method of delivery

All respondents interviewed were the biological mothers of the babies studied (100%) and had given birth to the children by normal virginal birth (Tables 2 and 3 respectively).

**TABLE 2: Relationship of respondent and baby**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological mother</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Guardian</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

**TABLE 3: Method of delivery**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal vaginal birth</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Caesarian section</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
4.2 Determinants of feeding times and the feeding mode

All mothers (100%) of the babies indicated that their babies determined the feeding times, and that they were all feeding their babies on demand (100%)(Tables 4 and 5).

**TABLE 4: Determinants of feeding times**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Mother</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

**TABLE 5: Feeding mode**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeding on demand</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Feeding on schedule</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
4.3 Initiation of breastfeeding and couple contact

Table 6 show that skin-to-skin contact within the first hour is practiced by 77.5% of the mothers. During the skin-to-skin couple contact mothers initiate breastfeeding as well, even when breastfeeding is not an option. Two-and-a-half percent of the mothers had some difficulties in initiating breastfeeding at the first hour of skin-to-skin couple contact.

**TABLE 6: Initiation of breastfeeding and couple contact**

<table>
<thead>
<tr>
<th>Breastfeeding initiation</th>
<th>Skin-to-skin couple contact</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>Within first hour after delivery</td>
<td>29</td>
</tr>
<tr>
<td>After an hour of delivery</td>
<td>5</td>
</tr>
<tr>
<td>After a day of delivery</td>
<td>4</td>
</tr>
<tr>
<td>After two weeks</td>
<td>1</td>
</tr>
<tr>
<td>Never breastfed</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>
4.4 Ages perceived by exclusively breastfeeding mothers and ages used by mothers providing mixed feeding in introduction of mixed feed.

4.4.1 Ages at which mixed food is introduced

One mother (2.5%) interviewed introduced foods (other than breastmilk) to her infant at birth. Two (5%) infants out of the 40 surveyed were introduced to other foods before they were a month old. More than twelve percent (12.5%) were given at 2 months and 2.5% at 5 months. Thirty percent (30%) of the mothers interviewed introduced other foods at 3 months with 2.5% introducing the other foods at 6 months (Table 7).

**TABLE 7: Ages at which mixed food is introduced**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>Before a month</td>
<td>2</td>
<td>5.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.5</td>
</tr>
<tr>
<td>1 month</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15.0</td>
</tr>
<tr>
<td>2 months</td>
<td>5</td>
<td>12.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27.5</td>
</tr>
<tr>
<td>3 months</td>
<td>12</td>
<td>30.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57.5</td>
</tr>
<tr>
<td>4 months</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57.5</td>
</tr>
<tr>
<td>5 months</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60.0</td>
</tr>
<tr>
<td>6 months</td>
<td>1</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>65.5</td>
</tr>
<tr>
<td>Babies given breastmilk only</td>
<td>15</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
4.4.2 Months at which exclusively breastfeeding mothers plan to introduce mixed feed

Table 8 show that exclusively breastfeeding mothers plan to introduce mixed feed to their babies from the ages 3 months (5%), 4 months (2.5%), 5 months (5%) and 6 months (22%).

**TABLE 8: Months at which exclusively breastfeeding mothers plan to introduce mixed feed**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>At birth</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Before a month</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 month</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 months</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 months</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>4 months</td>
<td>1</td>
<td>2.5</td>
</tr>
<tr>
<td>5 months</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>6 months</td>
<td>9</td>
<td>22.5</td>
</tr>
<tr>
<td>Babies not given breastmilk</td>
<td>26</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>
4.4.3 Relationship of the ages used in introduction of mixed feed and ages at which exclusively breastfeeding mothers plan to introduce other foods

Most mothers who already practiced mixed feeding initiated the practice at 3 months and those who were planning to introduce the mixed feed were planning to do so at 6 months. None of those exclusively breastfeeding were planning to give their babies mixed feed before they were 3 months old (Figure 1).

**FIGURE 1:** Relationship of the ages used in introduction of mixed feed and ages at which exclusively breastfeeding mothers plan to introduce other foods
4.5 The types of feed given to babies between the ages 0-6 months

Figure 2 show that a majority of the mothers give their babies both breastmilk and solids (32%). Only 27% give their babies only breastmilk, a minority (3%) being those given only formula.

![Pie chart showing the types of feed given to babies between the ages 0-6 months.]

**FIGURE 2:** The types of feed given to babies between the ages 0-6 months
4.6 Groups that motivate mothers to initiate breastfeeding

More than half (52.5%) of the nursing mothers were motivated by nurses in initiating breastfeeding. There were 17.5% nursing mothers motivated by their mothers. Those motivated by their mother-in-law and husbands have equal percentage of 2.5%. Ten percent of the mothers used self motivation (Figure 3).

![The groups that motivate mothers to initiate breastfeeding](image)

**FIGURE 3: Groups that motivate mothers to initiate breastfeeding**
4.7 Groups that assist mothers to introduce mixed feed

The highest percentage (22.5%) indicate that mothers are self motivated when it comes to introducing other foods to their babies. Mothers (grandmothers of children) maintain 17.5% in assisting mothers to introduce mixed feed. Nurses and doctors have a minor (2.5 % each) influence in assisting mothers introduce mixed feed at 0 - 6 months (Figure 4).

FIGURE 4: Groups that assist mothers to introduce mixed feed
4.8 Why breastfeeding mothers choose to exclusively breastfeed their babies

When mothers were asked why they choose to exclusively breastfeed their babies, they gave the following reasons:

i. The child is still an infant and can be satisfied
ii. The baby will not be infected with HIV if exclusively breastfed
iii. The baby will not be infected by other diseases
iv. Spending time with the baby is a priority
v. Teachings convinced the mother to breastfeed
vi. Breastfeeding is enough for a baby until he/she is 6 months

4.9 How breastfeeding mothers manage to exclusively breastfeed

When mothers were asked how they manage to exclusively breastfeed, they gave the following responses:

i. Eat enough food; eat a lot of incwancwa 'sour porridge', indengane 'thin porridge' and emahewu 'fermented drink'
ii. Drink a lot of tea
iii. Eat a balanced diet
iv. Staying at home and not working
v. Staying at home and allocating most of the time to spend with the baby
vi. The love of the child
4.10 Reasons exclusively breastfeeding mothers have for planning to introduce mixed feed to their infants before 6 months

i. The baby cries soon after suckling giving the mother an impression, it is not satisfied.

ii. The baby will be old enough to swallow solids

iii. Breastmilk on its own will not sustain the baby's growth

iv. The mother is used (previous experience) to introducing the baby at the months earlier in our findings'

v. The baby spits out the breast milk.

4.11 Advices that exclusively breastfeeding mothers can give to their counterparts

i. Listen to the radio programs that deal with issues like breastfeeding

ii. Be early at the clinic to attend lessons given

iii. Drink plenty of water

iv. Drink plenty of fluids e.g. incwancwa (sour porridge) and emahewu (fermented drink)

v. Eat even when there is no appetite.

vi. Love the baby
4.12. Reasons given during interviews on why mixed feed was given before the infant were 6 months.

i. The baby crying soon after breastfeeding

ii. Mother-in-law complaining that baby is not satisfied only with breastmilk

iii. The baby suckle hands

iv. The baby imitates suckling

v. The family complains that the baby is not only satisfied with breastmilk.

vi. The nursing mother feels breastmilk is not enough.

vii. The mother has only one functioning breast

viii. The mother is busy with house chores

ix. Baby has a navel and assumption that this means that the baby can not be satisfied with breastmilk alone.

x. Force by family to introduce emasi (sour milk)

xi. The baby sweats a lot

xii. Mixed feed introduced for the baby to grow
CHAPTER 5

5. DISCUSSION

This chapter examines the findings of this study in relation to other investigation from previous research undertaken on the subject matter in the country and other developing countries in the southern region.

5.1 Characteristics of study infants

5.1.1 Age group distribution

The results of the study are not biased in favour of any age group but give a representative of the studied age range. There is quite a fair distribution in the sample between the age groups of the children studied, though it was observed that the age group, 6 months, doubled that of age groups, one month and three months.

5.1.2 Relationship of respondent and the infant, the method of delivery, determinants of feeding times and the feeding mode

The respondents were biological mothers of the children and the ones fully involved in feeding the babies. These mothers indicated that their babies determined the feeding times and were all feeding their babies on demand.
5.2 Initiation of breastfeeding and couple contact

In this study Swazi mothers were less likely to fail to initiate breastfeeding with 72.5% initiating breastfeeding in the first hour and all but one finally introducing the breastmilk by two weeks. There is a steady increase in the initiation of breastfeeding in the first hour, from 69% observed by SINAN in 2000. It was also observed that skin-to-skin couple contact was positively practiced and most of the mothers initiated breastfeeding during the skin-to-skin couple contact.

These babies experienced the benefits, highlighted by the DFID (2006), of the breastfeeding in first hour. Where breastfeeding was not possible for one reason or another, mothers still provided skin-to-skin contact within the first hour of delivery, hence their babies experienced the psychological benefits of the practice.

5.3 The types of feed given to infants between the ages 0 - 6 months

Mothers start introducing mixed feed as early as at birth and there is a gradual increase in percentages, with respect to age, in introduction of the mixed feed. On one hand, it is observed that majority (30%) of infants were introduced to other foods at three months and very few (2.5%) infants introduced at six months. On another hand, a majority of the mothers, currently breastfeeding, were planning to introduce mixed feed at six months (22.5%) and very few at three months (5%).
Mrs. Masuku (04/2006) indicated that 42% of pregnant mothers are HIV positive; therefore, babies from the HIV positive mothers are at risk of contracting the HIV through the practice of mix feeding, as there is a risk of contracting HIV through this practice because there is a possibility of contracting the virus through breastmilk. According to a study conducted in Durban (US Agency 2004) the risk is increased where mixed feeding is practiced.

This study indicates that there is a decrease in the number of mothers practicing exclusive breastfeeding. Only 27% of the mothers interviewed were currently giving their babies only breastmilk. In a study conducted by SINAN and NNC in 2000, there was an observed 53% exclusive breastfeeding rate. In 1999 Haggerty and Rustier also observed that exclusive breastfeeding is seldomly practiced in Africa. Stating that mothers offer plain water, or sugar water, even to new borns and in many countries women supplement breastmilk with thin porridge beginning at two months of age or earlier.

The prevalence of exclusive breastfeeding dropped considerably by three months (30%), twice that observed by Sibiya (1992) (15.5%).

This implies that sensitization has a small impact in rural areas. The communities and nursing mothers have not been adequately enlightened on the importance of exclusive breastfeeding.
5.4 Groups that motivate mothers initiate breastfeeding and assist mothers to introduce mixed feed

The health sector support breastfeeding, it was observed that 52% of the mothers were assisted by nurses to initiate breastfeeding. Both nurses and doctors played a minor role in assisting mothers to mixed feeds at ages below six months, as per the guidelines (Vilakati et al 2005) that mothers either HIV positive or HIV negative - unless otherwise advised by a health professional where AFASS is applicable - should exclusively breastfeed for 6 months.

Rural health motivators and mother support groups play a minor role in assisting mothers initiate breastfeeding. This pose a challenge on exclusive breastfeeding as the assumption is that, there RHMs and MSGs are not informed or not active in their role and if this is true a question arise, “how will the nursing mothers cope with the challenges that come with exclusive breastfeeding?” However this provides bases for further investigation, as this groups work hand in hand with the health sector; there might be an assumption that whenever they give advice, their advice are taken as a “nurses advice”.

5.5 Reasons given during interviews on why mixed feed was given before the infants were 6 months old.

Most of the reasons given for introducing mixed feed before 6 months were not scientifically based but assumption and myths. Mothers gave reasons like, 'The baby
imitates suckling, or 'the baby suckles hands'. These observations or reasons can be interpreted to give different meanings not just indications of hunger.

The mothers also indicated that, crying was another reason influencing them choosing to give their babies mixed feed. According to Theo Smart, crying is a new factor for mother to child transmission, he states that, it is crying and the behaviour of the child that drives mixed feeding [and], it is the crying of the baby in public, that really drives mothers’ behaviour; Greiner (2006).

In Malawi, HIV positive mothers feed their babies first before visiting or meetings their neighbours as hungry babies cry a lot and are pacified by breastfeeding. Thus feeding the babies would minimize crying and other people would not ask the mothers to breastfeed the babies [and], they lie that they are pregnant again. (Pregnant women are not allowed to breastfeed in Malawi); Greiner (2006).

The main challenges, drawn from the study, faced by exclusive breastfeeding mothers opting for exclusive breastfeeding are:

1. Lack of support at community level:

There is an insignificant support on exclusive breastfeeding for the intended six months, instead there is influence and pressure from family members (mother-in-law and mothers of the breastfeeding mothers) to introduce other foods.
In Tanzania counselors do not agree with programs recommendations on exclusive breastfeeding and exclusive formula feeding since both involve violation of cultural norms; Greiner (2006).

In Botswana, if the mother is not breastfeeding, there is cultural period of confinement, where she is actually regarded as unclean. She has her own cups – they are not even shared by the rest of the family. She may not even prepare a feed for her own baby. Some other people are chosen to prepare the feed for the infant; Greiner (2006).

2. Stigmatization:

Having 73% of mothers mix feeding pose a challenge as well to the mothers opting for exclusive breastfeeding whether HIV positive or HIV negative, due to the fact that exclusively breastfeeding is associated with a HIV positive status. Whereas the Swaziland Guidelines compiled by Vilakati et al. (2005) clearly state that exclusive breastfeeding option is to be encouraged for all breastfeeding mothers either HIV positive or HIV negative. For example in the Breast Milk Study in Kampala, Uganda, some women experience domestic violence ranging from desertion, financial support withdrawal and baterring following HIV status disclosure to their spouses. Therefore some breastfed their infants for either too long or too short compared to their plans for fear of status disclosure; Greiner (2006).
6.1 Conclusion

Breastfeeding initiation is high (72.5 %) but exclusive breastfeeding is extremely short, 73% of the mothers interviewed had already introduced other foods before the six mothers.

The study indicates that breastmilk would be the most acceptable replacement option for HIV positive mothers, but mothers will need to be educated on how to modify the breastmilk adequately. Therefore, the safe preparations of this milk apply, however, the government need to assess the health risks of heat treatment and thereafter sensitize its use.

Nurses and doctors are well versed on the importance of breastfeeding, however, the issue of HIV and infant feeding counseling seem to be a dilemma especially when it comes to influencing mothers to make informed decisions on whether to or not to introduce other foods.
6.2 Recommendation

6.2.1 Recommendations of possible actions towards health progress (Objective # 5)

i. Exclusive breastfeeding should be encouraged. Education on the 'exclusivity' of breastmilk should be given a priority.

ii. Follow up programmes need to be set in place, especially for HIV positive mothers, for counseling, support and motivation. The government needs to consider early cessation of breast feeding (to reduce the transmission of HIV through breastmilk as a result of mixed feeding) support in case an exclusively breast feeding mother changes her mind on exclusive breastfeeding as a feeding option.

iii. Workshops need to be organized to equip Rural Health Motivators and Mother-support-groups on up to date, adequate and factual information on HIV and infant feeding so that they can assist HIV positive mothers. Community sensitization should involve family members especially husbands, and mother-in-laws and religious leaders inclusive. Religious leaders have a vital role in giving counseling. Their input in the care of the spiritual needs of a HIV affected and infected person cannot be overlooked.
iv. Reasons given for mixed feeding should be addressed by the nurses working directly with nursing mothers to do away with ignorance.

v. Mothers need to understand the use of Oral Rehydration Salt and its significance in HIV transmission at the same level as mixed feed is addressed. This is because mothers seem not to understand the risk they are exposing to their children.

6.2.2 Recommendation towards further research

6.2.2.1 Future research should look at the age group of the nursing mothers, HIV status of nursing mother and the role played and support given by biological fathers of children in infant feeding.

6.2.2.2 Future research should look at the strategies set in place for the implementation of the set national guidelines on infant feeding and; therefore, study the effectiveness of these strategies when in place.
REFERENCE


(http://aappolicy.aappublications.org/cgi/content/full/pediatrics; 115/2/496). Downloaded on September 20, 2006

ADA Website: http://www.eatright.org/Public/NutritionInformation/92_8236.cfm
(Downloaded on October 10, 2006)

Department for International Development (DFID) Press release, 26 March 2006


Kisanga P. and Hollisey M. (May 2002). Health Messages for all Mothers. Published and distributed by IBF AN Africa.


Ministry of Health and Social Welfare (2004), 9th round of National Sero Surveillance Among Women Attending Antenatal Care Services At Health Facilities in Swaziland.


Greiner T. (2006), HIV infant feeding; Safer infant feeding update, part 2
Greiner T. (2006), HIV-infant feeding: More on problems with replacement feeding in Botswana. HATIP #76

http://www.drgreene.com. (Downloaded on September 20, 2006).

Khanh-Van Le-Bucklin MD (February 2006). Caring for the next generation.

http://www.thenewparentsguide.comlbreastfeeding-advantages-breast.htp (Downloaded on October 19, 2006).

Reg. Charity No. 801395.
ANNEX 1

2.6 Current infant and young child feeding practices

2.6.1 Exclusive Breastfeeding from birth to six months

Studies have shown that strict exclusive breastfeeding (i.e. breastmilk only, no other fluids or solids), carries a much lower risk of HIV transmission than mixed feeding and a similar risk to no breastfeeding. Therefore, if an HIV positive mother decides to breastfeed, she should be advised to exclusively breastfeed for the first 6 months. Adding any other food such as formula or cereals can damage the infant’s gut lining and allow for easier transmission of the HIV virus. After 6 months she can either decide to stop breastfeeding (early cessation), or continue with normal breastfeeding.

The mother should:

i. Breastfeed on demand, day and night

ii. Ensure correct positioning and attachment to prevent sore or cracked nipples, engorgement and mastitis

iii. Give no bottles, teats or dummies

iv. Treat vaginal or oral candida (thrush) in the mother

v. Treat oral Candida in the baby
2.6.2 Early cessation of breastfeeding

Early cessation of breastfeeding means stopping breastfeeding early. This will reduce the risk of transmission by reducing the length of time that an infant is exposed to HIV through breastfeeding. The baby gets the protection of breastfeeding for the early months when the risks of artificial feeding in environments with poor hygienic conditions are greatest. There has been a lot of discussion about the optimum time for early cessation. Some experts advocated for stopping earlier than 6 months, but it has been seen that stopping breastfeeding before 6 months in conditions of poverty carries more risk of morbidity and mortality for the infant and is also more difficult to implement. Therefore, exclusive breastfeeding for 6 months is advisable. By this time the baby is stronger, will be ready for solids, and better able to cope with replacement feeding. Early cessation involves abrupt weaning from the breast; otherwise the baby will be exposed to the risks involved with mixed feeding. The baby should then be introduced to other milk and food and should be fed frequently, approximately 5 times per day.

2.6.3 Normal Breastfeeding

Normal breastfeeding means exclusive breastfeeding for 6 months followed by continued breastfeeding with adequate complementary food from 6 months to 2 years and beyond. An HIV positive mother may choose to breastfeed normally if she considers that no other option is acceptable, feasible, affordable, sustainable, and safe, for her baby. Under conditions of poverty, associated with poor hygiene and much morbidity from infections,
the anti-infective, immunological, nutritional and other benefits of breastfeeding can outweigh the risk of transmission of HIV from breastmilk, especially in the early months.

2.6.4 Expressed Heat Treated Breastmilk

Heat-treating the expressed milk can kill the HIV virus in breastmilk. Heat-treated breastmilk is nutritionally better than other milks but the heat-treatment reduces the level of anti-infective factors. To pasteurize the milk, it should be heated to 62.5°C for 30 minutes. At home, (without a thermometer), heat-treatment can be done simply, by expressing the breastmilk into a cleaned and sterilized glass jar. The jar is placed in a pot of water that is brought to the boil and then left to cool down to room temperature. The heat-treated breastmilk should then be fed to the baby using a cup. Expressed breastmilk can stay fresh at room temperature in a covered container for up to 8 hours or in a refrigerator freezer for up to 72 hours.

2.6.5 HIV treatment in breastmilk

According to Pamela and Greiner (2005-2006), a new research from California confirms the safety of pasteurized mother's milk for HIV exposed babies. They argue that two methods of heat treatment known as flash heating and Pretoria Pasteurization were compared to access their impact in HIV and antimicrobial properties of breast milk, as well as nutritional content. Milk samples were skimmed with clade C HIV-l (the subtype found in areas of sub-Saharan Africa Experiencing the highest prevalence of infection)
and inoculated with common pathogens found in milk which may affect storage safety. In addition to this experimentation, Greiner indicates another study by Israel-Ballard, a doctorate student at the University of California, Berkeley; where he confirms that flash heating is also capable of inactivating HIV in naturally infected breast milk samples from HIV positive mothers - after flash heating none of the samples showed detectable levels of HIV.

Israel-Ballard noted that the assay used in the study is limited to detection of cell free viruses only. Cell free viruses refer to "free floating" viruses or the parts of the virus not associated with a cell. Cell-associated viruses refer to HIV inside a cell, and data shows that these could be the culprit for more of the transmission to the infant.

In her study, Israel-Bellard, indicated that the heat treatment method is based upon flash pasteurization, a technique that involves heating at 72.5°C for only 15 seconds, which is used in commercial food science because it protects the nutrients while killing pathogens more effectively than holder pasteurization, heating milk at 62.5°C for 30 minutes (Greiner, 2006).

Greiner adds that, inactivating HIV is one issue in maintaining the safety of breastmilk. Flash heat is capable of destroying any type of contaminant present in milk and destroying any microbes for up to eight hours and storage at 23°C. In contrast, there is substantial bacterial growth (including Escherichia coli and Staphylococcus aureus) by eight hours in unpasturized breastmilk controls.
2.6.6 Commercial Infant Formula (Exclusive formula feeding)

From birth to 6 months, milk in some form is essential for an infant. If not breastfed, an infant needs about 150ml of milk per kg of body weight a day. For example, an infant weighing 5 kg needs about 750 ml per day, which can be given in five 150ml feeds a day. Commercial infant formula, based on modified cow’s milk or soybeans, is closest in nutrient composition to breastmilk and is usually fortified with micronutrients, including iron. The brand does not matter, as long as the milk chosen is specific to the age of the child.
ANNEX 2

2.8 The Swazi Guidelines on counseling: Making Decisions on Optimal Infant and Young Child Feeding in HIV/AIDS.

On the document compiled by Vilakati et al (2005), it is stated that, in Swaziland all women who have been tested, whether negative or positive, shall receive special counseling.


Women, who have tested HIV negative, shall:

i. Be counselled to breastfeed exclusively for six months, followed by timely, safe, appropriate and locally available, nutritionally adequate complementary foods, with continued breastfeeding for two years and beyond.

ii. Be further supported with exclusive breastfeeding skills as for general public.

iii. Be counselled on the importance of introducing locally available and nutritious solid foods immediately the infant reaches six months, without delay, showing them how to prepare suitable complementary foods.

iv. Be counselled on safe sex, encouraged to remain negative and to discuss their HIV negative status with their partner and children to instill the culture of openness and dispel stigma.

v. Be counselled on the importance of good nutrition including vitamin supplementation, green leafy vegetables, importance of iron/folate supplements
and adequate rest.


Women Who Do Not Know their HIV Status, shall,

i. Be informed about HIV/AIDS infection and be counselled on primary prevention measures.

ii. Be counselled on the importance of testing and knowing their HIV status for their benefit and that of their unborn baby and their partner.

iii. If they agree to test they shall be referred to a facility with confidential voluntary counselling and testing, and later be counselled on infant/young child feeding choices based on the results of testing.

iv. If they have not agreed to test they shall be counselled to feed their children as if negative.

v. Be encouraged to discuss HIV/AIDS with their partners and practice safe sex at all times to reduce the risk of becoming infected with HIV while pregnant or breastfeeding.

vi. Be counselled on adequate nutrition.

2.8.3 Women Who Have Tested HIV Positive

When replacement feeding is Acceptable + Feasible + Affordable + Sustainable + Safe (all the five elements must apply not only one), Vilakati et al (2005)

i. The mother who chooses to use artificial feeding after appropriate counseling using the AFASS principles, and enough information on the benefits and risks of both options; of exclusive breastfeeding and breastfeeding benefits and risks;
about the risks associated with artificial feeding; the extra care necessary for infants who are not breastfed; the associated hidden costs and inconveniences; shall be supported with her feeding option. In order to minimize the associated risks such as diarrhea, or incorrect and unhygienic use of artificial feeding, the mother shall,

ii. Individually be taught, including other caregiver, safe preparation, storage, cleaning of utensils, and be advised on the use of cups instead of feeding bottles that are more difficult to clean. If artificial feeding is not infant formula, vitamin/mineral syrup shall be necessary.

iii. Be counseled to exclusively use artificial replacement feed, to avoid mixing with breastfeeds.

iv. Be counseled to use modern family planning methods recommended for non-breastfeeding women to avoid another pregnancy.

v. Be advised to avoid re-infection while pregnant or breastfeeding to maintain her good health, as this will increase survival chances for both mother and baby.

vi. Be offered advice on good nutrition according to prevailing situation.

vii. Be counseled to cup feed, as this is the best method of feeding, as cups are safer than bottles as they are easier to clean than bottles.

viii. Be counseled to hold the infant close when feeding because non-breastfed infants lack the close mother-baby bonding afforded by breastfeeding.

ix. After six month’s artificial milk continues to be an important part of the child’s diet, so this must be continued together with complementary foods made from appropriately prepared and locally available family foods, given at least three
times per day in the beginning and increased up to five times by two years.

x. Health workers shall be trained on the WHO/UNICEF training manual on breastfeeding and HIV/infant feeding counseling.

2.8.4 When replacement feeding is not acceptable, accessible, affordable, sustainable and safe, Vilakati et al (2005)

The HIV infected mother, who after counseling chooses to breastfeed, shall:

i. Be counseled and given extra support with exclusive breastfeeding for six months. She shall be taught how to avoid breast problems by being shown early initiation, good positioning and attachment, demand feeding, expression of milk while away from the baby to maintain lactation and how to recognize signs of potential breast problems.

ii. Be urged to avoid mixed feeding, not even water in the first six months.

iii. Be counseled to observe the child’s mouth and tongue and immediately go for treatment if she observes any signs.

iv. Be counseled to avoid HIV, STIs and other opportunistic infections during pregnancy and breastfeeding to avoid re-infection. She should avoid having unprotected sex either by abstaining or urging her partner to consistently use a condom.

v. At six months the possibility of other replacement feeding shall be assessed and if there is a replacement food that is acceptable and feasible and affordable, and sustainable and safe, the mother shall be assisted to safely transit to the new replacement feeding.
vi. The WHO and UNICEF recommend that transition from exclusive breastfeeding to replacement feeding is better done gradually rather than abruptly and should be over a period of from 2 to 3 days to 2 to 3 weeks. If too long, the risk from mixed feeding increases and if too abrupt it may traumatize the child and lead to breast problems in the mother. Heat treated breastmilk by cup could be used during this transition period.

vii. After six months breastmilk continues to be an important part of the child’s diet, so this must now be replaced by a suitable breastmilk substitute which must be some other milk, plus complementary foods made from appropriately prepared and locally available family foods, given at least three times per day in the beginning and increased up to five times by two years.

viii. Cup feeding shall be encouraged as the best method of feeding, as cups are safer than bottles as they are easier to clean than bottles.

ix. The infant should be held close when feeding after the transition period because non-breastfed infants lack the close mother-child bonding afforded by breastfeeding.

x. When at six months, the mother is further counseled on replacement foods and it is found that there still is no available replacement feeding that is acceptable, feasible, affordable, sustainable and safe, the mother shall be counseled to continue breastfeeding together with suitable, available complementary foods up to two years. She shall be counseled to maintain good nutrition, practice safe sex and take care of her breasts and the baby’s mouth/tongue to minimize infection, recognize and treat breast/baby’s mouth conditions early to reduce risk of HIV
transmission.

2.8.5 Support to HIV positive Mothers, Vilakati et al (2005)

i. Parents who are affected or infected with HIV/AIDS need support to succeed in whatever feeding options they choose; even exclusive breastfeeding for 6 months needs much support in Africa. Once the mother and the family have decided, the health worker shall help her to carry it out.

ii. If the mother wants to change her mind about the infant feeding option at any time the health worker shall be obliged to counsel her again about recommended alternatives.

iii. The mother who chooses to give replacement feeding shall be advised on the utensils which are required for preparation of the option she chooses, e.g. suitable container for boiling water and milk; cup for feeding the baby; utensil of known volume for measuring quantities of milk and water.

iv. The health worker shall demonstrate how to prepare the recommended options: how to measure the powder and water; how to calculate the amount needed each month; cleaning and sterilizing of utensils and storage of milk and utensils. The health worker must guide the mother on the costs involved: substitutes; utensils; fuel; time; increased need for health care; cost of early contraception. Advice on replacement feeding shall be given in a separate area so that other mothers do not observe formula preparation. Follow-up of the mother is very important to ensure that she is using the replacement feeding appropriately.
APPENDIX

CHALLENGES FACED BY BREASTFEEDING MOTHERS OPTING FOR EXCLUSIVE BREASTFEEDING IN THE HIV ERA, THE CASE OF MANZINI.

The information revealed in the document will be held strictly confidential. Thank you for your response.

Background information

Date: __________________________________________
Interviewer: __________________________________________
Area: __________________________________________
Respondent #: __________________________________________
Name of the child __________________________________________

QUESTIONS

1. Age of the child

   1 month
   2 months
   3 months
   4 months
   5 months
   6 months
2. Relationship of respondent with child
   Biological Mother
   Guardian
   Other (specify)

3. Method of delivery
   Normal virginal birth
   Caesarean section

4. When was baby taken for skin to skin couple contact?
   Within first hour after delivery
   After an hour of delivery
   A day after delivery
   Any other time (specify) ____________

5. When did you initiate breastfeeding?
   Within first hour after delivery
   After an hour of delivery
   A day after delivery
   Any other time (specify) ____________
6. Who motivated you to breastfeed?

   Nurse
   Health motivators
   Mother-in-law
   Home Economics officers
   Mother support group
   Mother
   Husband
   No one (self)
   Other (specify) ______________

7. Would you describe what the baby was fed yesterday, from the time you work up, to the time the child went to bed. (If given at night, what?)

<table>
<thead>
<tr>
<th>Time</th>
<th>Type of food</th>
<th>Description of food</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. a) Who determined the feeding times?  
Mother
Baby
Other (specify) ______________

8. b) What is the feeding mode?  
On demand
On regular schedule
On irregular schedule

9. What is the type of feed used in feeding the baby?  
Breastmilk only
Breast milk + formula
Breast milk + solids
Breastmilk + formula + solids
Formula + cow's milk
Formula + cow's milk and solids
Formula + goat's milk
Formula + goat's milk and solids
Formula + other milk (specify) ________________
Formula + solid + other milk (specify______________
10. Why did you choose to exclusively breastfeed?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. Can you describe how you manage to exclusively everyday?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

12 a) When do you plan on introducing other foods?
   1st month
   2nd month
   3rd month
   4th month
   5th month
   6th month
b) Why would you introduce other foods?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

13.a) Do you experience any problems with exclusively breastfeeding? Yes/No

b) If yes, can you share these problems?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

14. Do you have advice on exclusive breastfeeding to other mothers?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Mix Feeding

15. Who assisted you in introducing other foods?

Nurse
Health motivators
Mother-in-law
Home Economics officers
Mother support group
Mother
Husband
No one (self)
Other (specify) _______________

16. At which month did you introduce your baby to other foods?

1st month
2nd month
3rd month
4th month
5th month
6th month
17. Why did you choose to introduce mixed food at this age?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

18. a) Did you experience any problems with exclusively breastfeeding? Yes No

   b) If yes, can you share these problems?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________