A STUDY TO DETERMINE FACTORS AFFECTING PRODUCTIVITY AMONG BREAST FEEDING WORKING MOTHERS IN THE CHILD BEARING AGE, WITH REFERENCE TO THE FORMAL SECTOR IN LUSAKA.

A RESEARCH STUDY SUBMITTED TO THE SCHOOL OF MEDICINE, DEPARTMENT OF POST BASIC NURSING IN PARTIAL FULFILMENT OF THE REQUIREMENT OF THE BACHELOR OF SCIENCE IN NURSING DEGREE

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ZRN, KITWE, 1985
ZRM, NDOLA, 1988
LUSAKA, ZAMBIA
DECEMBER, 2000
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ACKNOWLEDGEMENTS

This study has been made possible through various people's assistance without whom it would have not been feasible.

I wish to express my thankfulness to Mrs C. Ngoma, my supervising Lecturer for her guidance and encouragement during the course of the study and to the faculty, Department of Post-Basic Nursing for their willingness to give assistance. I would like to thank my sponsors, G.R.Z through Bursaries Committee for the sponsorship to undertake the Degree of Bachelor of Science in Nursing.

My special gratitude go to the Managing Directors at University Teaching Hospital, Zambia State Insurance Corporation, Bella Industries, Agriflora and Care International Organisation for granting me the opportunity to carryout the study in their Institutions. I also thank the respondents for providing valuable information which made the study possible.

My sincere thanks also go to Mrs M.K. Chintu for the material support and guidance. I also thank Ms Mutuna and Mrs Chisanga for excellent secretarial service. I am grateful to my friends Mr and Mrs Muntanga, Mr. Mabvuto Chisi, Mr and Mrs Kapwasha, Mr and Mrs Bowasi and others too numerous to mention for their material and spiritual support.

Finally, my sincere thanks go to my beloved Husband Rev. Collins Chipaya and children, Gabriel, Luwi and Michael for their patience and support throughout the period of study.
ABSTRACT

The main aim of the study was to determine factors affecting productivity among breast feeding working mothers in the child bearing age (15-45 years) in Lusaka Urban District with reference to the formal sector.

The study was conducted in five (5) organisations in Lusaka namely: University Teaching Hospital (UTH), Zambia State Insurance Corporation (ZSIC), Bella Industry, Agriflora and Care International Organisation. These organisations are involved in various activities such as provision of health care, manufacturing and agriculture.

A sample of 50 mothers in the child bearing age with infants and young children of 1 to 24 months old was selected from the project sites. A multistage sampling method was used to pick the organisations and mothers.

Literature review was based on the studies done in other countries all over the world, to try and establish factors affecting productivity of the breast feeding working mothers.

Data was collected using a self-administered questionnaire and was checked for completeness and accuracy. The data collected was manually analysed on the data master sheet and a scientific calculator was used to get percentages to the nearest one decimal place. The study findings have been presented in frequency tables, cross-tabulation tables and figures such as pie charts and bar graphs.
The study findings revealed that 86% of the respondents had heard about exclusive breast feeding, the main source of information being the health care provider. It was also observed that 70% of the respondents had inadequate knowledge on the benefits of exclusive breast feeding and that 34% of the respondents did not exclusively breast feed their babies from birth.

The study further revealed that 74% of the respondents did not continue with exclusive breast-feeding after returning to work and 89% of these indicated that their workplace had no baby friendly work place. Furthermore, 72% of the respondents had babies who fell ill after they returned to work and 26% of them did not exclusively breast feed their babies from birth and 18% exclusively breast fed their babies for 1-2 months. These babies suffered from various diseases which included diarrhoea, malaria, respiratory infections, earache and fever. It was also observed that most (71%) of the respondents who had sick children took 1-7 days off from work due to their children’s sickness and 26% took 8-14 days. In addition, 94% of the respondents took some hours off from their work schedule to attend to their sick children.

The study findings further revealed that 38% of the respondents fell ill after returning to work and 26% of these returned to work after 2-3 months of delivery. These mothers suffered various diseases which included malaria, abdominal pains and respiratory infections.

Therefore inadequate knowledge on the benefits of exclusive breast feeding, lack of baby friendly facilities at workplaces and short maternity leave were the major factors
attributed to low sustenance of exclusive breast feeding in working mothers, which also altered child and maternal health. This in turn affected the productivity of the breast feeding working mothers due to absenteeism.

In view of the study findings the major recommendations were:

The Ministry of Health to revamp the Baby Friendly Hospital Initiative activities in the health institutions with the emphasis on the community involvement through formulation of support networks at the work places and encouraging the already existing mother support groups to be active.

The employers to provide the baby friendly environment in their organisations in order to encourage mothers to exclusively breast feed their babies for longer periods, which will have profound effect on the productivity of the breast feeding working mothers.
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DECLARATION

I hereby declare that the work presented in this study for a Bachelor of Science Degree in Nursing has not been presented either wholly or in part to other Degree and is not being currently submitted for any Degree.

SIGNED: Elipaya

APPROVED BY: SUPERVISING LECTURER
STATEMENT

I hereby certify that this study is entirely the result of my own independent investigation. The various sources to which I am indebted are clearly indicated in the paper and in the references.

SIGNED: Elnpaya  ........................................................................................................
DEDICATION

This study is dedicated to my beloved husband Collins and children,

Gabriel, Luwi, Michael and my Mother
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<td>BFHI</td>
<td>Baby Friendly Hospital Initiative</td>
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<td>GRZ</td>
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<td>IBFAN</td>
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<td>World Alliance of Breast-feeding Action</td>
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<td>World Health Organisation</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 COUNTRY PROFILE

This study was carried out in Zambia, particularly in Lusaka, its capital city. Zambia is a landlocked country in a sub-Saharan region of Africa. It covers an area of 752,612 square kilometers. It shares borders with: Congo Democratic Republic and Tanzania in the North; Malawi and Mozambique in the east; Zimbabwe and Botswana in the south; Namibia in the south-west; and Angola in the west (CSO, 1991). Zambia is divided into nine provinces and sixty-seven districts for administrative purposes. It has nine major towns distributed in each province and forty-two minor towns. There are seventy-two (72) ethnic groups distributed throughout the country who constitute the languages spoken in the country.

Zambia has a tropical climate and vegetation with three distinct seasons: the cold dry winter season from May to August; a hot dry season from September to October; and a warm wet season from November to April. Maize is the main crop grown during the rain season (warm and wet season) which is used for household consumption and commercial purposes.

The country has a mixed economy consisting of a modern and urban-oriented sector confined to the line of rail and rural agricultural sector. Zambia is one of the poorest country in south of sub-Saharan region. An upgraded report of poverty levels of Zambia
reviewed that an estimated 70% of Zambia's population lived in poverty in 1991. In 1993, the figures grew to 74%. In 1996, the percentage was estimated to have declined to the 1991 level, but by current estimates, poverty has risen again to 72% (CSO, 1998).

Zambia has a population of 7.8 million from the last census of 1990. The average density in 1990 ranged from 50 people or more per square kilometer in Lusaka and Copperbelt provinces to 5 or fewer people per square kilometer in Western and Northern Provinces. Of the total population, 4.0 million (51%) are women and 3.8 million (49%) are men. Urbanization in Zambia has been increasing steadily. For instance, 20% of the population lived in urban areas in 1963 compared to 30% in 1969 and 40% in 1980. The urban population has grown by 27% per annum during the 1980–1990 decade. The percentage of women in urban areas is somewhat lower than men, 39% compared to 42% in 1980 and 41% compared to 43% in 1990. Most elderly women and men live in rural areas; about 85% of all persons who are 65 years and over in 1990 (CSO, 1990).

1.2 LUSAKA CITY PROFILE

Lusaka has a population projection of two (2) million. It is a cosmopolitan city as it is the centre of most commercial, industrial, political and government activities of the country (GRZ/UN, 1996). The rural areas of Lusaka consists of mainly peasant farmers with few health facilities. Lusaka urban has a total of seven hospitals of which: two are government hospitals under ministry of health, run by management boards; one military hospital; and three established private hospitals. The city also has 23 health centres.
1.3 MATERNAL AND CHILD HEALTH SERVICES

It is reported that 97.7% of women in Lusaka Province have an opportunity of utilizing maternal and child health services (ZDHS, 1996). During the antenatal, postnatal and under five clinics, the mothers are likely to be taught the importance of exclusive breast-feeding and its benefits. They are also taught the importance of child immunization against the major communicable diseases such as Tuberculosis, poliomyelitis, measles, Tetanus; Pertusis and Diphtheria. This is done through Information, Education and Communication (IEC). The maternal and child health activities look at child survival programmes such as: child nutrition; diarrhea disease control; immunization; growth monitoring; family planning; Vitamin A supplementation; and breast-feeding.

1.4 EXCLUSIVE BREAST FEEDING

The American Academy of Pediatrics recommends breast feeding as the preferred source of infant nutrition in the first six months of life, citing the proven health benefits of both the infants and the mothers (Freed et al, 1995). Exclusive breast-feeding is the feeding of the baby on breast milk alone; no water, glucose, milk formula, gripe water, laxatives, any form of liquid, semi-solids or solids but breast milk only for the first six months of life (NFNC, 1990). The studies conducted around the world show that exclusive breast-feeding reduces both the risk of infection and severity of diarrhea and acute respiratory infections. Breast-feeding also helps to prevent early malnutrition. Infants who are not breast-fed are up to 14 times more likely to die from diarrhea compared to those who are exclusively breast fed. The common practice of supplementing breast milk with water, formula or liquids increases an infant’s risk to death due to diarrhea. Infants who are not breast fed are nearly 3 times more likely to die from acute respiratory infections than
those who are exclusively breast fed (WABA. 1999). Furthermore, UNICEF (1999) reports indicates that if every baby were exclusively breast fed from birth, an estimated 1.5 million lives would be saved each year. Lives would not just be saved, but enhanced because breast milk is the perfect food for a baby’s first six months of life, no manufactured product can equal it.

In addition, breast milk stimulates the baby’s immune system and response to vaccinations. It contains antibodies and enzymes. Children who are breast-fed have lower rates of childhood cancers, including Leukemia and Lymphoma. They are also less susceptible to pneumonia, asthma, allergies, childhood diabetes, gastro-intestinal illnesses, otitis media and other infections that damage hearing. Studies suggest that breast-feeding is good for neurological development. Smith (1997) states the benefits of exclusive breast feeding to the mother as follows:

- Early initiation to breast-feeding prevents excessive bleeding after delivery. This reduces death caused by excessive bleeding (Post Partum Hemorrhage).

- It promotes quick return of uterus to its normal state and shortens the post-delivery bleeding period. This reduces the chance of infections of the uterus due to stagnation of post-delivery flow.

- It significantly affects and improves family planning.
• Breast-feeding reduces the risk of breast cancer, ovarian cancer, osteoporosis and multiple sclerosis.

To the society breast-feeding reduces the costs of medical care. The breast feeding impact is felt at an earlier age and is greater than oral dehydration therapy. It has profound effect on infant health and survival throughout the world. Unlike immunization, it does not necessitate links with health services but keeps mothers and children from utilization of medical services. Studies show that women enabled to continue breast-feeding and who get support to do so even after they return to work, have less absenteeism, less expense for health care and hospitalization, and are more loyal to the employers (WABA, 1999).

In realising the importance of breast-feeding to child nutrition and survival, World Health Organization (WHO) in conjunction with United Nations International Children’s Emergency Fund (UNICEF), produced and adopted the Innocenti Declaration in 1990. It declared that as a global strategy for optimal maternal health, child nutrition and survival, all women should be enabled to practice exclusive breast-feeding and all infants should be fed exclusively on the breast milk from birth to six months of age. It also declared all governments by 1995 to enact the following operational targets related to legislation:

• Enact legislation for protecting rights of working women and establish means for its protection.

• Ensure implementation of International Code of Marketing of breast milk substitutes.
In view of the above, the Zambian government through National Food and Nutrition Commission (NFNC), in conjunction with UNICEF, WHO and other Non-governmental Organisations (NGOs), such as Laleche League, and the Breast-feeding Association of Zambia (BAZ) have conducted a series of seminars and training sessions for health workers and the community on their role in breast-feeding promotion, protection and support.

Since the Innocenti Declaration on promotion, protection and support of breast-feeding, Zambia has made tremendous progress in promotion of breast-feeding. The achievements include:

- Development of the National Policy on breast-feeding practices.
- Editing of the Zambian Code of Marketing of Breast-feeding Substitutes.
- Introduction of Baby Friendly Hospital Initiative (BFHI) in health facilities, Baby Friendly work places and mother support system campaigns which started in 1993. The implementation of BFHI has been done in 54 health facilities of which 46 have BFHI status.
- Policy frame work on HIV and infant feeding.
1.5 BABY FRIENDLY WORK PLACES

McDermott (1998) states that Baby Friendly work places are meant to promote, support and protect breast-feeding by employers to enable the breast-feeding mothers to continue breast-feeding after returning to work by putting the following measures in place:

- Develop and implement a policy supporting site breast-feeding.
- Offer work schedules flexibility to allow time for pumping (expressing) or breast-feeding.
- Provide an accessible, private location for expressing or breast-feeding.
- Ensure access to a clean, safe source of water and sink for breast-feeding mothers.
- Ensure access to a hygienic storage option for pumped or expressed breast milk.

According to Esterik, et al (1998), the benefits of the company with Baby Friendly facilities are:

- An employee with fewer concerns for the welfare of her child is more able to fully focus on her job.
- An employee with a convenient sanitary and private location for pumping or expressing breast-milk would have more options in scheduling her day, for example, not having to take long lunches to drive home to breast-feed the baby.

Nawakwi, E. the Labour and Social Security Minister was quoted by Times of Zambia (15th March, 2000) that child survival for future productivity was dependent on providing adequate maternity protection to enable a working mother with an infant to put
in maximum productivity in her work place and care for her baby. Thus she was
acknowledging the fact that breast-feeding is related to the productivity of a breast-
feeding working mother.

1.6 STATEMENT OF A PROBLEM

Exclusive breast-feeding is the current infant feeding practice adopted world wide and in
Zambia, with the appropriate complementary feeding and continued breast-feeding till
the baby is two (2) years old. Although exclusive breast-feeding was adopted in Zambia
a large number of working women are still not exclusively breast-feeding their babies, for
example, the 1992 Zambia Demographic and Health Survey indicated that only 11% of
babies were exclusively breast-fed. The 1996 Zambia Demographic and Health Survey
(ZDHS) indicated that 26.3% babies between 0-3 months were exclusively breast-fed.
This gives an average of 20% exclusive breast-feeding rate which is far below what is
expected, considering the scenario of the country’s poverty level. One of the contributing
factors to the low rates of exclusive breast-feeding could be non-implementation of Baby
Friendly Workplace Program by many employers.

In Zambia Campaigns to promote, protect and support breast-feeding has been carried out
by the government and NGOs. Despite these campaigns, many employers have not
realized the importance of doing so, not only in Zambia, but worldwide. The Zambia
Daily Mail (7th April, 2000) reported that breast-feeding was banned in Britain’s so-
called ‘mother of parliament’. This was because the women parliamentarians complained
that there were few child care facilities at the centuries of old parliament. This is
violation of the children’s right to nutrition and the women’s right to breast-feed. Any violation of women’s right to breast-feed is a violation of human rights (Esterik, et al 1998). A study by breast-feeding Task Force (1995) on why mothers introduce breast milk substitutes revealed that the urban high income mothers (working mothers included) stopped breast-feeding at an earlier age than the poor urban and rural mothers. It was observed that working mothers did not exclusively breast-feed their babies for the correct duration.

This means that there is a likelihood of their babies contracting frequent infections such as diarrhea and acute respiratory infections. This is because the human baby’s gastrointestinal tract is not yet well developed in the first six months to absorb most feeds other than human breast milk. In addition, the baby’s gut is a sterile environment in the first days of life without necessary normal organism to help with food digestion. Introduction of feeds other than breast milk is likely to lead to malabsorption and introduction of harmful microbes leading to increased incidence of diarrhea failure to thrive and risk of death from early malnutrition and other infections. Grant (1985) acknowledged this fact when he documented that everyday 3,000 babies die from diarrheal diseases and acute respiratory tract infections in developing countries because they are improperly breast-fed.
Diarrhea is very common among infants in Zambia who are weaned early and the disease is more severe in young infants. This fact is supported by a study done by Freud in 1992 at UTH. In the above mentioned study it was observed that mothers presenting at the hospital Diarrheal Unit introduced fluids such as water, water solution, and teas as early as 24 hours of the baby’s life and food such as cereals, and eggs at two weeks or even less. Perhaps this could be one of the reasons why half of the deaths under the age of five occur in the first year of life. In addition, the infant, child and under five mortality rates are high. These rates are 109, 98 and 197 per 1,000 live births respectively (ZDHS, 1996).

In Zambia quite a good number of women are employed in the formal sector and the working women are entitled to 90 days Maternity leave, after completing at least two years of continuous service with her employer from the date of engagement or since the last maternity leave taken. The leave with full pay is granted upon production of a certificate from a medical practitioner. However, the 90 days leave is not adequate enough to enable the working mother to practice exclusive breast-feeding for six months. Furthermore, upon return to work, many breast-feeding mothers are not entitled to two-hour nursing breaks or flexible working hours and there are no provisions for expressing and storing the breast milk at their working places, such environment is not conducive for exclusive breast-feeding and is likely to make working mothers to introduce breast milk substitutes as early as two months of the infant’s life. Homosh (1996) confirmed this fact when he stated that the ability to express milk for later feeding when away from infant might influence the mother’s decision to continue breast-feeding even after she has
returned to work. These mothers are likely to make babies susceptible to many health risks, which in turn could make them unproductive due to absenteeism to nurse their children. Sick infants and children often oblige the mother or father to stay from work to care for their children. Absenteeism is costly to employers.

The productivity of the working breast-feeding mothers could be affected by many factors, for instance, if the mother introduces breast milk substitutes early to the baby, it is more likely to make the infant susceptible to infections such as diarrhea and acute respiratory tract infections. This might lead to increased episodes of illness in the baby’s life and the mother could be obliged to stay at home to nurse the sick child, and this is likely to reduce her productivity because when she is away from work, it means the work is not done.

The second factor that may affect the mother’s productivity is reproductive factor. Breast-feeding is an integral part of the reproductive cycle: exclusive breast-feeding with the addition of appropriate complementary foods, completes this cycle before the next pregnancy occurs. Studies have shown that exclusive breast-feeding spaces births, helping to prevent another pregnancy too soon for women. The woman who exclusively breast-feeds her baby is 98% protected against further pregnancy for the six months up to 12 months, as long as her periods have not returned (WABA, 1999). It is most likely that the woman who fail to exclusively breast-feed her baby is at risk of getting pregnant too soon. This will mean her taking her leave due to pregnancy and confinement early. Usually women who get pregnant recurrently are susceptible to ill health due to anemia.
and other complications of pregnancy and childbirth.

The third factor that influences the mother’s productivity is maternal health. The American Academy of Pediatrics (1997) documented that breast-feeding increases the level of oxytocin, resulting in less blood loss after delivery. It also reduces the frequency and severity of anemia, because menses return later in breast-feeding mothers compared to mothers who bottle-feed.

The long-term benefits of breast-feeding on the health of the mother are also significant. The United Kingdom Case-Control Study Group stated that exclusive breast-feeding at least for three months could reduce the risk of pre-menopausal breast cancer. It also reduces a woman’s risk of epithelial ovarian cancer and hip fracture. The woman who fails to exclusively breast-feed is likely to lose all these benefits and is more likely to be susceptible to anemia, pelvic inflammatory infections and other risk factors. From the researcher’s observation and experience, a woman who resume work a month after giving birth to her baby will most likely experience debilitating physical and emotional stress affecting her productive life.

Another factor that might affect the breast-feeding mother’s productivity is the psychological factor. A woman who does not exclusively breast-feed might have a child who is unhealthy due to recurrent infections such as diarrhea and respiratory tract infections. This mother is more likely to suffer from anxiety and stress because most of the time she could be worried about the child’s welfare. This may disrupt her
concentration on her job. The worry and fear may weaken her productive output.

The other factor is the social-economical factor. Breast milk substitutes are very expensive and most working women may not afford to buy them. If the baby is put on breast milk substitutes, it may affect the food security of the family which may lead to the mother being malnourished because of not eating enough food. The baby may also end up of being malnourished because of not eating enough food too. The malnourished working women may not work effectively.

Poor interpersonal relationship between the mother and employer would affect the woman’s productivity. A woman who is denied of her right to breast-feed her baby exclusively because of unfavourable conditions at the place of work may be indifferent to her employers. This may hinder her from doing her duties effectively.

The question the researcher is trying to answer is whether making working places baby friendly could enable the working mother continue breast-feeding even after returning to work or not? Another question is whether breast-feeding affects the mother’s productivity or not?
1.7 JUSTIFICATION

The benefits of exclusive breast feeding for the mother, infant and society are well documented and cannot be over emphasized (WHO / UNICEF, 1993). Exclusive breast feeding reduces the risks of incidence of diarrheal diseases and acute respiratory tract infection in the child. It also improves maternal health and reduces absenteeism at workplace. This means keeping both the mother and the baby from hospitals, which in turn reduces the costs of medical care during illness of the mother and child. Healthy children, healthy nation and economically productive society. An insight to the factors affecting the productivity among the breast-feeding working mothers in child bearing age will encourage the employers and other stakeholders to promote, support and protect breast-feeding at work places, and may lead to an increased number of baby friendly work places.
1.8 HYPOTHESIS

Mothers who work at baby friendly work places are most likely to continue breast-feeding even after returning to work.

Failure to exclusively breast-feed the baby affects the child and maternal health and this in turn affects the mother’s productivity at her work place.

1.9 OBJECTIVES

1.9.1 General Objective:

To determine factors affecting productivity among breast-feeding working mothers in the child bearing age, with reference to the formal sector.

1.9.2 Specific Objectives:

1. To determine the level of sustenance of exclusive breast-feeding among breast-feeding working mothers.

2. To establish the mothers’ level of knowledge on the concept of exclusive breast-feeding and how to continue breast-feeding even after returning to work.

3. To determine whether there are baby friendly work places in the country.

4. To identify factors that affect productivity among breast-feeding working mothers.
5. To make recommendations to employers and other relevant authorities on how they can promote, support and protect breast-feeding among breast-feeding working mothers.

1.10 VARIABLES

A is a characteristic or attribute of a person or object that varies (ie. Takes on different values) within the population under study (Polit and Hungler, 1997).

1.10.1 Dependent Variable:

A dependent variable is the outcome variable of interest; the variable that is hypothesized to depend on or caused by the independent variable (Polit and Hungler, 1997). The dependent variable for this study is the productivity of breast-feeding working mothers.

1.10.2 Independent Variables

An independent variable is the variable that is believed to cause or influence the dependent variable (Polit and Hungler, 1997). Example of independent variables are;

1. Knowledge of the mothers about exclusive breast-feeding and it’s benefits.
2. Baby friendly workplace.
3. Sustenance of exclusive breast-feeding.
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>INDICATOR</th>
<th>CUT-OFF POINT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>Knowledgeable - Not knowledgeable</td>
<td>2-5</td>
</tr>
<tr>
<td>Baby friendly Workplace</td>
<td>Have baby friendly facilities-</td>
<td>3-5</td>
</tr>
<tr>
<td></td>
<td>No facilities</td>
<td>0-2</td>
</tr>
<tr>
<td>Sustenance of exclusive</td>
<td>High</td>
<td>6 months</td>
</tr>
<tr>
<td>Breast-feeding</td>
<td>Medium</td>
<td>3-5 months</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>0-2 months</td>
</tr>
<tr>
<td>Productivity of breast-</td>
<td>High</td>
<td>Low rate of absenteeism</td>
</tr>
<tr>
<td>Feeding</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>High rate of absenteeism</td>
</tr>
<tr>
<td>Working mothers</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. illustrates some of the variables used in the study plus indicators and cut off points.

1.11 CRITERIA FOR INDICATORS AND OPERATIONAL DEFINITIONS

1. Knowledge:

a. Knowledge – the mother should know what exclusive breast-feeding is:

- Should have received health education on exclusive breast-feeding from qualified health worker or breast-feeding support group in the community.

- Should know the benefits of exclusive breast-feeding.

- Should consider exclusive breast-feeding essential for child survival.

2. **Baby friendly workplace:**

The workplace would be considered to be baby friendly if the following conditions are in place:

- Have a breast-feeding policy in place.
- Have a private place for expressing breast milk.
- Have hygienic place for storing expressed breast milk.
- Flexible work schedule to allow mothers to breast-feed or express breast milk.

   - No baby friendly facilities at workplace - the cut-off point 0-2.

3. **Sustenance of exclusive breast-feeding:**

   **High**  
   - Mother should have breast-fed her child on breast milk only for the first 6 months.

   **Medium**  
   - Mother should have breast-fed her child on breast milk only for 3 – 5 months.

   **Low**  
   - Mother should have breast-fed her child below 2 months on breast milk alone.
4. **Productivity of breast-feeding working mothers in the child bearing age:**

<table>
<thead>
<tr>
<th>High</th>
<th>The mother has low rate of absenteeism due to child and maternal ill health.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>The mother who has high rate of absenteeism due to child and maternal ill health.</td>
</tr>
</tbody>
</table>

1.12 **DEFINITION OF CONCEPTS**

- **Exclusive breast-feeding:**
  Feeding the baby on breast milk alone. No water, glucose, milk formula, gripe water, laxatives, any form of liquid, semi-solids or solids but breast milk only for the six months of life.

- **Breast milk substitutes:**
  Any food being marketed or otherwise represented as a partial or total replacement for breast milk whether or not suitable for the purpose.

- **Working mothers:**
  This is the mother who is in formal employment away from home whilst nursing the infant.
• **Complementary food:**
  Any food suitable as an addition to breast milk or a substitute for breast milk when it becomes insufficient to satisfy the nutritional requirements of an infant.

• **Appropriate complementary food:**
  A prescribed or advised fluid, semi-solid or solid food for an infant at timely period of an individual child, for example, complementary food given after six months of life.

• **Infant formula:**
  An animal or vegetable based milk product, industrially formulated to satisfy some or all the nutritional requirements of infants and young children up to the age of 2 years.

• **Infant:**
  A child from birth up to the age of 12 months.

• **Sustenance:**
  Ability to cause something to continue for a long period of time, for example, sustenance of exclusive breast-feeding for 6 months of the infant’s life.

• **Mortality:**
  Relative death rate; the proportion of deaths at a particular time and place.
• Morbidity:
Relative disease rate, usually expressed as incidence or prevalence of disease.

• Incidence:
Number of new cases occurring in the community in a specific period of time.

• Baby friendly workplace:
An on-site child care or flexible work schedules that allows the mothers to continue nursing their babies on an as needed basis even after they return to work.

• Productivity:
The extent to which a worker can perform in a given situation.

• Dependent variable:
This is the variable that is caused to change or affected by the independent variable.

• Independent variable:
This is a variable that is assumed to cause changes in the dependent variable.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

Numerous studies have shown that breast-feeding uniquely fulfills a child’s psychological, nutritional and immunological needs. Under all conditions, including those of poverty, infants who are exclusively breast-fed through 4 – 6 months thrive better than those who are not (WHO / UNICEF, 1990).

UNICEF estimates that over 1 million infant lives can be saved every year from deaths related to diarrhea and acute respiratory infections through increased breast-feeding, particularly exclusive through 4 – 6 months. Infants who are not breast-fed are up to 14 times more likely to die from diarrhea compared to those who are exclusively breast-fed. Further, infants who are not breast-fed are nearly 3 times more likely to die from acute respiratory infections than those who are exclusively breast-fed. Breast-feeding continues to protect the infant from death due to diarrhea and acute respiratory infections beyond the early months of life (Huffman, et al, 1991). Breast-feeding has also been associated with lowered risks of childhood cancers, including Leukemia and Lymphoma; Pneumonia, asthma, allergies, childhood diabetes and otitis media. It is also good for neurological development of the infant (UNICEF, 1999). Breast-feeding also contributes significantly to child spacing which promotes the child and maternal health. Children born at an interval less than 2 years are about 2 times more likely to die before the age of 5, compared to those born after an interval 2 years or more. For the mother, more time
between births gives her body more time to replenish maternal stores of vital nutrients. Breast-feeding also reduces her risk of ovarian cancer, pre-menopausal breast-cancer and bone fractures later in life (Huffman, et al, 1991).

The well-documented nutritional, immunological and contraceptive advantages of breast-feeding have led international organisations to recommend this method as a preferred way of infant feeding. In 1990 WHO in conjunction with UNICEF, produced and adopted the innocenti declaration which declared that as a global strategy for optimal maternal, child health and nutrition, all women should be enabled to practice exclusive breast-feeding and all infants should be fed exclusively on breast milk from birth to six months (NFNC, 1992).

Many studies have been done on exclusive breast-feeding which indicate maternal employment as one of the reasons mothers give for introducing food supplements early in life. However, little has been researched on the factors that affect productivity of breast-feeding working mothers so that the maternal roles which are so crucial to human life can be reconciled with the functional efficiency at workplace. This could be achieved through breast-feeding promotion, protection and support at workplaces. This is done through the establishment of maternity protection by many employers.

The need for maternity protection was recognised during the world war II when women entered the workforce in large numbers, leaving their infants in someone else's care. At this time the use of breast milk substitutes became an alternative way to feed these
The International Labour Organisation was founded in 1919, and in its convention number 3, the maternity protection was formulated to protect child-bearing and breast-feeding workers and to ensure that they had safe and adequate working conditions, with the following provisions:

- At least six weeks of maternity leave following confinement, and a right to six weeks before confinement with a medical certificate.

- Paid benefits to be paid out of public funds or by means of a system of insurance.

- Prohibition of dismissal.

- Nursing breaks of one hour per day.

In 1952 ILO revised the maternity protection No. 3 in convention 103, and later it adopted recommendation 95 as supplement to convention 103. The recommendation 95 provided a total period of paid maternity leave of 14 weeks. In 1997 ILO recognised the need to discuss on maternity protection convention No. 103 and recommendations 95, and sent questionnaires to member countries, 87 of the 107 member countries that replied to the questionnaires responded positively to the need for paid nursing breaks. Then in June 1999, at the 87th International Labour Organisation Conference, ILO adopted its latest revision of maternity protection convention. The revised draft recommendation increases the maternity leave to 16 weeks, extends the nursing breaks to a total period of at least one and half hours during the working day, recommends adjustments in the frequency and length of the nursing periods permitted upon production of a medical.
certificate, facilities for nursing or day care, and the equipment and hygienic requirements of the facilities for nursing. However, ILO Convention No. 183 in June 2000, ratified the recommendations No. 191 as follows: increase of maternity leave from 12 to 14 weeks; protection against dismissal during pregnancy and a period after return to work for reasons related to maternity; breast feeding breaks recognised as a woman's RIGHT, and should be counted as part of working time (ILO Convention No. 183, May 2000).

ILO provides guidance on policy, legislation and practice. It is up to the member countries to ratify and implement the recommendations. However, many employer groups and various governments are still opposed to the issue of nursing breaks. As a result many women still face obstacles to breast-feeding upon return to work. It is important to realise that it is not possible for infants and their mothers to achieve optimal health unless conditions exist that allow women to practice exclusive breast-feeding for about six months and continue breast-feeding while providing adequate complementary foods up to two years of life or beyond (Sterken. and Venter, 2000).

2.2 GLOBAL PERSPECTIVE

USA is one of the countries in the world with no maternity entitlement, no job security for the mothers, no lactation breaks and no explicit provisions for child care (WHO/UNICEF, 1990). Many women return to work in the early postpartum weeks out of necessity because there is no universal maternity leave policy. Expressing breast milk is difficult in many working environment due to lack of facilities or privacy, resulting in
many mothers to choose to abandon breast-feeding (Bridges, et al, 19970). Miller, et al (1996) undertook a cross-sectional study to determine how employment as resident physician affects breast-feeding practices and experience, in Springfield, USA. Forty-eight (80%) of 60 residents who delivered initiated breast-feeding and continued for the duration of their maternity leave (mean, 7 weeks). With return to residency, half of those who had initiated breast-feeding, discontinued. The residency work schedule was the common reason for discontinuing. This puts the infants at risk of contracting infections such as diarrhea, acute respiratory tract infections because the infant is deprived of the antibodies found in mother’s breast milk which protect the baby. Mothers who do not breast-feed may miss more time from work as a result of staying home to care for a sick infant more often. In another study by Cohen, et al (1995) which compared maternal absenteeism and infant illness rates among breast-feeding and formula-feeding women in two corporations in USA revealed that breast fed babies had statistically fewer absences: only 25% of all one-day maternal absences were by mothers breast-feeding compared to 75% for the formula-fed group.

The women who return to work in the early weeks of postpartum are likely to experience debilitating physical and emotional stress affecting their productive and reproductive lives. This is because the healing process of reproductive system of a women who has given birth completes at 4 months. These women are likely to experience the long-term urinary infections and uterine prolapse, which would cause the woman to be fearful of her condition and weakens her productive output (UNICEF, 1998). This is in line with a study by Gjerdingen, etal (1993) in Minneapolis, USA which determined the changes in
the woman's physical health during the first postpartum year. The physical symptoms seen at higher prevalence at one month postpartum included breast symptoms, vaginal discomfort, fatigue, hemorrhoids, poor appetite, constipation, increased sweating, and numbness or tingling, dizziness and hot flashes. Several of these disorders (Hemorrhoids, dizziness, fatigue and constipation) persisted beyond one month and were joined by other problems such as urinary tract infections, respiratory symptoms and sexual concern. Women who returned to the workforce noted more symptoms of respiratory infections. The study concluded that recovery from childbirth requires more than six weeks traditionally allocated or maternity leave.

In Brazil there have been changes in public policies on maternity protection among working women, for example, the maternity leave was extended from 84 to 120 days; the paternity leave up to 5 days; the women prisoners were permitted to stay with their children while breast-feeding; legal obligation to provide crèches and job tenure while pregnant and up to 5 months postpartum. Despite all these changes in legislation, many workplaces still had no baby friendly facilities and this made the women to adjust infant feeding patterns based on whether they anticipated workplace support or not. This was revealed by Rea, et al in an exploratory study of possibilities and limitations of breast-feeding among the formally employed women in 13 factories of Sao Paulo City of Brazil in 1994, which indicated that the initiation of breast-feeding was 97% and the median duration was 150 days. The exclusive breast-feeding and predominant breast-feeding rates were, respectively, 10 and 70 days of medium duration. Higher socio-economic status and nursery facilities and the existence of a place in which to extract and store the
mother's milk at the workplace were factors associated with longer duration of breast-feeding. Other factors such as flex-time and workout of the production line also showed a significant relation to longer duration of breast-feeding in the factories studied. Duration of exclusive breast-feeding was longer among women with support for breast-feeding at work and shorter for those working on weekends or doing shift work.

A study on protection of breast-feeding in Boroko, Papua New Guinea by Friesen, et al (1999) revealed that many women are unaware of their legal right to have breaks at work for the purpose of breast-feeding, and a high proportion of work places have no facilities for mothers who wish to breast-feed their children. Another study was carried out on working women, maternity entitlement and breast-feeding by Haider and Begum in Dhaka, Bangladesh in 1999. The study was done through interviews with 238 working women with children young than 30 months of age. Of the women interviewed 20% were aware of the benefits of, and had exclusively breast fed in the first month, 13% in the second month, and 2% in the fifth month of employment. The median age of starting complementary feeds was 41 days (range 1-210) preparatory to resuming work. Ninety-nine percent of the mothers were unaware of their maternity entitlement and only 20 percent had taken breaks for breast-feeding, those breaks being treated as unofficial. This can be applied to the mothers in Zambia, most of them are not aware of the maternity entitlement because the policies on breast-feeding breaks are not explicit.
2.3 REGIONAL PERSPECTIVE

A study done by Auerback and Guss to determine how patterns of work of the factory and plantation workers affected their breast-feeding and child rearing in 1984 in Swaziland revealed that many women worked long hours which makes breast-feeding and child care very difficult. The lunch breaks was usually inadequate for the mother to go home and breast feed. In the tea plantation, it was possible for the baby to be brought at regular interval, while at the factory this was not allowed. During the period women were away from home a substitute for her parental role had to be found. Many mothers tend to use their older children or hired young girls. The high risk of leaving a young baby poorly cared for causes tremendous emotional strain in the mothers. Moreover, the unskilled workers are often not able or willing to miss a day's work for health care. Many women were not aware of their rights or what they were entitled to.

Another study on breast-feeding in Africa, Latin America and Caribbean regions in 1994 by Escamilla reveal a difference in breast-feeding patterns in urban and rural areas of Sub-Sahara Africa. The results showed a downward trend of breast-feeding in urban areas while rural communities were still relatively stable. The mean duration of breast-feeding is about 19.3+/−2.7 month. An important difference associated with such patterns is the degree of socio-economic development and in particular, urbanization. In the same study it was reported that components of urban life such as maternal employment and lack of support networks are likely to be related to poor lactation performances.
2.4 **NATIONAL PERSPECTIVE**

Zambia as a member state of International Labour Organisation, provides the national maternity protection based on the 1952 ILO convention No. 103 and allows 90 days of paid maternity leave. However, the leave is inadequate to enable mother to practice exclusive breast-feeding for the first six months. Upon return to work, they are not entitled to nursing breaks or flexible working hours and there are no provisions for Baby Friendly work places. The 1996 ZDHS indicates that only 26.3% babies between 0-3 months were exclusively breast fed while only 4.2% of babies 4-6 months were exclusively breast fed. This gives an average of 20% exclusive breast-feeding rate.

A study done by Nyimbili (1998) on the factors contributing to low sustenance of exclusive breast-feeding among mothers in Lusaka urban district revealed short duration of maternity leave as one of the factors that contributes to the decline of exclusive breast-feeding.

**CONCLUSION**

Finally, the literature review show that the working breast-feeding mothers face a lot of obstacles that hinder them from continuing breast-feeding upon return to work. This hindrance is a big threat to the lives of both the mother and baby, since breast-feeding prevent diseases. If the health of the mother or baby is poor, the productivity of the nursing mother is weakened which could be very costly for the employer. There is need for the provision of support for breast-feeding mothers at work places, so that their reproductive and productive roles are integrated. This will help the nursing mothers to continue breast-feeding even after resuming work.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

Research design is the plan of the research that is developed prior to the actual launching of the study. It is part of a number of steps beginning with the formulation of the problem and ending with a report of the findings of the study (Abdellah, and Levine, 1986).

The purpose of this study was to determine the factors affecting productivity among breast feeding working mothers in the child bearing age. The descriptive research design was used in this study. Polit and Hungler (1997) defines a descriptive study as the one that has a main objective, the accurate portrayal of the characteristics of persons, situations or groups, and/or the frequency with which phenomena occur. A descriptive research design is also less time consuming compared to the experimental design as it is usually completed in a short period of time and less expensive to conduct. This enabled the study to be done within the time limit given in which to submit the study to the Department of the Post Basic Nursing. In addition, in descriptive research design, the respondents are generally co-operative with the investigator because they are only required to supply specific information which takes a short period of time. In this case the mothers were required to give information on their experience of exclusive breast-feeding and their work. Lastly it was easier to keep track of respondents in their own work environment.
3.2 RESEARCH SETTING

The study was conducted in Lusaka, a cosmopolitan city where commercial, industrial, political and Government activities take place (GRZ/UN, 1996). There are various organisations involved in a lot of activities such as production, education, medical services and so forth. This study was conducted in five organisations which were randomly selected and sampled. These were University Teaching Hospital, Zambia State Insurance Corporation, Agriflora, Bella Industries and Care International.

University Teaching Hospital is a level III hospital. It is situated between Burma Road and Independence Avenue, along Nationalist Road on the eastern side of Burma Residential area. It gives health services mainly the referral cases from the first and second level hospitals country wide. It also provides training of the health personnel for service. UTH is governed by the Board of Directors headed by the Managing Director. The other directors are: Director of Clinical Services, Director of Laboratories, Director of Finance and Director of Nursing Services. These directors run their respective units, for example, the Director of Clinical Services is in charge of all clinical services and the heads of department (Obstetrics and Gynaecology, Paediatrics, Medicine and Surgery) report directly to him. It has the workforce of 3,131 and 60% of them are females.

Zambia State Insurance Corporation (Premium House) is one of the largest insurance companies in Lusaka. It is situated along independence Avenue, opposite Luburma Market and Kamwala second class shopping complex. It deals with Lee estates and
Insurance. It is headed by the Executive Director and under him there are four Directors and these are: Director of General Insurance, Director of Finance, Director of Audit and Director of Life and Pensions. These run their respective departments. Zambia State Insurance Corporation at Premium house has a workforce of 199 and 30% of them are women.

Agriflora is a horticultural firm situated in the Eastern part of Lusaka in Avondale compound. It borders the International Airport. It produces and exports fresh vegetables and roses to various destinations world-wide. It is headed by the Managing Director and under him is the General Manager. Under the General Manager are about 9 Departmental Managers who run their respective departments. Agriflora has a workforce of 5,600 and 62% of them are females.

Bella industries is one of the manufacturing firms involved in making synthetic hair extensions. It is situated in Heavy Industrial area in Chinika area, off Mumbwa Road. It is headed by the Managing Director and under him is a manager. Bella industry has a workforce of 63 and 44% of them are females.

Care International is a non-governmental agency which works to improve the quality of people. It is situated in Woodlands shopping complex. It offers technical assistance, training and material resources in combinations appropriate to local needs and priorities. In Lusaka, Care International is currently running the following projects: Peri-urban self help project; Peri-urban community managed Health project; Peri-Urban Lusaka small
enterprise Development project; Whole Child Health Project and Community Family Planning Project. It is headed by the Country Director and under him is the Assistant Country Director. Under the Assistant are four Directors, running their respective departments and these are: Director of Finance; Director of Administration; Director of Human Resources and Director of Projects. Care International has a workforce of 370 and 36% of them are females.

The five organisations were included in the sample because, they have female personnel in the childbearing age who would be in my study population and be the right people to investigate the appropriate data.

3.3 STUDY POPULATION

The study population was the working mothers in the child bearing age in Lusaka. The study units were the mothers with infants and young children from 1 month to 24 months of age, from University Teaching Hospital, Zambia State Insurance Corporation, Agriflora, Bella Industries and Care International. This population was chosen because they were viewed as the right people to give the required information.

3.4 SAMPLE SIZE

A sample of 50 mothers of child bearing age, with infants and young children from 1 month to 24 months of age, was used.
3.5 **SAMPLING METHOD**

Multi-stage sampling method was used. This method is also referred to as the cluster random sampling. It is a sampling process that involves two or more stages (Brink, 1996).

The main advantage of multi-stage sampling, is that, it is considerably more economical in terms of time and money than other types of probability sampling, particularly when the population is large and geographically dispersed. It is the appropriate method to use when other methods fail due to lack of complete lists of elements of a population under investigations. However, it has two major disadvantages:

1. More sampling errors tend to occur than with simple random or stratified random sampling.

2. The appropriate handling of the statistical data from multi-stage sampling is very complex.

I started by sampling the organisations with female employees. About five (5) organisations were selected by simple random sampling. Simple random sampling is a sampling procedure which provides equal opportunity of selection for each element in a population (Bless and Achola, 1988). The selection was done using Lottery method. The names of the organisations were written on slips of paper and put in a box. Then the slips of paper were mixed thoroughly and about five (5) slips of paper were drawn. These papers were taken for sampling. This provided equal chance of all the organisations
written on the slips of paper to be included in the study.

In the second stage only one organisation had enough departments i.e. UTH to warrant sampling of departments. The names of the departments were written on the slips of paper and two departments were randomly selected using lottery method. In the other organisations all the departments were sampled because they were few.

In the final stage, I randomly selected mothers from the departments. I started by writing all the names of the mothers in the childbearing age with infants and young child from 1 month to 24 months of age, on the slips of paper. Then did a simple random sampling using the lottery method.

3.6 DATA COLLECTION TECHNIQUE

A questionnaire was used to collect data on the factors affecting productivity among the breast-feeding working mothers in the childbearing age. A questionnaire refers to a self-report instrument where the respondent writes her answers in response to printed questions on a document (Brink, 1996). I chose this instrument because my study population was literate and were able to complete the questionnaire in a short time; it is less expensive in terms of time and money; it is the easiest research instrument to test reliability and validity, the respondents feel a greater sense of anonymity and are more likely to provide honest answers; and the format is standard for all subjects and it does not dependent on the mood of interviewer. However the instrument has the following disadvantages:
• Response rate may be low.
• Respondents may fail to answer some of the items.
• There is no opportunity to clarify any items that may be misunderstood by subjects.
• The subjects who respond may not be representative of the population.

(Brink, 1996).

However, the above disadvantages were minimised by checking the questionnaire for completeness and accuracy before collection.

The instrument consisted of a series of open-ended and closed-ended questions.

3.7 ETHICAL CONSIDERATIONS

- A written permission to conduct the study was sought from the Ministry of Labour and Social Security, and the relevant authorities of the selected organisations.

- A verbal consent was obtained from each mother included in the sample. Self introduction was done and the purpose of the questionnaire was explained.

Confidentiality and anonymity was assured through explaining to the respondents that their names will not appear neither on the instrument nor in the study report.
3.8 PILOT STUDY

A pilot study is a small preliminary investigation of the same general characteristics as the main study and is designed to acquaint the investigator with the problems that can be corrected in preparation for a major study (Treece and Treece, 1977). It can be used to test data collecting instrument to check whether or not the questions are clear (Polit and Hungler, 1997).

The questionnaire was pre-tested at Chilenje Health Centre. This was not included in the major study. The sample was selected randomly using Lottery method. My study population were the mothers working at Chilenje Health Centre, of the childbearing age with children between 1 month to 24 months old. The pilot study helped to identify potential problems in the tool; check its accuracy, clarity, and completeness. This also assisted in the testing of the reliability and validity of the instrument. The researcher had an opportunity to make necessary corrections and modifications, inclusions or dropping of the questions before the actual study was undertaken. For example, questions 14, 15, 40 and 42 were found to be irrelevant to the study, so they were removed. This reduced the number of questions from the original number of 53 to 49. Questions 21 and 50 were ambiguous and were rephrased. For instance, question 21 which read “Have you given fluids (including water) to your child since birth?” was rephrased to read “Did you give fluids (including water) to your child before the age of six months?” This was done to avoid collecting unnecessary data.
CHAPTER FOUR

4.0 ANALYSIS OF DATA AND PRESENTATIONS OF FINDINGS

4.1 INTRODUCTION

Data analysis is a process of carefully scrutinizing data by placing it in categories, calculating and applying the statistical procedures (Polit and Hungler, 1997).

The purpose of the study was to determine the factors affecting productivity among breast feeding working mothers in the child bearing age, with reference to the formal sector in Lusaka.

Fifty (50) mothers working in five organisations (University Teaching Hospital, Zambia State Insurance Co-operation (ZSIC), Bella Industries, Agriflora and Care International) in Lusaka participated in the study. These mothers were selected by multistage sampling.

4.2 ANALYSIS OF DATA

The data which was collected by self administered questionnaire, was checked for completeness and accuracy at the time of collecting the questionnaires from respondents and before analysis. Then it was tallied on the data master sheet. According to Abdellah and Levine (1983), tallying of data on work sheets brings together in one place data collected on all study subjects. Quantitative data was analysed manually by the aid of a calculator. The responses were first ordered according to the research objectives and hypotheses. Then categorised and summarized so that interpretation could be done.
The study findings have been presented in table form, that is, frequency tables and cross-tabulations and figures such as pie charts and bar charts. This was found to be appropriate because the tables and figures summarised the results in a meaningful way, which facilitated understanding of the study findings.

**TABLE 2: THE SOCIO-DEMOGRAPHIC DATA**

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGE GROUP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-25 Years</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>26-35 Years</td>
<td>25</td>
<td>50%</td>
</tr>
<tr>
<td>36-45 Years</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>MARITAL STATUS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>13</td>
<td>26%</td>
</tr>
<tr>
<td>Married</td>
<td>36</td>
<td>72%</td>
</tr>
<tr>
<td>Separated</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>LEVEL OF EDUCATION ATTAINED</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Level</td>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>Secondary Level</td>
<td>20</td>
<td>40%</td>
</tr>
<tr>
<td>College/University Level</td>
<td>25</td>
<td>50%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>FAMILY MONTHLY INCOME</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;K100,000.00</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>K100,000.00 - K149,000.00</td>
<td>9</td>
<td>18%</td>
</tr>
<tr>
<td>K150,000.00 - K200,000.00</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>&gt;K200,000.00</td>
<td>29</td>
<td>58%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
</tr>
<tr>
<td><strong>NUMBER OF CHILDREN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 2</td>
<td>36</td>
<td>72%</td>
</tr>
</tbody>
</table>
Table 2 shows that 50% of the mothers were in the age group of 26-35 years, 40% in the age group of 15-25 years and 5% in the age group of 36-45 years. The majority of them were married (72%), followed by those who were single (26%) and 2% were separated. Most of them attained college/university level of education (50%), followed by those who attained secondary level (40%) and 10% attain the primary level. About 58% of the mothers have the family monthly income of more than K200,000, 18% had an income of between K100,000 - K149,000, 16% had an income between K150,000 - K200,000, while only 8% had an income of less than K100,000.00.

Furthermore, the table shows that 72% had 1-2 children, 24% had 3-4 child, 2% had 5-6 and another 2% had 7 or more children. About 28% had the youngest children who were

<table>
<thead>
<tr>
<th>AGE OF THE YOUNGEST CHILD</th>
<th>3-4</th>
<th>5-6</th>
<th>7 and above</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-6 Months</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>7-9 Months</td>
<td>1</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12 Months</td>
<td>11</td>
<td>22%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-15 Months</td>
<td>7</td>
<td>14%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16-18 Months</td>
<td>3</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-21 Months</td>
<td>1</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22-24 Months</td>
<td>5</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PLACE OF DELIVERY OF THE YOUNGEST CHILD</th>
<th>Hospital</th>
<th>Health Centre</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>31</td>
<td>62%</td>
<td></td>
</tr>
<tr>
<td>Health Centre</td>
<td>19</td>
<td>38%</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>50</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODE OF DELIVERY OF THE YOUNGEST CHILD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal</td>
</tr>
<tr>
<td>Caesarian Section</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

Table 2 shows that 50% of the mothers were in the age group of 26-35 years, 40% in the age group of 15-25 years and 5% in the age group of 36-45 years. The majority of them were married (72%), followed by those who were single (26%) and 2% were separated. Most of them attained college/university level of education (50%), followed by those who attained secondary level (40%) and 10% attain the primary level. About 58% of the mothers have the family monthly income of more than K200,000, 18% had an income of between K100,000 - K149,000, 16% had an income between K150,000 - K200,000, while only 8% had an income of less than K100,000.00.

Furthermore, the table shows that 72% had 1-2 children, 24% had 3-4 child, 2% had 5-6 and another 2% had 7 or more children. About 28% had the youngest children who were
4-6 months old, 22% were between 10-12 months old, 18% were between 7-9 months old, 14% were between 13-15 months old, 10% were between 22-24 months old, 6% were between 16-18 months old and 2% were between 19-21 months old. About 62% of the mothers delivered their youngest children at the hospital, while 38% delivered at the health centre and of these 90% had a spontaneous vaginal delivery and 10% delivered by caesarian section.

### TABLE 3: MOTHERS' RESPONSES ON WHETHER THEY HAD HEARD ABOUT EXCLUSIVE BREAST FEEDING

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>43</td>
<td>86%</td>
</tr>
<tr>
<td>No</td>
<td>7</td>
<td>14%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 shows that 86% of the mothers had heard about exclusive breast feeding while 14% had never heard about it.

### FIGURE 2: RESPONDENTS' SOURCE OF INFORMATION ON EXCLUSIVE BREAST FEEDING

- Friends: 84%
- Relatives: 7%
- Health Care Providers: 7%
- Spouse: 2%
Figure 2 illustrates that the majority (84%) of the mothers had heard about exclusive breast feeding from the health care providers, 7% had heard from friends, and another 7% had heard from relatives. 2% of the respondents had heard from spouse.

Table 4: **RESPONDENTS' RESPONSES ON THE BENEFITS OF EXCLUSIVE BREAST FEEDING**

<table>
<thead>
<tr>
<th>LEVEL OF KNOWLEDGE</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>Inadequate</td>
<td>35</td>
<td>70%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 4 shows that the majority (70%) of the respondents had inadequate knowledge on the benefits of exclusive breast feeding only 30% were knowledgeable.

Table 5: **EDUCATIONAL LEVEL IN RELATION TO AWARENESS OF EXCLUSIVE BREAST FEEDING**

<table>
<thead>
<tr>
<th>EDUCATIONAL LEVEL</th>
<th>THOSE WHO HEARD ABOUT EXCLUSIVE BREAST FEEDING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Primary Level</td>
<td>2(4%)</td>
<td>3(6%)</td>
</tr>
<tr>
<td>Secondary Level</td>
<td>16(32%)</td>
<td>4(8%)</td>
</tr>
<tr>
<td>College/University</td>
<td>25(50%)</td>
<td>0</td>
</tr>
<tr>
<td>Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>43(86%)</td>
<td>7(14%)</td>
</tr>
</tbody>
</table>

Table 5 shows that the majority (50%) of the respondents had attained college/university level of education and all of them have heard about exclusive breast feeding, 40% attained secondary education and 32% of these had heard about exclusive breast feeding only 8% had never heard about exclusive breast feeding. The other 10% attained primary education and only 4% of these had heard about exclusive breast-feeding while 6% had never heard about exclusive breast-feeding.
### TABLE 6: EDUCATIONAL LEVEL IN RELATION TO THE LEVEL OF KNOWLEDGE ON THE BENEFITS OF EXCLUSIVE BREAST FEEDING

<table>
<thead>
<tr>
<th>EDUCATIONAL LEVEL</th>
<th>KNOWLEDGE ON THE BENEFITS OF EXCLUSIVE BREAST FEEDING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INADEQUATE</td>
<td>ADEQUATE</td>
</tr>
<tr>
<td>Primary Level</td>
<td>4 (8%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>Secondary Level</td>
<td>18 (36%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>College/University Level</td>
<td>13 (26%)</td>
<td>12 (24%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35 (70%)</td>
<td>15 (30%)</td>
</tr>
</tbody>
</table>

Table 6 shows that 50% of the respondents had college/UNZA level of education and 24% of these knew the benefits of exclusive breast feeding, while the remaining 26% did not know. 40% had secondary education and most (36%) of them did not know the benefits of exclusive breast feeding.

### TABLE 7: PARITY IN RELATION TO KNOWLEDGE ON BENEFITS OF EXCLUSIVE BREAST FEEDING

<table>
<thead>
<tr>
<th>PARITY</th>
<th>KNOWLEDGE ON THE BENEFITS OF EXCLUSIVE BREAST FEEDING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>INADEQUATE</td>
<td>ADEQUATE</td>
</tr>
<tr>
<td>1-2 Children</td>
<td>25 (50%)</td>
<td>10 (20%)</td>
</tr>
<tr>
<td>3-4 Children</td>
<td>8 (16%)</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>5-6 Children</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>More than 6 Children</td>
<td>1 (2%)</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35 (70%)</td>
<td>15 (30%)</td>
</tr>
</tbody>
</table>

Table 7 shows that, of 70% of the respondents who had inadequate knowledge about the benefits of exclusive breast feeding 50% had 1-2 children, 16% had 3-4 children and the remaining 4% had 5 and more children.
### Table 8: Place of Delivery in Relation to Knowledge on the Benefits of Exclusive Breast Feeding

<table>
<thead>
<tr>
<th>Place of Delivery</th>
<th>Knowledge on the Benefits of Exclusive Breast Feeding</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inadequate</td>
<td>Adequate</td>
</tr>
<tr>
<td>Hospital</td>
<td>21(42%)</td>
<td>10(20%)</td>
</tr>
<tr>
<td>Health Centre</td>
<td>14(28%)</td>
<td>5(10%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>35(70%)</strong></td>
<td><strong>15(30%)</strong></td>
</tr>
</tbody>
</table>

Table 8 illustrates that the majority (62%) delivered in the hospital and 42% of these had inadequate knowledge on the benefits of exclusive breast feeding. Only 20% of those who delivered in the hospital knew the benefits of exclusive breast feeding. 38% of the respondents delivered at a health centre and 28% of these had inadequate knowledge on the benefits of exclusive breast feeding. The remaining 10% were knowledgeable.

### Table 9: Knowledge on the Benefits of Exclusive Breast Feeding in Relation to the Source of Information

<table>
<thead>
<tr>
<th>Knowledge on the Benefits of Exclusive Breast Feeding</th>
<th>Friends</th>
<th>Relatives</th>
<th>Health Care Providers</th>
<th>Spouse</th>
<th>No Source of Information</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate</td>
<td>3(6%)</td>
<td>2(4%)</td>
<td>23(46%)</td>
<td>0</td>
<td>7(14%)</td>
<td>35(70%)</td>
</tr>
<tr>
<td>Adequate</td>
<td>0</td>
<td>1(2%)</td>
<td>13(26%)</td>
<td>1(2%)</td>
<td>0</td>
<td>15(30%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3(6%)</strong></td>
<td><strong>3(6%)</strong></td>
<td><strong>36(72%)</strong></td>
<td><strong>1(2%)</strong></td>
<td><strong>7(14%)</strong></td>
<td><strong>50(100%)</strong></td>
</tr>
</tbody>
</table>

Table 9 illustrates that the majority (70%) of the respondents had inadequate knowledge on the benefits of exclusive breast feeding and 46% of these had heard from a health care provider.
Figure 3 shows that the majority (34%) of the respondents did not exclusively breast feed their babies from birth, 24% exclusively breast fed for a period of 5-6 months and 22% breast fed for 3-4 months. 20% of the respondents only exclusively breast fed their babies for 1-2 months.
Table 10 shows that the majority (55%) of the respondents used infant formula as an alternative feeding method, followed by 11% who fed their babies on infant formula and porridge, and the other 11% who fed their babies on porridge only.
Figure 4 shows that the majority (83%) of the respondents decided to use an alternative feeding method in preparation for work, followed by 9% who said that they had inadequate breast milk while 5% said that the method they chose was convenient. 3% of the respondents were not keen to express breast milk.

**TABLE 11: NUMBER OF RESPONDENTS WHO EXPERIENCED PROBLEMS WHILE USING THE ALTERNATIVE FEEDING METHOD**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>14</td>
<td>37%</td>
</tr>
<tr>
<td>No</td>
<td>24</td>
<td>63%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>38</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 11 shows that 37% of the mothers said that their babies experienced problems associated with the alternative feeding method, while 63% did not experience any problem.
Figure 5 demonstrates that most (79%) of the babies who experienced problems while on the alternative feeding method had diarrhea.

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>38</td>
<td>76%</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>24%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 12 illustrates that the majority (76%) of the respondents gave the fluids to their babies before the age of six months.
TABLE 13: REASONS GIVEN BY RESPONDENTS FOR GIVING FLUIDS TO THEIR BABIES BEFORE THE AGE OF SIX MONTHS

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>As treatment for Jaundice</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>In preparation for work</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Hunger</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>To ease digestion when the baby is on supplementary food</td>
<td>4</td>
<td>10%</td>
</tr>
<tr>
<td>To quench thirst</td>
<td>11</td>
<td>29%</td>
</tr>
<tr>
<td>Necessary for growth</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>My mother told me to do so</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>No response</td>
<td>4</td>
<td>10%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>38</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 13 shows that the majority (29%) of the respondents introduced fluids to quench their babies' thirst, followed by those who said that they gave fluids to their babies when they were hungry.

TABLE 14: TYPE OF FLUIDS INTRODUCED TO BABIES BY THE RESPONDENTS

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and orange juice</td>
<td>26</td>
<td>68%</td>
</tr>
<tr>
<td>Water, orange juice and other fluids</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Water only</td>
<td>4</td>
<td>10.5%</td>
</tr>
<tr>
<td>Water and other fluids</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Water, orange juice and tea</td>
<td>4</td>
<td>10%</td>
</tr>
<tr>
<td>Orange juice and other fluids</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>38</td>
<td>100%</td>
</tr>
</tbody>
</table>
Other fluids – Soups, fresh milk, and glucose

Table 14 shows that 68% of the respondents gave water and orange juice to their babies, 10% gave water only, another 10% gave water, orange juice and tea, 6% gave water plus several other fluids while the other 3% gave water, orange juice plus other fluids.

Figure 6 shows that 50% of the respondents introduced fluids to their babies between the age of 3-4 months, 45% introduced fluids between the age of 0-2 months while 5% introduced fluids to their babies at 5 months.
TABLE 15: **MOTHERS’ RESPONSES ON WHETHER THEY INTRODUCED SOLIDS TO THEIR BABIES**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>49</td>
<td>98%</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 15 shows that 98% of the respondents introduced solids to their babies and only 2% did not.

**TABLE 16: **TYPE OF SOLIDS RESPONDENTS INTRODUCED TO THEIR BABIES**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porridge and Nshima</td>
<td>20</td>
<td>41%</td>
</tr>
<tr>
<td>Porridge and Nshima, plus other foods</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>Porridge and other foods</td>
<td>9</td>
<td>19%</td>
</tr>
<tr>
<td>Nshima and other foods</td>
<td>1</td>
<td>2.0%</td>
</tr>
<tr>
<td>Porridge only</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>Nshima only</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>Other foods</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>49</td>
<td>100%</td>
</tr>
</tbody>
</table>

**KEY**

Other Foods – Custard, blended rice, mashed Irish potatoes and cerelac.

Table 16 shows that 41% of the respondents gave nshima and porridge to their babies and 20% introduced only porridge. 19% of the mothers introduced porridge plus other foods, 6% introduced porridge, nshima and other foods while another 6% introduced nshima.
only. The other 6% of the mothers introduced several foods and the remaining 2% of the mothers introduced nshima and other foods.

**Figure 7** demonstrates that the majority (51%) of the respondents introduced solids to their children between the age of 3-4 months, followed by 31% who introduced the solids between the age of 5-6 months. 12% of the mothers introduced solids after the age of six months and 6% gave solids to their babies between the age of 0-2 months.
Figure 8 shows that 37% of the respondents introduced solids because their babies were not satisfied with breast milk alone, while 33% gave solids to their babies in preparation for work. About 29% of the mothers gave solids because they felt that it was the right time when their babies should be weaned and 1% gave solids when their babies discontinued breast feeding.
Table 17 demonstrates that the majority (50%) of the respondents had attained college/university education 20% of these breast fed their babies exclusively for the period of 5-6 months, while 16% did not exclusively breast feed their babies from birth. 40% of the respondents had attained secondary education, 14% of these did not exclusively breast feed their babies from birth, 24% exclusively breast fed for a period below 5 months and only 2% exclusively breast fed for a period of 5-6 months.

Table 18: **FAMILY MONTHLY INCOME IN RELATION TO THE DURATION WHICH THE CHILD WAS EXCLUSIVELY BREAST FED**

<table>
<thead>
<tr>
<th>FAMILY MONTHLY INCOME</th>
<th>DURATION OF EXCLUSIVE BREAST FEEDING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOT EXCLUSIVELY BREAST FED</td>
<td>1-2</td>
</tr>
<tr>
<td>&lt;K100,000</td>
<td>2(4%)</td>
<td>0</td>
</tr>
<tr>
<td>K100,000-K149,000</td>
<td>2(4%)</td>
<td>4(8%)</td>
</tr>
<tr>
<td>K150,000-K200,000</td>
<td>3(6%)</td>
<td>1(2%)</td>
</tr>
<tr>
<td>&gt;K200,000</td>
<td>10(20%)</td>
<td>5(10%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17(34%)</td>
<td>10(20%)</td>
</tr>
</tbody>
</table>

Table 18 demonstrates that the majority (50%) of the respondents had attained college/university education 20% of these breast fed their babies exclusively for the period of 5-6 months, while 16% did not exclusively breast feed their babies from birth. 40% of the respondents had attained secondary education, 14% of these did not exclusively breast feed their babies from birth, 24% exclusively breast fed for a period below 5 months and only 2% exclusively breast fed for a period of 5-6 months.
Table 18 shows that the majority (34%) of the respondents did not exclusively breastfeed their babies from birth and 20% of these had a family monthly income of more than K200,000.00 and the remaining 14% of the respondents had a family monthly income of less K200,000.00.

**TABLE 19: KNOWLEDGE ON THE BENEFITS OF EXCLUSIVE BREASTFEEDING IN RELATION TO THE DURATION OF EXCLUSIVE BREASTFEEDING**

<table>
<thead>
<tr>
<th>KNOWLEDGE ON THE BENEFITS OF EXCLUSIVE BREASTFEEDING</th>
<th>DURATION OF EXCLUSIVE BREASTFEEDING</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NOT EXCLUSIVELY BREAST FED</td>
<td>1-2 MONTHS</td>
</tr>
<tr>
<td>Inadequate</td>
<td>15 (30%)</td>
<td>9 (18%)</td>
</tr>
<tr>
<td>Adequate</td>
<td>2 (4%)</td>
<td>1 (2%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17 (34%)</td>
<td>10 (20%)</td>
</tr>
</tbody>
</table>

Table 19 shows that 70% of the respondents had inadequate knowledge on the benefits of exclusive breast feeding, 30% of these did not exclusively breastfeed their babies from birth. 30% of the respondents had adequate knowledge on the benefits of exclusive breast feeding but still 4% of these did not exclusively breastfeed their babies from birth while 8% breastfed exclusively for less than five months.

**TABLE 20: RESPONDENTS' RESPONSES ON WHETHER THEY CONTINUED TO EXCLUSIVELY BREASTFEED THEIR BABIES AFTER RESUMING WORK**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>13</td>
<td>26%</td>
</tr>
<tr>
<td>No</td>
<td>37</td>
<td>74%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 20 shows that the majority (74%) of the respondents did not continue with exclusive breastfeeding after returning to work. Only 26% continued to exclusively...
breast feed their babies.

**Figure 9: Respondents' Reasons for Stopping Exclusive Breast Feeding When They Resumed Work**

- 89% failed to express breast milk at their work places with no baby friendly facilities.
- 3% expressed breast milk is unpleasant for them.
- 3% had no knowledge about exclusive breast feeding.

Figure 9 illustrates that the majority (89%) of the respondents stopped exclusive breast feeding because their work places had no baby friendly facilities, while 3% of the respondents stopped because they failed to express breast milk and another 3% stopped because they had no knowledge about exclusive breast feeding.
Figure 10 shows that the majority (82%) of the respondents had no baby friendly facilities at their work places.

TABLE 21: DURATION OF EXCLUSIVE BREAST FEEDING IN RELATION TO BABY FRIENDLY WORK PLACE

<table>
<thead>
<tr>
<th>DURATION OF EXCLUSIVE BREAST FEEDING</th>
<th>BABY FRIENDLY WORK PLACE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Not exclusively breast fed</td>
<td>3(6%)</td>
<td>14(28%)</td>
</tr>
<tr>
<td>1-2 Months</td>
<td>0</td>
<td>10(20%)</td>
</tr>
<tr>
<td>3-4 Months</td>
<td>3(6%)</td>
<td>8(16%)</td>
</tr>
<tr>
<td>5-6 Months</td>
<td>3(6%)</td>
<td>9(18%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>9(18%)</td>
<td>41(82%)</td>
</tr>
</tbody>
</table>
Table 30 shows that most (34%) of the respondents did not exclusively breast feed their babies from birth and 28% of these did not have baby friendly work places. 20% of the respondents exclusively breast fed their babies for 1-2 months and all of them did not have baby friendly working places.

Figure 11 illustrates that the majority (72%) of the respondents' children fell sick after returning to work.
### TABLE 22: MOTHERS' RESPONSES ON THE TYPES OF SICKNESS THEIR BABIES SUFFERED FROM

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria and diarrhea</td>
<td>3</td>
<td>8%</td>
</tr>
<tr>
<td>Malaria and respiratory infections</td>
<td>4</td>
<td>11%</td>
</tr>
<tr>
<td>Diarrhea and respiratory infections</td>
<td>7</td>
<td>19%</td>
</tr>
<tr>
<td>Malaria, respiratory infections and diarrhea</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Malaria, respiratory infections, Diarrhea and other diseases</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Respiratory infections</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>11</td>
<td>30%</td>
</tr>
<tr>
<td>Malaria</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Respiratory infections and other diseases</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Other diseases</td>
<td>3</td>
<td>8%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>36</td>
<td>100%</td>
</tr>
</tbody>
</table>

OTHER DISEASES: Wound, vomiting, constipation, fever, earache and measles.

Table 22 shows that the majority (30%) of the respondents' children suffered from diarrhea, followed by those who suffered from diarrhea and respiratory infection.

### TABLE 23: MOTHERS’ RESPONSES ON WHETHER THEY WERE OFF DUTY DUE TO THEIR BABIES’ SICKNESS

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>35</td>
<td>70%</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>30%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 23 shows that the majority (70%) of the respondents took days off from work due to their children's sickness.
Figure 12 shows that the majority (71%) of the respondents were absent from work for 1-7 days, followed by 26% who took 8-14 days off due to their children’s sickness.

Figure 13 shows that the majority (94%) of the respondents also took some hours off the work schedule to attend to their sick children.
### TABLE 24: DURATION OF EXCLUSIVE BREAST FEEDING IN RELATION TO CHILD BEING SICK

<table>
<thead>
<tr>
<th>DURATION OF EXCLUSIVE BREAST FEEDING</th>
<th>CHILD BEING SICK</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
<td>TOTAL</td>
</tr>
<tr>
<td>Not exclusively breast fed</td>
<td>14(28%)</td>
<td>3(6%)</td>
<td>17(34%)</td>
</tr>
<tr>
<td>1-2 Months</td>
<td>9(18%)</td>
<td>1(2%)</td>
<td>10(20%)</td>
</tr>
<tr>
<td>3-4 Months</td>
<td>10(20%)</td>
<td>1(2%)</td>
<td>11(22%)</td>
</tr>
<tr>
<td>5-6 Months</td>
<td>3(6%)</td>
<td>9(18%)</td>
<td>12(24%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>36(72%)</td>
<td>14(28%)</td>
<td>50(100%)</td>
</tr>
</tbody>
</table>

Table 24 shows that the majority (34%) of the respondents did not exclusively breast feed their babies from birth and 28% of these had children who got sick after they returned to work and 20% of the respondents who exclusively breast fed their babies for 1-2 months, 18% of them had children who got sick. Similarly, 22% exclusively breast fed their babies for 3-4 months 20% of them had children who got sick.

### TABLE 25: DURATION OF EXCLUSIVE BREAST FEEDING IN RELATION TO THE MOTHER'S ABSENCE DUE TO SICK CHILD

<table>
<thead>
<tr>
<th>DURATION OF EXCLUSIVE BREAST FEEDING</th>
<th>MOTHER'S ABSENCE DUE TO THE SICK CHILD</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
<td>TOTAL</td>
</tr>
<tr>
<td>Not exclusively breast fed</td>
<td>16(32%)</td>
<td>1(2%)</td>
<td>17(34%)</td>
</tr>
<tr>
<td>1-2 Months</td>
<td>9(18%)</td>
<td>1(2%)</td>
<td>10(20%)</td>
</tr>
<tr>
<td>3-4 Months</td>
<td>10(20%)</td>
<td>1(2%)</td>
<td>11(22%)</td>
</tr>
<tr>
<td>5-6 Months</td>
<td>0</td>
<td>12(24%)</td>
<td>12(24%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35(70%)</td>
<td>15(30%)</td>
<td>50(100%)</td>
</tr>
</tbody>
</table>

Table 25 shows that of the 34% of respondents who did not exclusively breast feed their babies from birth 32% absented from work due to the illness of their babies. 20% exclusively breast fed for 1-2 months and 18% of them absented from work due to the
illness of their babies. 22% of the respondents exclusively breast fed for 3-4 months and 20% of them were absent due to their children’s illness. While those who exclusively breast fed their babies (24%) for 5-6 months none of them were absent due to their children’s illness.

**TABLE 26: MOTHERS’ RESPONSES ON WHETHER THEY BECAME SICK AFTER RETURNING TO WORK**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>62%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 26 shows that 38% of the respondents fell sick after returning to work.

**TABLE 27: TYPE OF SICKNESS THE MOTHER SUFFERED FROM**

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaria</td>
<td>8</td>
<td>42%</td>
</tr>
<tr>
<td>Malaria and respiratory infections</td>
<td>3</td>
<td>16%</td>
</tr>
<tr>
<td>Malaria and abdominal pains</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Respiratory infections</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>Malaria, respiratory infections and others</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Respiratory infections and others</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>Other diseases</td>
<td>2</td>
<td>10%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19</td>
<td>100%</td>
</tr>
</tbody>
</table>

**KEY**

Others: Headache
Sneezing
Asthma
Toothache

Table 27 demonstrates that 42% of the respondents suffered from malaria, followed by 16% who suffered from malaria and respiratory infections.
Table 28 shows that 38% of the respondents fell ill after returning to work and the majority (26%) of these returned to work 2-3 months after delivery.

Table 29 shows that the majority (44%) of the respondents suggested to have breastfeeding breaks, followed by 38% of the respondents who suggested for an extension of maternity leave from 90 days to 120 days.

### Table 28: Period When the Mother Returned to Work in Relation to Her Falling Sick Afterwards

<table>
<thead>
<tr>
<th>WHEN THE MOTHER RETURNED TO WORK</th>
<th>SICK AFTER RETURNING TO WORK</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>2-3 months after delivery</td>
<td>13(26%)</td>
<td>17(34%)</td>
</tr>
<tr>
<td>4-5 months after delivery</td>
<td>5(10%)</td>
<td>13(26%)</td>
</tr>
<tr>
<td>6 months after delivery</td>
<td>1(2%)</td>
<td>1(2%)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19(38%)</td>
<td>31(62%)</td>
</tr>
</tbody>
</table>

### Table 29: Suggestions to Encourage Working Women to Exclusively Breast Feed Their Babies

<table>
<thead>
<tr>
<th>RESPONSES</th>
<th>FREQUENCY</th>
<th>PERCENTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension of maternity leave from 90 days to 120 days</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td>To have creches at work places</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>To have breast feeding breaks</td>
<td>22</td>
<td>44%</td>
</tr>
<tr>
<td>Employers to provide transport for mothers to breast feed their babies during lunch time</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>To teach mothers on the importance of exclusive breast feeding</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>50</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 29 shows that the majority (44%) of the respondents suggested to have breastfeeding breaks, followed by 38% of the respondents who suggested for an extension of maternity leave from 90 days to 120 days.
CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS

5.1 INTRODUCTION

The results were based on the analysis of the responses from 50 respondents drawn from 5 organisations in Lusaka namely: University Teaching Hospital, Zambia State Insurance Corporation Limited, Bella Industry, Agriflora and Care International.

The study aimed at determining the factors affecting productivity among breast-feeding working mothers in the child bearing age (15-45 years). All the respondents were in formal employment and their youngest children were aged between 1 (one) month to 24 months. They had different age groups, parity, marital status, educational level and occupation.

5.2 DEMOGRAPHIC DATA

The demographic data (Table 2, p 39) revealed that the majority (50%) of the respondents were in the age group of 26-35 years, and 40% were in the age group of 16-25 years. This suggests that the Zambian population has more youths. It is also evident the study sample consisted of adolescents and young mothers. This could be due to the fact that these were in the active reproductive and productive age and were more likely to have children at the same time be engaged in different occupation.

The study also showed that 72% of the respondents were married and 26% were single.
This could be due to the fact that in the Zambian culture marriage is universal so every Zambian woman want to get married. All the respondents in this study had formal education, for example, 50% had attained higher education (College/university), 40% had secondary education and 10% had attained Primary education level. This could be alluded to the fact that most institutions consider educational attainment before offering an employment and those who have low education are rarely found in formal employment. Fifty-eight percent of the respondents had a family monthly income of more than K200,000, 16% earned between K150,000 – K200,000, 18% had a monthly income ranging between K100,000-K149,000 and 8% had an income of less than K100,000. This suggests that those respondents who had the monthly income of less than K200,000 were not able to meet the basic requirements which included food, because the poverty datum line is below K200,000.

The demographic data further revealed that 72% of the respondents had 1-2 children, 24% had 3-4 children, 2% had 5-6 children and another 2% had 7 or more children. This suggests that most mothers who had 1-2 children are young working mothers who are likely to bear more children and would need protection and support to exclusively breast feed their babies when they return to work. Furthermore, all the respondents in this study delivered their youngest children at health institutions, that is either at the hospital (62%) or health centre (38%). These institutions had BFHI status and health workers were supposed to teach the management of exclusive breast feeding to their clients.
5.3 KNOWLEDGE ON EXCLUSIVE BREAST FEEDING

Table 3 (p41) reveals that 86% of the respondents had heard about the benefits of exclusive breast feeding, while 14% had never heard about exclusive breast feeding. The source of information of those (84%) who had heard about the benefits of exclusive breast feeding was the health worker. Although the majority of the respondents had heard about exclusive breast feeding from a health worker, a large number (70%) of them had inadequate knowledge on the benefits of exclusive breast feeding. The study sought to establish the relationship between respondent's educational level and the knowledge on the benefits of exclusive breast feeding. It was found out that the educational level did not have a significant effect on the level of knowledge on the benefits of exclusive breast feeding because there was a high percentage (36%) of the respondents with inadequate knowledge among those who had secondary education and it was not significant among those who had college/university education. One would expect those with high education to understand the concepts better than those with low education. This was not the case in this study (Table 6, p43).

Seventy percent of the respondents had inadequate knowledge on the benefits of exclusive breast feeding and most of these (50%) had 1-2 children (Table 7, p43). This implies that these mothers did not have adequate exposure to the information on the subject. This could be due to the fact that the teachings were only done routinely during antenatal period and delivery, where one is likely to miss the opportunities if she books late or has complications during labour.
Although the respondents delivered in the health institutions (Table 2, p39) with BFHI status, the study showed that 70% of them (Table 8, p44) had inadequate knowledge on the benefits of exclusive breast feeding. Furthermore, the study results revealed that some of the respondents (46%) who received information on exclusive breast feeding from health care providers had inadequate knowledge on its benefits (Table 9, p44). This implies that the health education given by health care providers to the clients was inadequate and not effective.

5.4 SUSTENANCE OF EXCLUSIVE BREASTFEEDING

The study revealed that the majority (34%) of the respondents did not exclusively breast feed their babies from birth, 20% exclusively breast fed for only 1-2 months, 22% exclusively breast fed for 3-4 months. Twenty-four percent of the respondents managed to exclusively breast feed their babies for 5-6 months (Figure 3, p45). This implies that the sustenance of exclusive breast feeding is still very low. However, there is slight improvement in that some respondents (24%) managed to exclusively breast feed for 5-6 months, unlike the results in the study done by Hambayi, et al (1997) in an evaluation report of the breast feeding practices in hospitals and communities where they observed that no one exclusively breast fed their baby up to 6 months. Those who did not exclusively breast feed their babies gave various reasons for choosing an alternative baby feeding method. Among those who choose an alternative feeding method a large percentage (83%) decided to use an alternative method in preparation for work (Figure 4, p46). These results were similar to those in a study which was carried out on working
women, maternity entitlement and breast feeding by Haider and Gegum in Dhaka, Bangladesh in 1999, where it was found out that the median age of starting complementary feeds was 41 days in preparation to resuming work. This suggests that the conditions at the workplace had an influence on the mother’s choice of feeding method for the baby.

In this study it was discovered that the babies of the respondents who used alternative feeding methods experienced various problems, for example, 79% of the babies experienced diarrhea, 14% had abdominal pains and 7% experienced constipation (Table 11, p47 and figure 5, p48). This is attributed to the fact that the human baby's gastrointestinal tract is not yet well developed in the first six months to absorb most feeds other than human breast milk. In addition, the baby's gut is a sterile environment in the first life without necessary normal organisms to help with food digestion. Introduction of feeds other than breast milk is likely to lead to malabsorption and introduction of harmful microbes leading to increased incidence of diarrhea.

The study findings revealed (Tables 12-13, p48-49) that the majority (76%) of the respondents introduced fluids to their babies before the age of six months and some of the reasons given for introducing the fluids early were, the baby felt thirst (29%), the baby was hungry (24%), as treatment for jaundice (16%) and to ease digestion when the baby is on complementary food (10%). This is attributed to the cultural belief that the baby feels thirsty. The common fluids given to babies were water, orange juice, tea, soups, and glucose. These fluids were introduced as early as from birth (Tables 14, p49 and
Figure 6, p50). Furthermore, most (98%) of the respondents introduced solids to their babies and more than half (51%) of these introduced solids between the age of 3-4 months and six percent (6%) gave solids to their babies between the age of 0-2 months (Tables 15, p51 and Figure 7, p52). Freud in his study “Breast-feeding knowledge, attitudes and practice, survey analysis of results, report in Zambia” in 1992, conducted in UTH gave similar observations. He discovered that the mothers presenting at the hospital diarrheal unit introduced fluids such as water and tea as early as 24 hours of the baby’s life. In addition, food such as cereals and eggs were introduced at two weeks or less.

Table 18 (p54) shows that a high proportion (34%) of the respondents did not exclusively breast feed their babies and 20% of these had a family monthly income of more than K200,000. This could be attributed to the fact that these were from high income group and could afford purchasing the breast milk substitutes which could be regarded as a sign of prestige and better life styles. On the other hand, those who had the family monthly income of less than K200,000 did not exclusively breast feed their babies for the required period. This could be due to inadequate knowledge on the benefits of exclusive breast feeding, it could also be due to influence by parents, peers or culture, etc. One would expect those from low economic status to exclusively breast feed their babies for longer period because they cannot afford to buy the breast milk substitutes.

The study findings revealed that most (70%) of the respondents had inadequate knowledge on the benefits of exclusive breast feeding and 30% of these did not exclusively breast feed their babies from birth, 18% exclusively breast fed for 1-2 months.
and 16% did it for 3-4 months (Table 19, p55). This shows that knowledge on the concept has an influence on whether the mother is going to decide to exclusively breast feed her baby or not. These results are similar to those in the study done by Nyimbili (1998) where he observed that the majority of the respondents neither knew nor understood what exclusive breast feeding meant and he attributed it to be the cause of the low percentages of the practice of exclusive breast-feeding.

5.5 **BABY FRIENDLY WORK PLACE**

In this study the respondents were drawn from 5 organisations and only one of these had the baby friendly facilities.

The study findings revealed that 74% of the respondents did not continue with exclusive breast feeding after returning to work and 89% of these indicated that their work place had no baby friendly facilities (Tables 20 and Figure 9, p55-56). It was also observed that 34% of the respondents did not exclusively breast feed their babies from birth and 28% of these did not have baby friendly work places (Table 21, p57). This concurs with the hypothesis of the study which stated that the mothers who work at baby friendly work places are likely to continue with exclusive breast feeding after returning to work. Miller, et al (1996) had similar results in a cross-sectional study to determine how employment as resident physician affects breast feeding practices and experience, in Springfield, USA which revealed that the residency work schedule was the common reason for discontinuing breast feeding. Similarly, Rea, et al (1994) in an exploratory study of possibilities and limitations of breast feeding among the formally employed women in 13
factories of Sao Paulo city of Brazil identified the following as factors associated with longer duration of exclusive breast feeding: Socio-economic status, nursery facilities and existence of a place to extract and store the mother’s milk at work place. Duration of exclusive breast-feeding was longer among women with support for breast feeding at work and shorter for those working on weekends and doing shift work. This could be alluded to the fact that the ability to express milk for later feeding when away from infant might influence the mother’s decision to continue breast feeding even after she has returned to work. Nevertheless, among the respondents who had baby friendly facilities at their work place, 6% did not exclusively breast feed their babies from birth and they gave different reasons for choosing an alternative feeding method. This could be attributed to attitude and personal preferences which were not assessed in this study.

5.6 PRODUCTIVITY OF MOTHERS

The study findings revealed that 72% of the respondents had babies who fell ill after they returned to work and 28% of them did not exclusively breast feed their babies from birth, 18% exclusively breast fed for 1-2 months, 20% exclusively breast fed for 3-4 months and only 8% of them exclusively breast fed for 5-6 months (Table 24, p61). These babies suffered from various diseases which included diarrhea, malaria, respiratory infections, earache and fever (Table 22, p59). Perhaps these babies suffered from these infections because of lowered immunity or lack of the protective effect of breast milk or lack of antibodies. It was also observed that most (70%) of the respondents who had sick children took 1-7 days off from work due to their children’s sickness, and 26% took 8-14 days (figure 12, p60). Furthermore, 94% of the respondents took additional hours off.
from their work schedule to attend to their sick children (figure 13, p60). All those who were absent from work due to their children's illnesses exclusively breast fed their babies for less than 5 months. For instance, table 25 (p61) revealed that 34% of the respondents did not exclusively breast feed their babies from birth and 32% of them were absent from work due to their babies' illnesses, 20% exclusively breast fed for 1-2 months and 18% of them were absent from work, 22% exclusively breast fed their babies for 3-4 months and 20% of them were absent from work due to their children's illnesses. On the other hand those who exclusively breast fed their babies for 5-6 months, none of them were absent from work due to their children's illness. This is attributed to the fact that babies who are not exclusively breast fed for the first 6 months are at risk of contracting infections such as diarrhea and respiratory infections because they are deprived of the antibodies found in the mother's breast milk which protects the baby. It is more likely that the mothers with the sick children would absent themselves from work to care for their sick babies. These results are similar to those in the study by Cohen, et al (1995) which compared maternal absenteeism and infant illness rates among breast feeding and formula-feeding women in two corporations in USA which revealed that breast fed babies had statistically fewer absences: only 25% of all one-day maternal absences were by mother breast feeding compared to 75% for the formula-fed group.

The study findings further revealed that 38% of the respondents fell ill after returning to work and 26% of these returned to work after 2-3 months of delivery (Table 28, p63). These mothers suffered from various diseases which included malaria, abdominal pains, and respiratory infections (Table 27, p62). This could be due to the fact that mothers
returned to work too soon before their healing process was over. Gjerdingen, et al (1993) confirmed this in a study conducted in Minneapolis, USA which determined the changes in the woman's physical health during the first post partum year. It was observed that the physical symptoms at higher prevalence at one month post partum were: breast symptoms, vaginal discomfort, fatigue, hemorrhoids, poor appetite, constipation, increased sweating, numbness or tingling, dizziness and hot flashes. Several of these disorders persisted beyond one month and were joined by other problems such as urinary tract infections and respiratory symptoms (the women who returned to the workforce noted more symptoms of respiratory infections). It was concluded that healing from child birth requires more than six weeks. UNICEF (1998) also affirmed this fact when stated that healing process of the woman who has given birth completes at 4 months. The women who return to work in early weeks of post partum are likely to experience debilitating physical and emotional stress affecting their productive and reproductive lives. This agrees with the research second hypothesis which states that failure to exclusively breast feed the baby affects the child and maternal health which in turn affects the mother's productivity at her work place.

5.7 SUMMARY

Finally, the study findings revealed that the majority (70%) of the working mothers have inadequate knowledge on the benefits of exclusive breast feeding and that most of the respondents (34%) did not exclusively breast feed their babies from birth. Therefore inadequate knowledge on the benefits of exclusive breast feeding, lack of baby friendly facilities at workplace and short maternity leave are the major factors attributed to low
sustenance in breast feeding working mothers which also altered the child and maternal health. This in turn affected the productivity of the breast feeding working mothers due to absenteeism.

5.8 HEALTH SYSTEMS IMPLICATIONS

The study findings revealed that majority (86%) of the respondents had heard about exclusive breast feeding and their main source of information were the health care providers (84%). However, the scope of awareness is uncertain because most (70%) of them seemed to have inadequate knowledge when they were asked about the concept and its benefits. One would wonder whether there is real teaching taking place in our health institutions. This is an indication that there is slothfulness in the manner the information is transmitted, resulting in some clients not being exposed to the whole truth about the concept. Equipping clients with adequate knowledge on exclusive breast feeding will empower the working mothers to make an informed choice on the best method of feeding the child and practice it in an efficient manner. Some use the breast milk substitutes because they do not know the benefits of feeding the child on breast milk only for the first six months of life. Therefore, there is need for health workers to change the approach of disseminating information to the clients. Information should be accessible to all, especially to the women in the childbearing age. This could be achieved by providing the information on exclusive breast feeding at any level of contact with them rather than limiting it to the antenatal and delivery periods. The health workers should also consider incorporate management of exclusive breast-feeding as a topic to be taught during the school health and youth friendly services. In addition, they can work in collaboration
with Ministry of Education so that exclusive breast-feeding is included in the educational curriculum to expose the pupils and youth to the concept early.

A few respondents received information on exclusive breast-feeding from friends and relatives, but they also exhibited inadequate knowledge. Secondly, there are no support groups in the work places. This calls for the health workers to promote community involvement in dissemination of information. This can be achieved by forming breast feeding mother support groups in the work places and encouraging the existing mother support groups in the community to be active. This will enhance dissemination of the right information to the mothers. It will also encourage mother to mother counseling for those who will encounter difficulties in the sustenance of exclusive breast-feeding and allay any anxieties.

One of the respondents said that she received information on exclusive breast-feeding from her spouse and she was among those who had adequate knowledge on the benefits of the concept. This shows how beneficial it would be if men are involved in the support, protection and promotion of exclusive breast feeding. I would exhort the health workers to involve the men in this battle. They can put in place the networks which will reach men in their workplaces and homes so that they will have adequate knowledge which they can later transmit to their spouses. This will also enable them to give proper counsel to their wives. Above all, these are the men who could be employers or be in decision making positions so empowering them with knowledge would quicken the process of putting in place baby friendly facilities in many organisations.
Furthermore, it was observed that most of the organisations had no baby friendly facilities. This caused the mothers to discontinue exclusive breast-feeding after returning to work. There is need for the health workers to work as collaborating partners with the employers so that they will appreciate the benefits of helping the mothers to continue exclusive breast feeding after returning to work. This will assist the mothers to undertake both reproductive and productive roles efficiently.
CHAPTER SIX

6.0 CONCLUSION

This study sought to determine the factors affecting productivity among the breast feeding working mothers. This was done in the quest of finding ways of helping the breast feeding mothers to perform their reproductive and productive roles with minimal difficulties.

It was observed that most mothers did not exclusively breast feed their babies from birth, others did it for less than five months and only a few exclusively breast fed their babies for 5-6 months. The factors alluded to poor practice of exclusive breast feeding among working mothers are: Inadequate knowledge on exclusive breast feeding and its benefits, short maternity leave, lack of baby friendly facilities at work places and lack of support networks among the working mothers.

It was also revealed that the babies who were not exclusively breast fed had recurrent attacks of illnesses which included diarrhoea, malaria, respiratory infections and others. The illnesses of the children caused the mothers to be absent from work for some days and hours off the work schedule to take care of their sick children.

The mothers were only entitled to 90 days maternity leave, which made some of them report for work 2-3 months after delivery. Some of them fell ill after returning to work which resulted in some being absent from work due to illness.
From the above findings we can conclude that failure to sustain exclusive breast feeding and providing mothers with adequate time to rest after delivery, affect the child and maternal health which in turn affect the mother’s productivity due to absenteeism.

There is therefore need for health care providers, employers and other stakeholders to work together so as to help the breast feeding working mothers to perform their reproductive and productive roles efficiently.

6.1 **RECOMMENDATIONS**

In view of the findings, the following recommendations were made:

6.1.1 **TO THE MINISTRY OF HEALTH**

1. To revamp the Baby Friendly Hospital Initiative (BFIH) activities in the health institutions by putting clear policies on the promotion, protection and support of breast-feeding.

2. To train more health care providers on the management of exclusive breast-feeding. This will enable the health care providers to give appropriate services to all the clients and will enhance the dissemination of right information on the concept to the mothers.

3. To work in collaboration with Ministry of Education so that exclusive breast-feeding is included in the educational curriculum to expose the pupils to the
concept at an early stage. This will encourage the adoption of exclusive breast-feeding.

4. To undertake the research at a larger scale because the findings in this study cannot be generalised to all breast feeding working mothers and organisations in the country since the sample size was small.

6.1.2 TO DISTRICT HEALTH MANAGEMENT TEAM (DHMT)

1. The DHMT should periodically conduct workshops and seminars on the management of exclusive breast feeding so that the health care providers will be kept abreast with the new information on the concept to dispel any misconceptions. This will enable them to give appropriate information to the clients.

6.1.3 TO HEALTH CENTRES

1. The health care providers should change the approach of dissemination of information to clients. This can be achieved by providing the information on exclusive breast feeding at any level of contact with the mothers, rather than restricting it to the antenatal and delivery periods. Also by making the information accessible to the mothers through the media, distribution of the pamphlets written in various languages and putting the posters with information on exclusive breast feeding in strategic places like the markets, bus stops and health institutions. This will help in exposing a large number of the mothers to
the concept.

2. The health centre staff should strengthen the community support networks by retraining the existing mother support groups in the community and forming new ones where there is none. These will help in the dissemination of information to other members of the community and counsel those facing difficulties in the sustenance of exclusive breast-feeding.

3. Health care providers should ensure that information on exclusive breast feeding is accessible to men, by involving them in the training programs and giving them pamphlets so as to make them knowledgeable on the concept. This will enable them to give the right counsel to their spouses.

4. The health care providers should make the services user friendly by being polite and supportive to breast feeding mothers especially those who are finding some difficulties in the management of exclusive breast-feeding. The mothers should be free to consult them whenever in doubt.

5. The health care providers should consider exclusive breast feeding management as a topic to be taught during the school health services and youth friendly services so that the pupils and youth are exposed to the concept early.

6.1.4 TO NATIONAL FOOD AND NUTRITION COMMISSION

1. The National Food and Nutrition Commission should evaluate the BFHI activities in the health institutions, so that appropriate guidance is given in the areas of inefficiency.
2. The National Food and Nutrition Commission should sensitise the stakeholders (the Ministry of Labour and Social Security, the employers, unions and other Non-Governmental Organisations) on the International Labour Organisations recommendations of June 2000, so that they may consider adopting them.

3. The National Food and Nutrition Commission (NFNC) should do continuous surveillance on the adherence of the code of marketing on breast milk substitutes so that the mothers are not misled.

6.1.5 TO MINISTRY OF LABOUR AND SOCIAL SECURITY

1. To enact the International Labour Organisation (ILO) recommendations for maternity protection convention 2000 so that it can become law, and give guidance on the same.

6.1.6 TO EMPLOYERS

1. To provide the baby friendly environment in their organisations in order to encourage mothers to exclusively breast-feed their babies for longer periods.

2. To put in place the explicit policies on support, protection, and promotion of exclusive breast feeding in their organisations.

3. To promote the establishment of breast feeding support networks in their organisations.
6.2 **LIMITATIONS OF THE STUDY**

1. The funds were inadequate and it affected the size of the study sample.

2. The study sample was very small and restricted to Lusaka, so the findings of this study cannot be generalised to all breast feeding working mothers and organisations in the country.

3. There was limited literature, as no study has been done in Zambia on the same topic.
CHAPTER SEVEN

7.0 REFERENCES


APPENDIX I

THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF POST BASIC NURSING

TOPIC: Data collection on the factors affecting productivity among the breast feeding working mothers in the childbearing age, in Lusaka Urban with reference to the formal sector.

QUESTIONNAIRE NUMBER: .................................................................

NAME OF THE WORKING PLACE: .....................................................

DATE: .................................................................................................

INSTRUCTIONS TO THE RESPONDENT

1. The study involves factors affecting productivity among breast feeding working mothers in the child bearing age.

2. Do not write your name on the questionnaire.

3. Please tick ☑ the appropriate answer or write your comments in the space provided.

NOTE: The information you give is highly confidential.
SECTION A: DEMOGRAPHIC DATA

1. How old were you on your last birth day? 

2. What is your marital status?
   (a) Single 
   (b) Married 
   (c) Divorced 
   (d) Separated 
   (e) Widowed 

3. What highest level of education did you attain?
   (a) No education 
   (b) Primary (Grade 1-7) 
   (c) Secondary (Grade 8-12) 
   (d) College/University 

4. What is your family monthly income?
   (a) Less than K100,000 
   (b) K100,000 – K150,000 
   (c) K150,000 – K200,000 
   (d) More than K200,000 

5. How many children do you have? 

6. What is the age of your youngest child? 

7. Where did you deliver your last baby?
   (a) Hospital 
   (b) Health centre 
   (c) Home 

8. What was the mode of delivery?
(a) Vaginal
(b) Caesarean section
(c) Instrumental
(d) Others specify

SECTION B: KNOWLEDGE ON EXCLUSIVE BREAST FEEDING:

9. Have you ever heard of exclusive breast-feeding? (Feeding the baby on breast milk only)
(a) Yes
(b) No

10. If yes, which was your source of information on exclusive breast-feeding?
(a) Friends
(b) Relatives
(c) Health care providers
(d) Spouse
(e) Community breast-feeding support group.

11. What are the benefits of exclusive breast-feeding?

12. Do you consider exclusive breast-feeding as essential for child survival?
(a) Yes
(b) No
13. If ‘No’, give reasons

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SECTION C: SUSTENANCE OF EXCLUSIVE BREAST FEEDING

14. How long have you exclusively breast fed your baby?
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15. If your baby is not exclusively breast fed, what alternative feeding methods are you using on your baby?
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16. Why did you choose to use the alternative feeding method?
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17. Has your baby experienced any problems associated with the alternative feeding method you are using?

(a) Yes □
(b) No □
18. If 'Yes' what problems has your child experienced?

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19. Did you give fluids (including water) to your Child before the age of six months?
   (a) Yes  
      
   (b) No  

20. If 'Yes', why did you give your baby fluids?

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21. What type of fluids did you give? (If more than one please list them).

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22. At what age did you first give the fluids to your baby?

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23. If 'No' why do you think water should not be given to exclusively breast fed babies?

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24. Have you ever given solids to your child since birth?
   (a) Yes  
      
   (b) No  

25. If ‘Yes’, what type of solids have you given?

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26. At what age did you introduce solids to your child?

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27. Why did you introduce solids at this age?

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SECTION D: BABY FRIENDLY WORK PLACE

28. How old was your baby when you returned to work?

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29. How long was your maternity leave? .................

30. Who looks after your baby when you are at work?

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31. Have you continued exclusive breast-feeding after returning to work?

(a) Yes □ □
(b) No □ □

32. If ‘yes’ how do you manage to combine exclusive breast feeding and work?

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33. If you are not exclusively breast feeding, what does your child eat when you are away?

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34. What made you stop exclusive breast-feeding when you started work?

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35. Do your employers give you breast-feeding breaks during working hours?

(a) Yes □
(b) No □

36. If 'yes', how long is your break?

(a) 30 minutes □
(b) 30 minutes – 1 hour □
(c) 1 – 1½ hours □

37. Do you have a place at your working place where you can express or pump breast milk and store it?

(a) Yes □
(b) No □

38. Do you have a crèche at your working place?

(a) Yes □
(b) No □

39. What other facilities have your employer put in place to support breast feeding? Explain.

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SECTION E: PRODUCTIVITY OF THE MOTHERS

40. Has your child been sick since you returned to work?   FOR OFFICIAL USE

   (a) Yes   
   (b) No

41. If ‘Yes’ what was he/she suffering from? (List all of them if they are more than one).

42. How many times has he/she been sick?

43. Have you been off from work because of your child’s sickness?

   (a) Yes   
   (b) No

44. If ‘Yes’ how many day-offs have you taken so far because of your child’s sickness?

45. Have you taken some hours off your work schedule to attend to your sick child?

46. Have you been sick since you returned to work?

   (a) Yes   
   (b) No

47. If ‘Yes’ what were you suffering from? (If more than one, please list them all).

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   ....................................................................................
   ....................................................................................
48. How many times have you been off from work because of sickness?

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49. What best can be done to encourage working women to exclusively breast feed their babies? Please give suggestions.

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THANK YOU VERY MUCH FOR YOUR CO-OPERATION
14th June 2000

The Permanent Secretary
Ministry of Labour and Social Security
P.O. Box 32186
LUSAKA

U.F.S.
Head
Department of Post Basic Nursing

Dear Sir/Madam,

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

I am a fourth year student, pursuing a degree in Nursing at the University of Zambia, School of Medicine. In partial fulfilment of studies, I am required to undertake a research study. The topic of my research study is to determine factors affecting productivity among breast feeding working mothers in the child bearing age with reference to the formal sector. I am therefore asking for permission to undertake the study in the formal organisations in Lusaka during the period of July-August 2000.

Thanking you in anticipation.

Yours faithfully,

Emily Chipaya
14th June 2000

The Director
Lusaka Urban District Health
P.O. Box
LUSAKA

Dear Sir/Madam,

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

I am a fourth year student, pursuing a degree in Nursing at the University of Zambia, School of Medicine. In partial fulfilment of studies, I am required to undertake a research study. I am therefore asking for permission to do a Pilot Study at Chilenje Health Centre. My study topic is: “To determine factors affecting productivity among breast feeding working mothers in child bearing age with reference to the formal sector.” My target population will be the workers with children who are less than 24 months old.

Thanking you in anticipation.

Yours faithfully,

Emily Chipaya
Dear Sir/Madam,

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

I am a fourth year student pursuing a degree in Nursing at the University of Zambia, School of Medicine. In partial fulfilment of studies, I am required to undertake a Research Study. My study topic is: "To determine factors affecting productivity among breast-feeding working mothers in child bearing age with reference to the formal sector".

I am, therefore, asking for permission to do a study at your institution in August 2000. My target population will be workers with children who are less than 24 months (2 years) old.

Enclosed is a written permission from the Ministry of Labour and Social Security.

Thanking you in anticipation.

Yours faithfully,

Emily Chipaya
FOURTH YEAR STUDENT

Encls.
Th Director
State Insurance Corporation
LUSAKA

U.F.S.: The Head of Department, POST BASIC NURSING

Dear Sir/Madam,

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Enclosed is a written permission from the Ministry of Labour and Social Security.

Thanking you in anticipation.

Yours faithfully,

Emily Chipaya
FOURTH YEAR STUDENT

Encls
The University of Zambia  
School of Medicine  
Department of Post Basic Nursing  
P.O. Box 50110  
LUSAKA  

9th August, 2000

U.F.S. : The Head of Department, Post Basic Nursing

Dear Sir/Madam,

RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY

I am a fourth year student pursuing a degree in Nursing at the University of Zambia, School of Medicine. In partial fulfilment of studies, I am required to undertake a Research Study. My study topic is: “To determine factors affecting productivity among breast-feeding working mothers in child bearing age with reference to the formal sector”.

I am, therefore, asking for permission to do a study at your institution in August 2000. My target population will be workers with children who are less than 24 months (2 years) old.

Enclosed is a written permission from the Ministry of Labour and Social Security.

Thanking you in anticipation.

Yours faithfully,

Emily Chipaya
FOURTH YEAR STUDENT

Encls
17th July, 2000

Ms. Emily Chipaya
University of Zambia
School of Medicine
Department of Post Basic Nursing
p.o. box 50110
LUSAKA

RE: PERMISSION TO UNDERTAKE A RESEARCH IN FORMAL ENTERPRISE

Your minute of even date 14th June, 2000 regarding the above matter refers.

My office on behalf of the Permanent Secretary, having considered the matter in the context of academic pursuit, has no objection to the study being undertaken in formal organisation in Zambia:

Therefore, you have our full support and permission to do so. I therefore, commend you to all the respondents for cooperation and assistance.

Allan A. Phiri
PRINCIPAL CONSULTANT
FOR DIRECTOR
DEPARTMENT OF PRODUCTIVITY DEVELOPMENT
MINISTRY OF HEALTH
LUSAKA DISTRICT HEALTH MANAGEMENT BOARD

26th June, 2000

The University of Zambia
School of Medicine
Department of Post Basic Nursing
P.O. Box 50110
LUSAKA.

Dear Madam,

RE: STUDY ON FACTORS AFFECTING PRODUCTIVITY AMONG BREAST-FEEDING WORKING MOTHERS IN CHILD BEARING AGE

Authority has been granted for you to undertake the above study in our Health Centre.

The study results will be of interest to the DHMT so we would appreciate if results of the study will be made available to us.

Thank you,

Dr. B. Tambatamba-Chapula
Acting Manager Planning and Development