AN EXPLORATORY STUDY ON FACTORS ASSOCIATED WITH EXCLUSIVE BREASTFEEDING IN CHELSTONE - ZAMBIA

by

CHIMUKA NCHIMUNYA

A Dissertation submitted to the University of Zambia in partial fulfilment of the requirements for the Master degree in Public Health

UNIVERSITY OF ZAMBIA

LUSAKA

JULY 2014

DECLARATION

I Nchimunya Chimuka hereby declare that this Dissertation represents my own work. It has been prepared in accordance with the guidelines for Masters in public Health dissertations of the University of Zambia .The dissertation has not been previously submitted for degree or any other qualification at any institution.

Signed …… Date…….

Candidate

Signed ……. Date…….

Supervisor

CERTIFICATE OF APPROVAL

This dissertation of Chimuka Nchimunya has been approved as partial fulfilment of the requirements for the award of the Masters degree in Public Health by the University of Zambia

Examiner's signature …….. Date……

Examiner's signature …….. Date……

Examiner's signature …….. Date……

ABSTRACT

Exclusive breastfeeding (EBF) is recognised to make an important contribution in improving infant health and survival and is further associated with decreased risks of HIV transmission compared to mixed-feeding (breast milk in addition to other liquids or solids). Despite this knowledge EBF remains rarely practiced in most countries, especially in low-income settings where infants could benefit most from this feeding mode.In Zambia for example, adoption of EBF is still low standing at 46.7% for the whole country and 57% for Lusaka province. It has been difficult to specifically account for factors that are leading to low adoption of EBF. This study therefore aimed at exploring factors that may be associated with low adoption of EBF in order to help direct both policy and practice of EBF.

An exploratory mixed methods study was conducted at Chelston clinic in Lusaka capturing 309 mothers from high, medium and low density residential areas. A study questionnaire was used to collect quantitative data while focus group discussions (FGDs) were used to collect qualitative data. Four FGDs were done each comprising of 10 women drawn from all the three residential areas. Quantitative data was analysed statistically using STATA 11 while qualitative data was analyzed by thematic method.

Findings from this study indicate that EBF is still low among the mothers and stands at 52.1% in areas surrounding Chelston clinic in Lusaka. Chi square tests of association showed that there was no association between EBF and demographic and economic factors (Age, marital status, education and income), but EBF practice was strongly related to spouse ($p<0.001$), support from EBF mothers ($p<0.001$), culture ($p=0.014$) and presence of EBF in the neighbourhood ($p=0.05$) Environmental factors had more influence on EBF. The findings suggest that policy implementation strategies should put more efforts on the environment around the EBF mothers. These are the spouses, family, members and the community in general. Among the factors leading to non-adherence to EBF were children crying due to hunger, traditional beliefs, less milk production and HIV+ mothers respectively. Most of the mothers also complained of low

milk production as one of the reasons for non-adherence to EBF. Providing health education to the spouses, family members and the community in general on the importance of EBF is what should be encouraged.

DEDICATION

This dissertation is dedicated to my husband Jeremiah Mbewe, our children Madalitso, Mwandipa, Takondwa, Mubotu and Tayamika. Your support and encouragement made my dream come true.

ACKNOWLEDGMENTS

I would like to acknowledge and express my gratitude and deep appreciation to individuals and institutions that encouraged, assisted and contributed to the design and implementation of this research .My profound gratitude go to my supervisors Dr. H. Halwiindi, Mr. A. Mbewe and Mrs. A. Hazemba

Special thanks go to the management and staff of Chelstone Health Centre for the support and knowledge rendered and mothers who participated in the research. Special thanks also to my friends Mwangala and Kingford for tireless support and encouragement.

My deep and sincere gratitude goes to my dear husband who sponsored and encouraged me all the way through my studies. To you all, may his majesty the king of kings God Almighty bless you. Above all let the glory, honour and praise go to God Almighty for granting me the opportunity to study and be where I am today. "For I know the plans I have for you, "Says the LORD. "They are plans for good and not for disaster, to give you a future and a hope" (Jeremiah 29:11 Holy Bible-New Living Translation).

Table of Contents

Figure

Tables

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
EBF	Exclusive Breastfeeding
CSO	k2Central Statistical Office
FGD	Focus Group Discussions
HIV	Human Immunodeficiency Virus
IMR	Infant Mortality Rate
MDG	Millennium Development Goals
MoH	Ministry of Health
NFNC	National Food and Nutrition Commission
WHO	World Health Organisation
UN-AIDS	United Nations AIDS
UNICEF	United Nations International Children Emergency Fund
UTH	University Teaching Hospital
ZDHS	Zambia Demographic and Health Survey

CHAPTER 1

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION

The practise of exclusive breastfeeding in most African countries is still low although some countries have achieved high levels from which other countries can learn. In most cases, the six months set by the World Health Organisation (WHO) as the period for exclusive breast feeding is not being adhered by most mothers (WHO, 1991). Countries in Africa with low EBF levels include Chad (2%), Cote d'Ivoire (4%), Gabon (6%), and Sierra Leone (8%) while those with improved levels are Benin (70%), and Rwanda (85%) (UNICEF 2011;NISR 2011)**.**Zambia's EBF level currently stands at 46.7% and Zambia's infant mortality rate (IMR) is one of the highest in developing countries standing at 70 deaths out of every 1000 births (ZDHS 2007). This performance is against the Millennium Development Goals (MDGs) target of 36 deaths out of every 1000 births by 2015. The prevailing rates are still unacceptably high, and of major concern to the health sector. Infant mortality is caused by a number of factors among them non-adherence to Exclusive Breast Feeding (EBF) and diseases arising from non-adherence to EBF which include diarrhoea, malaria, pneumonia and HIV and AIDS (USBC, 2012;Holta 2007;Chung 2007;Gartner 2005).Millennium Development Goals 2011 Progress report for Zambia points to the fact that Infant mortality reduction in Zambia faces major challenges namely, high poverty level, low levels of decision making by women, maternal health, and environmental protection. Therefore this means that if IMR has to be reduced a number of causative factors need to be addressed that lead to the six major causes of infant mortality, with under-nutrition as an underlying cause of two - fifths of all child deaths (World Bank, 2012). Zambia being party to signing and consenting to international conventions on health, Zambia has adopted the recommendations of the World Health Organisation (WHO) on adopting EBF as a strategy to reduce infant mortality (Ministry of Heath, 2008). Although Zambia has adopted exclusive breastfeeding as a National Policy (Food and Drug Act 2006), the adoption of this policy still remains a challenge, there is a drastic decline in number of children retained on EBF from 86% at birth to 2.6% by the time they are six months old and this tends to also increase the rate to opportunistic infections (ZDHS report 2007:166). According to

CSO (2006, 2010) 46.7% of infants were under EBF the whole country, with Lusaka province having 57.1% EBF prevalence. There are no explicit answers as to what is causing low adoption levels.

1.1.1 Importance of exclusive breastfeeding

Natalia et al., (2002) states that there are many positive results from exclusive breastfeeding which can be attributed to both the mother and the baby which are explained below.

1.1.2 Benefits to the child

According to Natalia (2001) EBF has a number of major benefits to children. Breast milk contains an Anti-infective property which usually makes breastfed babies, to have less incidence or pronounced symptoms of ear infections, respiratory illness, allergies, diarrheal, and vomiting. Breast milk is easily digested hence reduce chances of constipation. Natalia further says sudden Infant Death Syndrome (SIDS) is less common among breastfed babies. Just like anybody else needs different nutrient at certain stage of life, breast milk is constantly changing in its composition to meet the changing needs of the baby. It has the exact combination of protein, fats, vitamins, minerals, enzymes and sugars needed for the human infant at various stages of growth. It is said that breastfed babies are exposed to a variety of tastes through their mother's milk. Chrohn's disease and juvenile diabetes is reduced in breastfed children. Compared to non-breast fed, breastfed children develop more health dental formula which helps in first proper speech than formula fed children. The Intelligence Quotient (IQ) levels are on average of 8 points higher in children who were breastfed; however this is said to be more likely to be due to maternal intelligence, socioeconomic status and home environment. There is lower risk of breast cancer, high cholesterol and asthma in adulthood for those who were breastfed. From the social side, breast feeding enhances bonding between mother and child.

According to the United Nations Children's Emergency Fund (UNICEF 2010) breastfed children have at least six times greater chance of survival in the early months than non-breastfed children. All these benefits above outweigh any other options available for not breast feeding.

1.1.3 Benefits to the mother

According to UNICEF (2012), maternal type 2 diabetes (in women with no history of gestational diabetes), breast cancer, ovarian cancer diseases are reduced in women in each additional year of breastfeeding.

Transmission of HIV from mother to child through breast milk is reduced in those who practice EBF because the breast is empted most of the time unlike if it is not emptied then the residual milk may cause low level of inflammation that results in higher levels of virus in the milk (UNICEF, UNAIDS, WHO, 2011)

These findings on EBF are very important in developing countries which are molested with high burden of disease and low access to clean water and adequate sanitation (Clara 2001).

1.2 PROBLEM STATEMENT

It is reported that globally, less than 40% of infants below six months of age and 38% of infants aged less than six months in the developing world, Africa included, are exclusively breastfed (EBF). Despite perceived health and economic benefits and for it being the most identified single effective intervention for preventing infant mortality, adoption of EBF is still low in Zambia (Central Statistical Office, 2006 and 2010). The current standing which is at 46.6% for the whole country and 57% for Lusaka province is still too low a number for mothers practicing EBF. Empirical evidence accounting for low adoption of EBF and pattern of its distribution is also lacking.

In many African societies, exclusive breastfeeding is influenced by various socio-economic, cultural and biological factors according to a study by Magawa (http://www.consultancyafrica.com).Magawa further states that trends in breast feeding differ among African countries. For example, while only 37% of all infants in Mozambique younger than six months are exclusively breastfed, breastfeeding has been found to be universal, in Zambia, and almost every child is breastfed after birth. Participants in that study reported that babies' fathers and close relations to the mothers have an

influence on EBF. However the study did not identify specific cultures and traditions that negatively affect breast feeding.

Magawa attributes poor practices and attitudes toward exclusive breastfeeding as among the major reasons for poor health outcomes among children, particularly in developing countries. This has led to six causes of 90% of under-five child mortality worldwide namely acute respiratory infections, diarrhoea, measles, malaria, HIV and AIDS and neonatal conditions which are easily preventable.

Currently, Zambia has one of the highest rates of under-five and infant mortality in Africa standing at 119 deaths per 1,000 live births. This is despite the 2010 – 2015 strategic plans to accelerate the reduction infant mortality among others. The paediatric department at University Teaching Hospital (UTH), recently reported high incidence of severely malnourished children and the highest among lower age groups of 0 to 12 months (NFNC 2008). While there are many efforts from the technocrats to put in place strategies to address the current low adoption of 57% for Lusaka, there is still a large population of children who are exposed to the danger of poor nutrition in their early days of life due to non-adherence to EBF.

It is difficult to specifically account for knowledge, economic and environmental specific factors that are leading to low adoption of EBF. Therefore there was need to undertake a research to analyse factors that contribute to low adoption of EBF. The findings from such research can later be used to influence policy and implementation strategies that would help reduce infant mortality and Zambia's desire to reach MDGs of 36/1000 by 2015.

1.3 JUSTIIFICATION OF THE STUDY

Zambia's infant mortality rate is among the highest in developing countries. Diseases arising from non-adherence to EBF are the highest among the ten (10) major causes of visitations to health facilities (Ministry of Health 2011:75). Within the country, Lusaka has the highest infant mortality rate standing at 85 out of everyone 1000 births (Central Statistical Office 2007:121). Despite, being one of the privileged cities with the people being close to health services then why have such a high rate? There is also strong evidence showing that EBF reduces mother to child transmission of HIV.A study done in Lusaka on post natal mothers (ie.1 to 4months), showed reduced risk of HIV among children from EBF mothers compared to those who do not practice EBF (http://ads.plos.org/www/delivery/avw.php?zoneid: 20thMay 2013). Findings from the study will therefore help in evaluating both policy and practice of exclusive breastfeeding and recommend actions for improving such policy and policy strategies that are in place on how to tackle EBF.

1.4 RESEARCH QUESTION

What factors are associated with exclusive breastfeeding?

1.5 GENERAL OBJECTIVES

To explore factors that are associated with low adoption of exclusive breastfeeding among breastfeeding mothers.

1.5.1 Specific objectives

a) To assess mothers knowledge on exclusive breastfeeding
b) To determine economic factors associated with adoption of exclusive breast feeding
c) To explore environmental factors associated with adoption of exclusive breastfeeding
d) To explore service factors associated with adoption of exclusive breastfeeding

1.5.2 Operational definitions

In this study the following were operational definitions of key words and phrase;

Social Class: Refers to a group of people within a society who possess roughly the same socioeconomic status.

Exclusive breastfeeding: is providing an infant with breast milk and no other liquid or solid, not even water, for six months of life.

Environmental factors: Refers to all factors that affect decision making on the part of mother to adopt and maintain best EBF practices. These are family, work environment, type and quality of health services and community influence.

Economic Factors: Refers to all factors that contribute to the good livelihood of a breastfeeding mother and facilitates good EBF practice. These are education level, occupation type, income and food security of a household where a breastfeeding mother is found.

CHAPTER 2

2.0 LITERATURE REVIEW

The literature review addresses efforts and effects of EBF at global, regional and national level. This approach provides a wider framework on EBF which later on narrows to look at the Zambian context. Such an approach helps to measure how the Zambian government is responding to global policy and efforts on reducing infant mortality through EBF.

2.1 K2GLOBAL AND LOCAL PERSPECTIVE OF EXCLUSIVE BREASTFEEDING

Nearly 21 000 children under-five years died everyday in 2010. In 1990 alone, they were 12 000 (WHO, 2012). Similarly 90 percent of the main causes of these deaths worldwide are due to acute respiratory infection, diarrhoea, measles, malaria, HIV and AIDS and neonatal conditions (UN-AIDS 2011). Most of these deaths can be prevented by known, simple, affordable and low cost interventions .These interventions include antenatal care, skilled care during and after birth. The need for early initiation of breastfeeding and exclusive breastfeeding up to 6 months of age is important. Other interventions that add value to EBF include immunization, appropriate use of antibiotics, oral rehydration therapy and zinc supplement. Sleeping under treated bed nets and administering of anti-malarial (CSO, 2007) reinforces health benefits to the child who is under EBF. It is for this reason that, "*among the interventions available, exclusive breastfeeding is the most single effective intervention for preventing infant mortality*" (MoH, 2008).

2.2 NATIONAL OVERVIEW

In Zambian, several studies have been conducted that are directly or indirectly related to EBF. In a study done by Mulenga (2011), indicates that environmental (hygiene) factors are one of the major causes of diarrheal diseases that contribute to an increase in infant mortality rate. This study did not specifically address EBF mothers and its respondents included children up to age of five years This is despite of the fact that its findings established that 28% of mothers were practicing EBF. The

study failed to capture those practices that are specific to good EBF practice e.g. washing of breast nipples before breastfeeding as an important environmental factor that breast feeding mothers should practice. The study further failed to explain low levels of EBF despite the fact that it provides reasons for low adoption rate. In addition Mulenga (2011 unpublished) further states that there is no relationship between education status and exclusive breast feeding.

However, according to WHO (2011), states that that there is high infant mortality arising from non-adherence to EBF in rural areas and among the poorer and less educated communities. The CSO, (2010), reports that 60.5% of Zambians live below the poverty datum line. With the removal of the maize and fuel subsidies, the impact is likely to be more because of possible increase on the prices of the food basket. Such challenges are likely to impact on adoption as well as adherence to EBF. Therefore, going by the WHO (2011) findings means that according to current poverty levels in Zambia there is need to conduct further studies on the relationship between education and adoption of EBF.

Exclusive breast feeding by definition makes an infant dependent on milk from the mother without breast milk supplements. However, in order to have quality milk it requires for the mother to eat health and nutritious food. According to Butte, el (2010) states that, "The adequacy of vitamin A and vitamin B6 in human milk is highly dependent upon maternal diet and nutritional status. In well-nourished populations the amounts of vitamins A and B6 in human milk are adequate to meet the requirements for infants during the first 6 months of life. Furthermore In populations that have deficient in vitamins A and B6, the amount of these vitamins in human milk will be sub-optimal and corrective measures are called for, either through maternal or infant supplementation, or complementary feeding for infants.

The continuation of EBF is promoted if the mother appreciates its value to the baby. It is also important that the mother does not feel irritated during breast feeding and that she feels comfortable after breastfeeding. Further, the beliefs and knowledge of relatives on exclusive breastfeeding, attitudes towards breastfeeding, experiences, expectations, skills, confidence, and emotions involved

predicted consequences, for example the mother's perceived work load. These factors have been found to be indirectly related to personality and age of parents, their educational level and socio-economic status, the health of the mother and the infant, and the infant's birth (Waldenstrom and Aarts:2004). The question that arises as to what extent does economic and environmental factors affect Zambia's EBF practice that requires attention in order to refine strategies to promote EBF.

Exclusive breast feeding calls for not giving any supplements to the child then the above recommendations can only be provided to mothers so that they can produce adequate and quality milk during the period of EBF. Where external supplements to mothers are non-existent, economic/ livelihood conditions should be able to support EBF efforts.

2.3 BENEFITS OF EXCLUSIVE BREASTFEEDING

Breast milk has several benefits over the use of infant formula and other fluids or foods. According to Australian Indigenous health Info net (2008), presents advantages of breast milk as being unique nutritional source in that it cannot adequately be replaced by any other food. It is further described as superior to infant formula and reduces infant's susceptibility to disease due to infant's fragile nature. In addition, breast-fed children are described as being more resistant to disease and infection in their early life than formula-fed children. It is said that children on breast milk are less likely to contract a number of diseases later in life, such as juvenile diabetes, multiple sclerosis, heart disease, and cancer before the age of fifteen. Benefits on the mother's side include that they have less likely chance of developing osteoporosis later in life; they are able to lose weight gained during pregnancy more easily and as such have a lower risk of breast, uterine and ovarian cancer. Economically, it's cheaper to breastfeed than buying infant formula milk. The ability of breast milk to equip the baby to fight off disease and infection reduces and even avoid medical bills later.

According to WHO (2001), exclusive breastfeeding is providing an infant with breast milk and no other liquids or solids not even water unless medically indicated for the first six months of life.

Studies have also shown that breastfeeding is important due to its protective properties against illness in addition to its nutritional advantages (Miriam et al, 2004). This is in agreement with Becky, (2001) who alludes to the fact that breast milk prevents ear infections, respiratory illness, allergies, diarrhoea and other illnesses. As earlier stated, despite recognition of these facts, there still remain challenges to be answered as to why infant mortality rates (IMR) still remains high. This problem could to be addressed with well-informed evidence based information. As earlier alluded in the introduction there is need to prioritise interventions that are within the management levels of mothers. One such intervention is exclusive breastfeeding according to World Health Assembly (2001). Exclusive breastfeeding for the first six months of life is associated with three to four fold lower risk of HIV transmission as compared to mixed feeding as other liquids and foods given to the baby alongside breast milk can damage or irritate the infant's already delicate and permeable intestinal walls and allow HIV virus to be transmitted more easily (American Journal of Obstetrics and Gynaecology, 2011). Furthermore, Becky (2011) states that children that are exclusively breastfed are eight (8) times more intelligent than those that are not. In addition it is further claimed that adult daughters who were exclusively breastfed are at less risk of developing breast cancer while adults are at lower risk of developing high levels of cholesterol and asthma.

According to James and Lessen (2009) breastfeeding prolongs the period of ovulation and as such it is taken to be natural family planning method. It is also known to provide constant nutrition thereby improving the immunity and reducing chances of common diseases (Gartner et al., 2005). This outcome usually tends to reduce incidences of loss of appetite by giving the infant an urge to take more and in the course it acts as natural immunity. The first breast milk called colostrums contains anti bacteria and anti-viral agents and has high levels of vitamin A that protect infant against diseases.

According to MOH (2008) breast milk is always available and no utensils or water (which might be contaminated with bacteria) or fuel is needed to prepare it, money is also saved which would have been used to treat illness due to food poisoning. Above all exclusive breastfeeding for the first 6 months of life carries lower risk of infection as long as mothers do not provide other foods and liquids because these may course injuries to the delicate gut walls hence allowing the virus to be transmitted. Furthermore EBF it prevent the development of malaria parasite in the infant because it contains Para amino benzoic acid. http://www.malaria journal.com/content/11/1/400

2.4 PRACTICAL EXCLUSIVE BREASTFEEDING

Despite so many advantages of EBF outlined above there are various factors that affect adoption of EBF Joshi et al. (2014) states that tradition dominates and influences mothers to adhere to traditional myths about EBF. Modern settlements are multi-cultural in nature. Thus one single way of presenting health communication may address some and miss out other cultural beliefs, attitudes and behaviour of mothers (Arts. 2011).Therefore for any meaningful EBF reforms to be implemented requires that various factors leading to low adoption are identified. This will help policy makers and implementers to develop implementation strategies that will address various challenges in different social, economic, cultural and educational contexts of mothers.

It is therefore important to undertake a study that explore factors that leads to low adoption of exclusive breastfeeding. This could provide a starting point for investigating the effect this has on the promotion of EBF in the fight of the six major causes of infant mortality. Thus with particular reference to EBF, intervention directed at fighting these diseases are more on economic and hygiene factor such as; income and food security, clean surrounding, sleeping under a treated mosquito net and boiling drinking water to mention but a few. For example an intervention on breast nipple hygiene and EBF leads to improvement of infants' health and immunity is less reflected in health promotion campaigns compared to other communicable and non-communicable disease.

2.5 TOOLS FOR INFANT MORTALITY REDUCTION

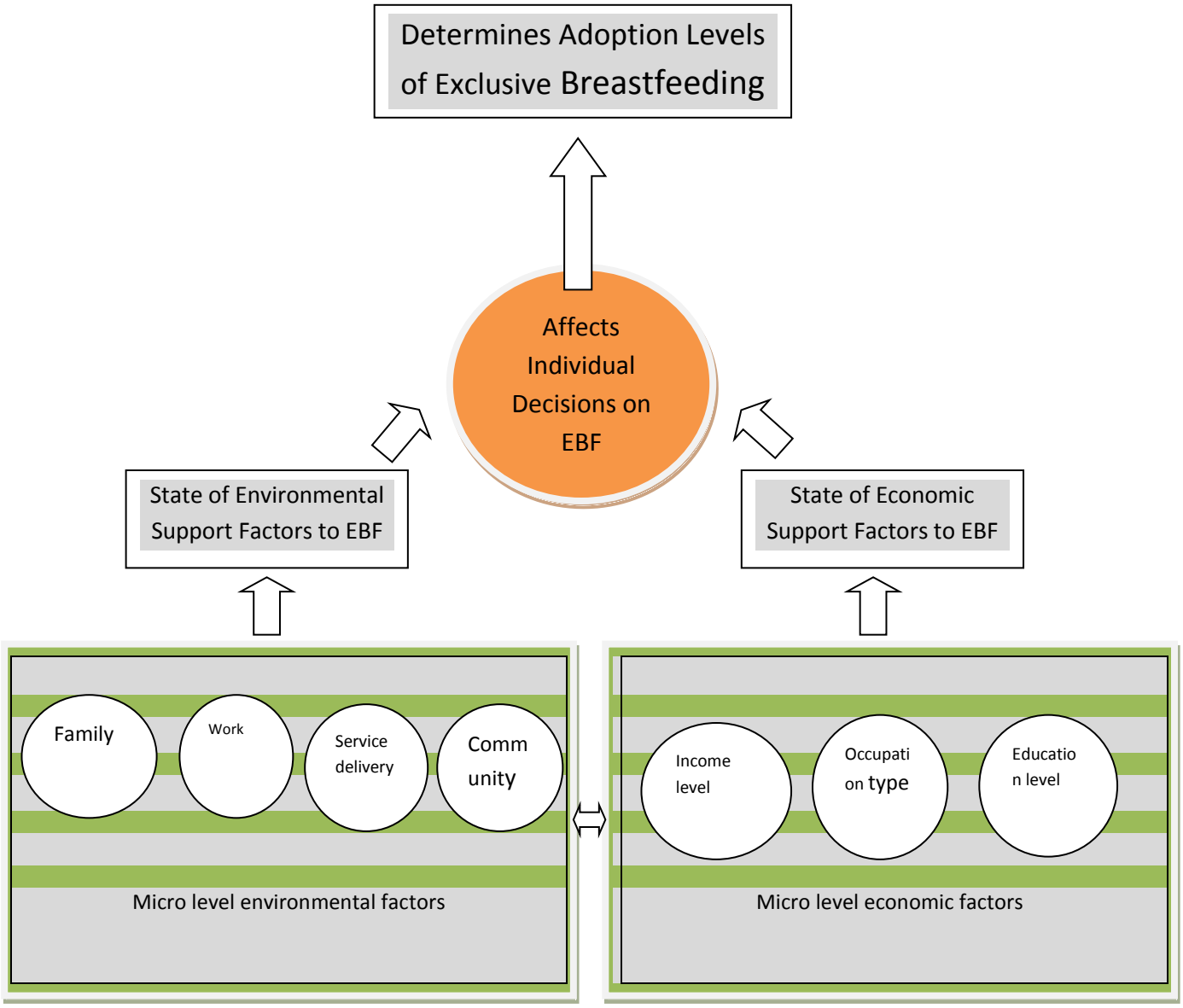
In Zambia major tools used to reduce infant mortality are; baby friendly hospital initiative, complementation of PMTCT training, sensitising the health workers on the international code of Marketing of Breast-substitutes and encouraging exclusive breast feeding (Ministry of Health 2008:2). To meet the set goal there is need for proper interaction between Health workers and implementers with mothers. This calls for commissioning of this study to establish mothers' perception, adherence and obstacles on implementing exclusive breastfeeding. According to Hector et al, (2001) there are three well established factors that influence EBF and these are; individual, group and society. Individual factors have to deal with the mother's intention to breastfeed, her

knowledge, skills and parenting experience, the birth experience, health and risk status of mothers and infants, and the nature of early interaction between mother and infant. These individual factors are shaped by group and social factors in which the mother has been natured until the time of becoming a mother. Therefore all that the environment has presented before the mother during her period of growth tends to shape the knowledge, skills and attitudes that a mother will have towards EBF. Other factors include last minute health extension skills and support.

Similarly, even if breastfeeding is still occurring at hospital, the lack of support at home or in the community may also lead to early weaning. Again, broader societal attitudes about sexuality, (especially breasts), can influence the manner and degree of community support. This results into a frame that shows a systematic influence on society factors, on group level factors that may affecting individual level factors and ultimately affect breastfeeding factors.

This framework takes into account a number of factors, contained in the concerns on MDGs report of 2011 (Chiwele and Syampungani, 2011). Therefore, the model application will be applied in the local context priority concerns as they relate to exclusive breastfeeding. Therefore the following conceptual model will be used and will be based on the Integrated Model (National Cancer Institute, 2005). Below is a conceptual framework that was used in the study of EBF implementation in Zambia.

Figure 1: A Conceptual framework of factors affecting breastfeeding practices



Source: Debra Hector, Lesley King, Karen Webb; (2005) NSW Centre for Public Health Nutrition.

From the conceptual framework above, it is clear that mother's perception on EBF is affected by a number of factors and these include those related to economic and environment. The following are detailed explanations for each factor:

2.5.1 Economic factors

This refers to levels of income, economic facilities that can enable members of the community to engage in income generation ventures that may lead to limited options into decent livelihoods. This

affects food security at household level. In developed economies, extremes are taken by social safety nets such as a social welfare system that pays those not in employments. In the local context UNDP (2011) recommendations for social cash transfer which can be one good solution. Social cash transfer is a deliberate program especially in developed economies in which individuals failing to meet basic needs are put on a government grant aid of receiving free funds in order for them to meet basic household needs. In Zambia for example, not all families are able to meet the required minimum food basket budget per month. Due to the fact that the Zambian economy is not yet very developed and depending on donor aid to finance part of the national budget, full implementation of social cash transfer may not be feasible. Exclusive breast feeding is a good option in a low cost intervention in reducing IMR.

2.5.2 Environmental factors

As explained in the working definition, environmental factors are factors that surround a breastfeeding mother. This forms a permanent and semi-permanent context or circumstance in which a mother finds herself in daily life. It is this environment that shapes her mentality leading actions towards practical actions for exclusive breastfeeding *(*Debra H. et al 2005).

2.5.3 Social factors

Sociologists generally view social classes as existing hierarchy, with those at the top enjoying certain advantages over the rest. Social class affects the way people interact to share knowledge and skills about economic and health of society and individuals within that society (Britanica Student's Encyclopaedia 2012). This tends to perpetrate the boundaries of knowledge between these classes. The bridging of this information gap for example, on the perception of exclusive breastfeeding can be done by provision of health services. However, education levels of mothers are important in health communication as it affects participation, adoption and implementation of health reforms. On the other hand tradition/culture provides its own form of education which can either agree or disagree with messages from modern / formal education.

Factors related to societal level influence acceptability and expectations about breastfeeding and provide background or the context in which mothers' feeding practices occur. These include cultural norms regarding breastfeeding, child feeding, and parenting; the role of women in society, including how working outside the home is valued; the extent to which men's social role includes support for breastfeeding mothers; the extent to which exposing breasts for feeding is complicated by cultural norms regarding sexuality; and the economic importance of products such as breast milk substitutes and complementary foods in the food system (Hector et al, 2004). Other elements in social factors are marital status, family size, location, culture/ beliefs and level of education.

2.5.4 Group and community factors

Hector et al, (2001,) describes group level factors as being attributes of the environments in which mothers and infants find themselves which enable mothers to breastfeed. He further says that environmental factors directly influence on mothers and infants. That is to say health facilities' environment, in which practices and procedures where infants routinely interact with mothers to demand for services such as feeding, postpartum skin-to-skin contact and providing professional support with breastfeeding techniques influence early feeding experience. Further this is affected by the follow-up care and support that has to come from the home and peer environment, where physical and social factors such as size of household, parity, family circumstances, partner attitudes and support, affect the time, energy and resolve that mothers have for breastfeeding. For working mothers, the work environment, in which policies, practices and facilities such as work hours and flexibility, facilities and policies that enable on-site expressing and storing of breast milk influence mother's ability to combine work and breastfeeding. Therefore, the community environment signals the extent to which breastfeeding is recognized as a norm, and helps to reinforce breastfeeding practices through provision of facilities and policies in public places. Parenting rooms in shopping centres and entertainment venues, 'breastfeeding friendly' public transport, restaurants the public policy environment, which modifies how each of these environments influence mother's feeding decisions. Benefits such as maternity and paternity leave, childcare allowances and health insurance have a significant impact on the hospital, home, and work environments that in turn, influence infant feeding decisions directly.

2.5.5 Health service factors

Health Service factors have their base on individual level interaction with service providers and how this in turn affects mother and child relationship as regards EBF. According to Hector et all (2004), they include the mother's intention to breastfeed, her knowledge, skills and parenting experience, the birth experience, health and risk status of mothers and infants, and the nature of early interaction between mother and infant. Each of these can directly influence the initiation and duration of breastfeeding, and is frequently correlated with social and demographic variables. For this to be achieved largely depends on the quality of service provision by health personnel. This takes the form of health talks, availability and proximity of health services. Health status of mothers and how health extension services are provided to EBF mothers also plays a big role in EBF practices.

Group level and societal level influences may interact in either positive or negative ways with maternal knowledge and skills. For example, a mother may be predisposed to breastfeed, but a non-supportive environment in the hospital may lead to her deciding to stop breastfeeding early. Similarly, even if breastfeeding is still occurring at hospital discharge, a lack of support at home or in the community may also lead to her stopping early. Again, broader societal attitudes about sexuality, and especially breasts, can influence the manner and degree of community support.

CHAPTER 3

3.0 RESEARCH METHODOLOGY

3.1 STUDY DESIGN

An exploratory mixed methods study design was used. The study documented both quantitative and qualitative data on EBF. In order to validate aspects of data collection a various techniques were used. The mixed method design consisted of a structured questionnaire which was used to collect quantitative data while the focus group discussions were used to collect qualitative data. The decision to use mixed method was influenced by the nature of the research objectives and the advantages that mixed methods approach provide the researcher the opportunity to understand social reality through the use of different research paradigms.

3.2 VARIABLES

The study addressed key variables under factors in the conceptual framework. This was done to build-up data that contributed to a detailed analysis of each of the three main factors. Overall the three factors lead to a viable contribution on how perceptions to these factors affect decision making on EBF and hence the adoption of EBF. All factors above were analysed using cross tabulation as well as test for associations analysis in as they affect adoption of exclusive breastfeeding. FDGs were also used to get a clear picture of mothers experience, challenges and perceptions on EBF.

3.2.1 Dependent variable

The dependent variable was adoption of exclusive breastfeeding.

3.2.2 Independent variables

Independent variables are factors that affect the adoption of EBF listed below:

- Demographics (age of the mother, religion, location and age of child)
- Economic status (education level, occupation type and income level)

- Environmental Factors (family, work environment, type and quality of health services and community influence.)

For purposes of these study key variables for questionnaire development were economic, environmental and service. Under economic, the study investigated issues that affect the livelihood of households. On environment the study investigated the practices and processes of EBF as well as back-up support received from health personnel in promoting health care during the six months of EBF; while social investigated support services that mothers receive from society as well as policy and policy implementation. Questions were therefore addressed primarily to the mothers.

3.2.3 Dependent and independent variable table design

Table 1: Dependent and Independent Variable

Variables	**Indicators**	**Scale of measurement**
Dependent		
Adoption of exclusive breastfeeding	Number of mothers practicing EBF	Yes No
Independent variables		
Occupation status	# of EBF mothers working	Employed Not employed
Income status	# of EBF mothers income secure and able to meet average local food basket figure	Adequate Inadequate
Educational level	# of literate EBF mothers and levels of literacy	High Low
Marital status	# of married mothers	Married Single
Family size	Average family size of hh	Number
Location	Travel distance to the health facilities	Near Far
Culture, beliefs, norms	Perception index (+ve/-ve) of culture, beliefs and norms on EBF	Positive Negative
Health extension services	# of mothers accessing health services	Present Absent

3.3 STUDY SITE

The study was conducted in Lusaka district of Zambia. This is because Lusaka has mixed class representation of households that that fall into high, middle and low income groups. Being the capital city of Zambia it also enjoys a metropolitan setting with multi-racial, multi-cultural and multi-religious mix. This makes it more ideal in finding out the various factors that could be affecting EBF as opposed to rural settings that may have homogenous factor(s) distribution in relation to cities like Lusaka.

Chelston clinic was the contact point for mothers coming from parts of Avondale (low density area)Chelstone (middle density area) and Kamanga compound (high density area).Primary (raw) data on mothers coming from different social economic settings such as; Kamanga (Low social-economic class), Chelstone (middle social-economic class) and Avondale (high social-economic class) will provide a better social –economic representation.

3.4 INCLUSION AND EXCLUSION CRITERIA

3.4.1 Inclusion criteria

- Postnatal mothers with babies between 0-59 months. These are mothers with children residing in Kamanga, Chelstone and Avondale in the last 24 months and consented to take part in the study.

3.4.2 Exclusion criteria

- Mothers who fail ill during the time of interviews.
- Mothers who consented but later changed their minds.

3.4.3 Sampling procedure

This study was conducted within a population of mothers practicing breast feeding. Random purposive sampling method was used on mothers coming to Chelstone clinic. This meant that the sample was selected based upon known three social-economic categories and these are; high class,

middle class and low class. The criterion for social economic categorization was based on the type of housing standards and housing patterns. Data collected was representative of all the three social-economic settings.

In order to avoid bias on the responses, both exclusively and none exclusively breastfeeding postnatal mothers were recruited from the clinic. This also allowed drawing reasons for EBF and non-compliance to EBF. Recruitment was done at the children's clinic, targeting mothers with children below 59 months of age. As for formation of the focus group discussions, the first ten and willing EBF mothers available were picked to form a group each day. These mothers were engaged in focus group discussion and the groups were such that each social setting was equally represented in order to generate an in-depth discussion on EBF perceptions. Such discussions helped reduce bias in the interpretation of findings by the researcher on one hand, but on the other hand it also allowed for engagement of mothers with varying perceptions and was in itself being an empowering process amongst mothers. The researcher kept on interviewing new groups until a saturation point was reached.

3.5 SAMPLE SIZE

The minimum sample size required to determine the prevalence of exclusive breastfeeding at Chelston clinic was calculated using open epi version 2 at 95% confidence interval level as shown below (http://www.openepi.com/SampleSize/SSPropor.htm). An estimate of 50% prevalence was used from a total of 1500 women attending under five clinics from the clinic records. The sample size thus calculated was 306.However; three more women voluntarily took part in the study giving us a total of 309 available for the study.

3.5.1 Sample size calculation for frequency in a population

- Sample size ***n* = [DEFF*Np (1-p)] / [(d^2/$Z^2$1- α/2*(N-1)+p*(1-p)]**
- Population size (for finite population correction factor or fpc) (*N*) = 1,500
- Hypothesized % frequency of outcome factor in the population (*p*): = 50%+/-5
- Confidence limits as % of 100 (absolute +/- %) (*d*): 5%
- Design effect (for cluster surveys - *DEFF*): 1

3.5.2 Sample size for this study

- Confidence interval (%) 95
- Samples Size: 306

3.6 DATA COLLECTION TOOLS AND TECHNIQUES

The study used a combination of research instruments. Key among these instruments was the questionnaires. In conducting the survey, interviews were used to get required data for the study questionnaires. In order to ensure consistence in the type of information collected, questionnaires also served as checklists to guide data collection. Focus group discussions (FGD) were used to collect qualitative data from mothers through engaging participants in group discussions. During FDGs tools such as matrix ranking were used to critically prioritize key factors affecting adoption of EBF. Then quantitative data sought to probe how each of these key factors related to each in influencing EBF practices.

3.7 DATA COLLECTION

A Study questionnaire was be used to collect data and was supplemented by focus group discussions (FGDs). On FGDs mothers with children from 0-59 months old attending under five clinics were

divided into three groups of not more than 10 members per group to allow for active participation. The questions listed in annex 5.5 were presented for discussions in the three groups. The groups were then allowed to make presentations through their group representatives. After presentations, participants were allowed to discuss issues arising from the presentations. At the end the recommendations were recorded. The outcomes from the group discussions helped the researcher in explaining the quantitative outcomes from the variable table analysis (once dummy tables at research proposal stage). This exercise was important in facilitating for participatory analysis on the adoption levels and factors affecting exclusive breastfeeding not only from the academicians' point of view, but also from mothers whom the policy of EBF is intended.

3.8 DATA PROCESSING AND ANALYSIS

The quantitative data was entered into a computer using EPI data software and analysed statistically using STATA 11 to generate tables. Frequencies and associations were tabulated. Chi-square was be used to determine associations. A comparison and description of quantitative and qualitative data was done as one form of triangulation of findings

Qualitative data was analyzed by thematic method as described by Michael and Cochran (2002). The method involved identification of all common issues FGDs presentations and discussions .Through engaging mothers in FGDs; issues affecting EBF were identified. This was followed by identifying main themes that summarized all views collected.

3.9 ETHICAL CONSIDERATIONS

Ethical consideration was taken into account when conducting this research. This was done by primarily seeking clearance from ERES Converge Research Ethics Committee. This was followed

by seeking authority to conduct the study from Lusaka District Health Office. During the study, a consent form (attached in the appendix) was given to the interviewee to read through before signing.

The four principles on research ethics which are the right of the individual, beneficence doing good, non-maleficence, not doing harm and justice particularly equity were adhered to.

Therefore, full information on the purpose of the study was given to the respondent to read. For respondents that could not read, the purpose and specific objectives of the study were explained. Participants had the freedom to accept or not accept to participate in the study. Further, in order to ensure that ethical issues were adhered to, confidentiality of responses was maintained. In order to promote disclosure of information, questionnaires did not carry names of individuals but rather just have identity numbers. No monetary incentives were given to participants .Participants were free to participate or not participate in the study. The study report has not mentioned names of respondents.

3.10 PRE –TESTING

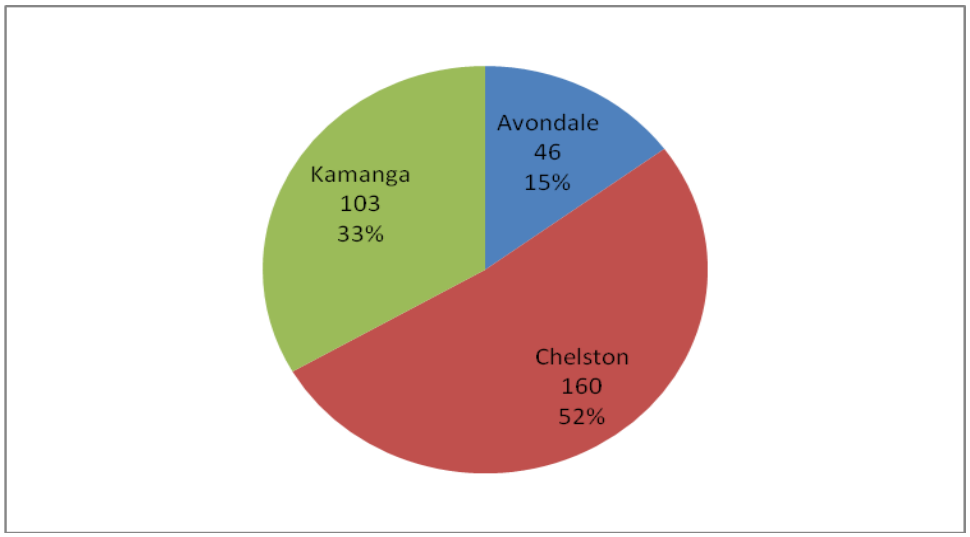
The instruments were pre-tested using a convenience sample of 10 mothers at Chelston clinic, which were selected randomly. Pre testing was done in order to ascertain the feasibility of the study and study tools and the validity of data to be collected in relation to the objectives. Pre-testing also helped the researcher modify some unclear questions, which could not easily be detected before pretest. Thirty mothers participated both in the interviews and the test and retest of the questionnaire. As for the questionnaires, respondents were asked by the researcher to seek clarification in case of difficulties in understanding or interpreting key terms used in the survey. After the retest, a qualitative analysis was done to compare and check for consistence in individual responses on each major concept by looking for consistency between the responses. Questions that gave inconsistent or irrelevant responses were rephrased right while with the thirty mothers.

CHAPTER 4

4.0 RESULTS

The study involved 309 EBF mothers. Of this total 33% came from Kamanga, 15% from Avondale while 52% came from Chelstone. The distribution of the study participants across the three different townships is show in figure 1 below.

Figure 2: EBF mothers by township, N=309



The low composition from Avondale could be attributed to the fact that the high economic statuses of the residents made them shun public clinics for private ones where they perceived service was better. The number is also a reflection of the records at the clinic.

Table 2: The relationship between dependable (Exclusive Breast feeding) and independent variables N=309

Variable	Exclusive Breast feeding						p-Value
	Breastfed		Did not breastfed		Total		
Age of Mother	**No**	**%**	**No**	**%**	**No**	**%**	
15-24	66	53.7	57	46.3	123	39.80	0.73
25-34	89	51.2	85	58.8	174	56.31	
35-49	5	45.5	6	54.5	11	3.56	
50+	1	100	0	0.00	1	0.32	
Marital Status							
Single	24	44.4	30	55.6	54	17.48	0.215
Married	137	53.7	118	46.3	255	82.52	
Township							
Avondale	29	63	17	37	46	14.89	0.177
Chelston	84	52.5	76	47.5	160	51.78	
Kamanga	48	46.6	55	53.4	103	33.33	
Religion status							
Christianity	160	52	148	48	308	99.68	0.337
Buddhism	1	100	0	0.00	1	0.32	
Education Level							
Primary	50	47.2	56	52.8	106	34.3	0.304
Secondary	72	57.1	54	42.9	126	40.78	
Tertiary	39	50.7	38	49.3	77	24.92	
Employment Status							
Employed	86	53.4	73	49.3	150	48.54	0.472
Not Employed	75	46.6	75	50.7	159	51.46	
Income levels							
1000-2500	116	51.8	108	48.2	224	75.49	0.686
2510-3500	10	62.5	6	37.5	16	5.18	
3510+	35	50.2	34	49.3	69	22.33	

Belief and EBF							
Beliefs that support EBF	107	57.8	54	43.6	161	52.1	0.014
Beliefs that do not support EBF	78	42.2	70	56.5	148	47.9	
Support from Spouse							
Supported	137	59.8	24	30.0	161	52.1	>0.001
Not supported	92	40.2	56	70.0	148	47.9	
Support from other women							
Supported	95	62.5	57	37.5	152	49.2	>0.001
Not supported	66	42	91	58	157	50.8	
Presence of EBF mothers							
Present	95	59.8	66	44	161	52.1	>0.01
Not present	64	40.3	84	56	148	437.9	

Table 2 above shows that mothers ability to exclusively breastfed the baby was not affected by age of the mother ($p = 0.73$), marital status ($p = 0.215$), township of residence ($p = 0.177$) and religious belonging ($p = 0.337$).

Chi squares tests for associations revealed that none of the economic factors (Education level, employment status and income level was associated to mothers' ability to exclusively breastfeed. However, EBF was strongly associated to the environmental factors; culture ($p = 0.014$), spouse (>0.001), support of EBF mothers (<0.001) and presence of EBF mothers in the neighborhood (>0.01).

Table 3: Health related factors affecting EBF

Factor	N	%
1. Health education at ANC		
EBF taught at ANC	298	96.44
EBF not taught at ANC	11	3.56
2. Health education at Under 5 clinic		
EBF taught at Under 5 clinic	301	97.41
EBF not taught at Under 5 clinic	8	2.59
3. ANC attendance		
Very often	240	77.67
Often	55	17.8
Rarely	14	4.53
4. Under5 attendance		
Very often	223	72.17
Often	77	24.92
Rarely	9	2.91

Majority of mothers (96.44%) admitted that EBF was taught during ANC, 97.41% learnt about EBF at under five clinic and in terms of attendance the women attended ANC (77.67%) and under five clinics (72.12%) very often respectively.

Table 4: Overview of different FGDs and their views in brief of the topics discussed

Themes	Group1	Group2	Group3
What is EBF	Water should not be given to the baby no matter how much the child cries For the baby to grow healthy. Other foodstuffs affect the child.	Breast feed the child from 0-6months without giving water or porridge Orange or anything should not be given to the child no matter how much he cries	Breast feed the child from 0-6months without giving water or food.
Benefits of EBF	Those that start porridge early do not grow healthy If the child starts porridge early, they get diarrhea Breast milk is good, it has everything even water Breast milk prevents infections.	Prevents diarrhea For the good health of the baby Milk contains all the nutrients Feeding the baby at 4 months results in diarrhea. You are always there with the baby to take care him/her	Brings bondage between mother and child Baby benefits from the nutrients of the mother Breastfed child gains weight more than the one who is not
Challenges faced when practising EBF	Some mothers do not produce enough milk HIV+ mothers cannot breastfeed At 4months child cries due to hunger even when the milk is enough (After introduction of porridge, baby stops crying) Working mothers cannot manage due to work policy (8hours) Some mothers tie their babies with medicines in their waist so we cannot know	Child cries a lot even after you breastfeed At 3months he used to cry a lot Some mothers do not produce enough milk Due to work of the mother Baby cries due to stomach problems hence giving them medication. If sick you cannot breastfeed Male children cry a lot than female children when	Exclusive breastfed children are weaker than those who are not, and they cry a lot Working mothers leave there children at home I had only breast because of breast conditions(less milk production) Busy not having enough time to breastfed Lack of knowledge so we were using the

		milk is not enough	culture of our parents(Traditional beliefs)
	Male children suck more than fek2male children	Our mothers tell us not to punish children with hunger	Nature of babies, some do not have diarrhea
	Our husbands sometimes tell us to start porridge early when child cries. But we need to agree with our husbands	Fear of getting sick when breastfeeding the child in public	Different physiological make up of women some produce more milk than others (beliefs)
	Do not want to lose breast shape	Too much breastfeeding distorts the shape of the woman	Baby boys suck a lot than girls so that is a challenge because it irritates
	Certain contraceptives have effect on milk production	When I just started family planning pills, my breast milk volume reduced	People around do not support E.B.F
Ranking challenges starting with the most important	Not enough milk from the mother	Stomach aches the child experiences	Stomach aches the child experiences
	Children do not get full from breast milk alone	Child cries due to hunger	Child cries due to hunger
	Working mothers	Working mothers	Working mothers
	HIV status of the mother.		
What needs to be done to better promote EBF	Child should be given porridge early at 3-4months	Child should be given porridge early at 3-4months	More education to mothers and fathers and the community
	Formula feeding allowed for working mothers	Allow bottle feeding for working mothers	The months to EBF should be 4 months
	society should be taught the benefits of EBF to support the mothers	There is need for more campaigns on EBF	Bottle feeding should be allowed to working.

CHAPTER 5

5.0 DISCUSSION OF FINDINGS

The study aimed at exploring the economic and environmental factors that are associated with low adoption of exclusive breastfeeding among breastfeeding mothers.

5.1 ECONOMIC FACTORS AFFECTING EBF

Under economic factors, the variables that were taken into consideration were; education level, occupation, and income level. There was no significant difference in the levels of practising EBF in the 3 different education categories primary, secondary and tertiary. These findings are in line with a study conducted by Mulenga in 2011 where it was concluded that there was no relationship between education level and exclusive breast feeding (Mulenga, 2011).

This could be attributed to the fact that these mothers all received the same knowledge on EBF during their antenatal and under than five clinics and their attendance was respectively well. Therefore although a mother may not be adequately literate, the health extension services by health workers provides relevant knowledge for both less literate and more literate on EBF; in so doing bridging the gap. However, findings of this study contradict WHO that found out that there is high infant mortality arising from non-adherence to EBF in rural areas and among the poorer and less educated communities (WHO,2011). A study by Bwalya et al. (2006) also linked education level to greatly influence EBF practice.

However, findings also reveal that being taught about breastfeeding and hearing about breastfeeding does not make all women to practise EBF. Of all the women who reported having heard about breast feeding, only about half said they were actually practising EBF. These findings agree with a study by Bwalya, et al (2006) where during FDGs a good proportion of the mothers were aware of the concept of EBF and had a positive perception about it, although this did not translate into them actually practicing EBF.

Occupation level was not associated with EBF practice so was income level. Women who were employed and practising EBF did not differ significantly to those who were not employed and practising EBF. Similarly, those getting lower income and practising EBF did not differ significantly with those who were on high income level. This also agrees with the FGDs in this study were almost equal responses were obtained with regards to income affecting or not affecting EBF. Occupation was however, cited as the one of the reasons during FDGs that made EBF a challenge to some mothers. Working class women however reported leaving breast milk in the feeding bottles for the babies, which was an allowed practice.

5.2 ENVIRONMENTAL FACTORS AFFECTING EBF

All factors under environment that were considered in this study were significantly associated with EBF practise. Culture, Spouse, Support from mothers and presence of EBF mothers were strongly associated with EBF. These findings agree with those obtained by Hector et, al (2004) and Debra H. et al., (2005) who concluded that environment shapes mothers mentality leading actions towards practical exclusive breastfeeding, furthermore this point is also supported by Magawa, R. ((http://www.consultancyafrica.com). WHO (2012) states that fathers and close relation to the mothers have the influence on EBF. This finding is further supplemented by findings from FGDs where some women not practising EBF cited their husbands influence and their mother's way of upbringing as some of the hindrances to EBF.

5.2.1 HEALTH SERVICE PROVISION FACTORS AFFECTING EBF

Generally speaking, health personnel are doing their best in as far as where lessons on EBF are concerned. Most of the women admitted that EBF was taught during ANC and under five clinics respectively. Furthermore, mothers impressive ANC and under five clinics attendance is an indication that health personnel are encouraging these women to seek maternal and child health services, EBF inclusive. This is in line with a study by Bwalya et al., (2006), who found out that information about EBF had been mostly obtained from the hospital, followed by maternal relatives especially the mother. The findings of this study also agree with the CDC findings (2010) which suggested that health care professionals have a prime opportunity to provide breastfeeding support to new mothers. The attitudes, knowledge, and intentions of those professionals toward breastfeeding influence breastfeeding prevalence when combined with hospital policies that promote breastfeeding

5.3 EMERGING THEMES FROM FGDS

5.3.1 Mothers knowledge on EBF

Generally, all the mothers in this study knew what EBF was. They knew the time for how long to exclusively breastfeed and the reasons for not giving the child any food or water during the first six months of the child's life. When asked why they agreed not giving the child water and food during the first six months, they would respond that it was not good for the health of the child.
''Water should not be given to the baby no matter how much the child cries. For the baby to grow healthy, other foodstuffs should not be given to the child as they affect the child and also cause diarrhoea for the child''.(FDG#1,respondent #1).These women agreed that no matter how the child cried, the child should not be given any solid foodstuff the first six months of life.

In as much as these women knew what EBF was, they complained that many challenges hindered them from practising it

5.3.2 Environmental, economic and health service related factors affecting adoption of EBF

According to Joshi et al (2014), many barriers to EBF practise were culture traditions, mothers working outside home and perceptions of insufficient milk production. The finding from this study agree with findings from Joshi, however differs on the concept of less milk production in that in our study, less milk production was an experience rather than a perception. FGDs results indicates that the main reasons for not breastfeeding exclusively ranked from the most important to the least important were; babies crying due to hunger, traditional beliefs, less milk production, health status of the mother, mother busy with work and mothers not wanting to lose breast shape.

On babies crying due to hunger, the women explained that at four months the baby would cry even after being breast fed adequately. The mothers said the situation was worse for male babies who cried a lot and sucked so much that the sucking was irritating to the mother.

"*I cannot let my child die due to hunger, just because I should follow what nurses teach at the clinic when they don't even follow what they teac*h"(FGD#2, respondent#3).

These women also argued that upon introduction of the porridge, the baby stopped crying and they continued giving the baby milk and porridge until when the child just stopped sucking on his own. The women also reported having challenges breastfeeding the babies exclusively as they are forced to feed the child with other food stuff by their husbands once the baby starts crying. The women further said that the feeding patterns are different and hence they are forced to start feeding their baby boys with other foods as these cry a lot due to hunger compared to baby girls.

On less milk production, the women argued that the genetic make-up could contribute to variations in milk production among mothers while others said the use of certain contraceptives affected milk production. This agrees with what Murray (2014) who states among other things that stress and taking certain contraceptives, caffeine, smoking, alcohol and poor diet affects milk yield.

Another challenge that was put across by the mother with regards to EBF was work. Working mothers only breastfed the child early in the morning and later in the evening when they knocked off. The women argued that in as much as they would want to exclusively feed their children, absence from home due to work was their main challenge.

"It's practically impossible to exclusively feed the child for the working mother. The work policy of eight hours is not fair to us. So what I normally do is squeeze breast milk in a bottle for my baby to drink when I am at work "(FGD#3, respondent#3).

HIV status of the mother was also a major hindrance to EBF practice in most women. They women were told at the clinic that if they wanted to do so they needed to consult the nurses. Most of them said they would rather give the child formula than subjecting that child to the risk of HIV/AIDS even when they are encouraged to breastfeed by the nurses.

For the young mothers, EBF was not good for their body they said. These mothers contended that a woman's body is never the same after breastfeeding. Therefore to maintain their breast shapes, young women would rather use formula milk more than they would use breast milk. This agrees with findings of Ojo, M. (2012) where the mothers pointed out that they were scared to breastfeed for fear of their breasts becoming flabby hence lose market from their husbands (their husbands losing interest in them) for most men prefer well shaped and pointed breasts.

Traditional customs and culture are normally passed from generations to generations through oral tradition. Most women feared to breastfeed the baby in the presence of other women as they were afraid of what is called 'Icibele'in the local language. They believe that some women tie their children with some medicine in the waist so if you breastfeed near them then you baby will be sick just there and then, therefore they prefer to give the child solid food when in group than breast milk.

CHAPTER 6

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

Findings from this study indicate that EBF is still low among the mothers and stands at 52.1% in areas surrounding Chelstone clinic in Lusaka. Environmental factors (Culture, spouse, presence of EBF mothers in the neighborhood and support from other mothers) had a profound effect on women adopting EBF compared to economic factors (Education, occupation and income level) suggesting that policy direction and formulation on EBF should focus more on environmental factors.

Generally, mothers had adequate knowledge on EBF. They knew the age at which to breastfed the child with nothing other than milk, they knew for how long that was supposed to be done and they also knew the benefits of EBF and risks if the child was not exclusively being breastfed. However, this knowledge did not translate into them practicing EBF as evidenced by only 161(52.1%) who practiced EBF compared to 296 (95.79%) who had knowledge on EBF.

Health service factors affecting adoption of EBF where generally good. Health education on EBF was adequate and it appears from the good ANC and under five attendances that the health personnel did their best in encouraging the women to seek health care with regards to EBF.

6.2 RECOMMENDATIONS

From the study findings, there is need to address environmental factors that affect mothers adopting exclusive breast feeding. While health personnel are doing their best in educating mothers, there is need to extend extension services to the environment that immediately surrounds the EBF mothers. These are the spouses, family, members and the community in general. Doing this will require redesigning the extension packages and review delivery mechanisms beyond the current outreach using the ANCs.

On experiences of insufficient milk production being the reason for mothers to supplement other foods, there is need to carry out a research on habits, practices and factors leading to low milk

production so that remedial information from such findings can be also used to used enrich health workers extension packages on EBF.This is of great relevance in as far as the effect of nutrition on production and quality of milk and baby's satisfaction is concerned. On the mothers' request to change the age of EBF from the current 6 months to 4 months, requires more consultations and validation before policy change is made.

REFERENCES

Arts, M. (2011). Knowledge, beliefs, and practices regarding exclusive breastfeeding of infants younger than six months in Mozambique: A qualitative study. *Journal of Human Lactation*, 27(1), pp. 25-32.

Australian Indigenous Health Info net (2008). Review of nutrition and growth among indigenous people (3-4). Australia.

Bwalya-Katepa, M., Mukonka,V., Kankasa, C., Masaninga, F., Babanili, O. and Siziya, S. (2006). Feeding practices and nutritional status of Infants and young children in two districts of Zambia.

Becky, F. (2010). Breastfeeding Essentials, http://breastfeeding.hypermart.net/becky_bio.html
Central Statistical Office, Ministry of Health, Tropical Disease Research Centre and University.

Butte, N. F. (1996) Energy requirements of infants European journal of clinical Nutrition 50,(1 Suppl):S24–536.

Chiwele, D. K. and Syampungani, S. (2011). Zambia Millennium Development Goals Progress Report. United Nations Development Programme. New Horizon Printing Press.

Clara, A. (2001). Exclusive breastfeeding – Does it make a difference. A longitudinal, prospective study of daily feeding practices, health and growth in a sample of Swedish infants. Acta Universiatis Upsaliensis Uppsala 2001.*60p*

Central Statistical Office (2007). Zambia Demographic Helth Survey,: Ministry of Health. Lusaka. Zambia.

Debra, H., Lesley, K. and Karen, W. (2005*).* Factors affecting breastfeeding practices Applying a conceptual framework. New South Wales Public HealthBulletin*16 (4)52-55.*

Encyclopaedia Britannica (2012). Britannica Student's Encyclopaedia: Encyclopaedia.

Eli, F., Seter, S., Mary, K., Chipepo, K., Karen, M. M. and Thorkild, T. (2008). The promise-EBF Study Group: No sister, the breast alone is not enough for my baby' a qualitative assessment of potentials and barriers in the promotion of exclusive breastfeeding in southern Zambia. *International Breastfeeding Journal*, 3:26. Licensee BioMed Central Ltd.

Gartner, L. M., Morton, J., Lawrence, R. A., Naylor, A. J., O'Hare, D., Schanler, R. J. and Eidelman, A. I. (2005). American Academy of Pediatrics Section on Breastfeeding: Breastfeeding and the use of human milk. Pediatrics, 115:496-506.

GRZ (2006). Food and Drug Act (Marketing of Breast Milk Substitutes) Regulations. Volume 17, Cap 303.

Healthy People (2010). Healthy Milky, Health Baby. Centres for Disease Control and Prevention, Atlanta, Georgia.

Hector, D., King, L. and Webb, K. (2004). State of food and nutrition in NSW series: Overview of recent reviews of interventions to promote and support breastfeeding. NSW Department of Health; Sydney.

Horta, B. L., Bahl, R., Martines, J. C. and Victora, C. G. (2007). Evidence on the long-term effects of breastfeeding. Systematic reviews and meta-analysis. Geneva: World Health Organization.

Ip, S., Chung, M., Raman, G., Chew, P., Magila, N., DeVine, D., Trikalinos, T. and lau, J. (2007). Breastfeeding and maternal and child health outcomes in developed countries. Rockville, MD: Agency for Healthcare Research and Quality; AHRQ Publication No 07-E007.

James, D. C. S. and Lessen, R. (2009). Position of the American dietetic association: Promoting and supporting breastfeeding. *J Am Diet Assoc*. 109(11):1926-1942.

Joshi, M. P., Biswas, M. J. and Ausvi, S. M. (2014). Exclusive Breast Feeding: Most Neglected Basic Health Intervention Worldwide. Earth journals, Volume 3, Issue 1, 2014.

CSO, MoH, TDRC, UNZA and Macro International Inc (2007). Zambia Demography Health Survey 2007. Maryland, USA.

Ministry of Health, (2008). Infant and Young Child Feeding Counselling: an integrated Course Participants Manual), Ministry of Health, Lusaka.

Miriam, H. L., David, C., and Armond, S. G. (2004). Breastfeeding: maintaining an irreplaceable immunological resource. Nature Reviews Immunology 4, 565-572.

Ministry of Health (2011). National Health Strategic Plan 2011-2015. Ministry of Health, Lusaka.

Ministry of Health (2011). Zambian Nutritional Guideline for People living with HIV and AIDS. National food and nutrition commission, Lusaka.

Mulenga, M. (2011). An assessment of factors contributing to high incident of diarrhoeal diseases among under five children in Makululu compound in Kabwe district,Zambia:A dissertation submitted to the University of Zambia, School of Medicine, Department of Community Medicine in partial fulfilment of the requirement towards the awarding of Bachelor of Science Degree in Environmental Health.

Murray, D. (2014). http://breastfeeding.about.com/od/howdoesbreastfeedingwork/a/Factors-That-Can-Influence-Your-Breast-Milk-Supply.htm.

National Cancer Institute, (2005). Theory at a Glance; A Guide for Health Promotion Practice, Second Edition, USA.

Natalia, C. V. and Lutter, C. (2002). Quantifying the benefits of breastfeeding: a summary of the evidence. Washington, D.C.: PAHO © 2002.177p

National Food and Nutrition Commission (2008). Report on the assessment of malnutrition trends in hospitals in Zambia. Lusaka, Zambia.

National Institute of Statistics of Rwanda, Ministry of Finance and Economic Planning, Ministry of Health and ICF Macro (2011). Rwanda Demographic and Health Survey 2010 Report. Calverton, Maryland: National Institute of Statistics of Rwanda;.

Ojo, M. A. and Opeyemi, V. O. (2012). Constraints to exclusive breastfeeding practice among breastfeeding mothers in Southwest Nigeria: implications for scaling up. International Breastfeeding Journal 2012, 7:5.

Shealy, K. R., Li, R., Benton-Davis, S. and Grummer-Strawn, L. M. (2012). The CDC guide to breastfeeding interventions. Center for Disease Control and Prevention Web site. http://www.cdc.gov/breastfeeding/pdf/breastfeeding_interventions.pdf. Accessed.

Semrau, K., Kuhn, L. and Brooks D. R. (2011). Exclusive breastfeeding, maternal HIV disease, and the risk of clinical breast pathology in HIV-infected, breastfeeding women. American Journal of Obstetrics & Gynaecology, Volume 205, Issue 4

UNICEF, (2010). Improving Exclusive Breastfeeding Practices by using Communication for Development in Infant and Young Child Feeding Programmes. UNICEF Web-based Orientation Series for Programme and Communication Specialists.

UNICEF (2012). Preventing disease and saving resources: the potential contribution of increasing breastfeeding rates in the UK.104P.

United States Breastfeeding Committee (2012). Benefits of Breastfeeding. www.usbreastfeeding.org.

United Nations Children's Fund: (2011). Statistics by area/child nutrition: Infant and young child feeding;. 2011. http://www.childinfo.org/breastfeeding_iycf.php.

Umberto, D. (2012). Malaria Journal. Malaria in infants aged less than six months - is it an area of unmet medical need? BioMed Central Ltd. http://www.malaria journal.com/content/11/1/400.

Waldenstrom, U. and Aarts, C. (2004). Duration of breastfeeding and breastfeeding problems in relation to length of postpartum stay: a longitudinal cohort study of a national Swedish sample. Acta Paediatrica.;93(5):669–676.

World Bank (2012). World Development Report 2012: Gender equality and development. Washington DC.

WHO, UNAIDS and UNICEF (2011). Global HIV/AIDS response: Epidemic update and health sector progress towards universal access – Progress Report.

WHO (2001). Global strategy for infant and young child feeding: The optimal duration of exclusive breastfeeding. FIFTY-FOURTH WORLD HEALTH ASSEMBLY - Provisional agenda item 13.1.

WHO (2012). Levels and trends in child mortality. Estimates Developed by the UN Inter-agency Group for Child Mortality Estimation, Geneva.

World Health Organization/United Nations Children's Fund (1991). The baby friendly initiative. Geneva: World Health Organization

APPENDICES

Appendix 1: Detailed budget

Item	Quantity	Man Days	Unit Cost in ZK	Total Cost in ZK
Paper	3		35	105
Pens	10		2	20
Pencils	10		1	10
Erasers	10		1	10
Sharpeners	10		1	10
Note books	10		5	50
Fuel	150		10	1500
Printer	1		1500	1500
Toner	2		1000	2000
Data collectors Allowance	5	10	50	2500
Principle Researcher	1	10	100	1000
Total				8,705.00

Appendix 2: Gantt chart for schedule of activities work plan

The study was be carried out within the period from August 2013 to July 2014. The detailed time frame is as shown below.

Activity	Responsible Person	Time Frame (2013-2014)										
		A	S	O	N	D	J	F	M	A	M	J
Development of research questionnaires	Principal Investigator											
Submission of research tools for approval by the research ethics committee	Principal Investigator											
Submission of research proposal and tools to Ministry of Health (Food and Nutrition Commission) for approval	Principal Investigator											
Community sensitization on the research	Principal Investigator											
Community entry (Explaining research to community leaders)	Principal Investigator											
Identification and training of research assistants in the administration of questionnaires from neighbouring communities	Principal Investigator											
Conducting a survey	Principal Investigator											
Variable coding, data entry, cleaning and analysis	Principal Investigator											

Write draft report	Principal Investigator											
Present draft report to UNZA for feedback, work on comments, Submit edited report for final comments	Principal Investigator											
Submit final Report	Principal Investigator											

Appendix 3: Interviewee information and consent sheet

UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF PUBLIC HEALTH
P.O. BOX 50110
LUSAKA.

I am a student from the University of Zambia conducting a research on an exploratory study on environmental factors associated with adoption of exclusive breastfeeding adoption in Chelstone, Zambia.

You are invited to participate in this research. The information from this will be useful in ensuring that proper breastfeeding practices are enforced among breastfeeding mothers in order to reduce infant mortality.

There is a questionnaire which has been designed for you to answer. The answers to the questionnaire will be confidential and in order to protect your privacy, your name will not be written nor will the report indicate your name either.

You will not be paid any money or any other incentive in kind for participating in this study.

You have the right to withdraw or refuse to contribute to this study. Should you wish to raise any ethical issues during this study, refer to the Chairperson, ERES Converge Research Ethics Committee.

Name of Interviewer: .....

Signature:..... Date: .....

The above information has been explained to me clearly and fully understand and consent myself to participate in the research.

Signature…….Date

Appendix 4: Questionnaire for Breastfeeding Mothers.

UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF PUBLIC HEALTH

RESEARCH TITLE: An Exploratory study One Environmental Factors Associated With Adoption Of Exclusive Breastfeeding In Chelstone-Zambia

Questionnaire Serial Number:

Name of the researcher: .....
Date of delivery: .....

Interview Schedule
The questionnaire is divided into three sections namely
Section A: Background Information
Section B: Structured Interview questionnaire
Section C: Focus Group Discussions (FDG) questionnaire

Instructions to the interviewers
Remember to:

- Introduce yourself to respondents
- Explain the main purpose of the interview
- Get informed consent from interviewee
- Ensure the respondent of confidentiality and privacy
- At the end of the interview, remember to that the respondent.

SECTION A: General Information

Name of Institution: University of Zambia

Location of Institution: Ridgeway Campus

Address: P.O. Box 50110

Lusaka.

SECTION B: STRUCTURED INTERVIEW SERIAL NUMBER……

(Please tick (√) the appropriate box and fill in your answers in some blank spaces

PART A. PERSONAL DATA

1. What is your marital status?
   1= Married
   2=Single
2. How old are you?.....
3. Where do you Live?.....
4. How far is your home from this health centre?.....
5. What is your religion?
   1= Christianity
   2=Islam
   3=Buddhism
   4=state other

PART B. KNOWLEDGE ON EXCLUSIVE BREASTFEEDING (EBF)

6. How many children do you have?
7. How old is the child that you are breastfeeding?
8. What type of food do you give your baby?.....
9. At what age do you start giving your child water to drink?
10. At what age do you start giving your child other food?
11. Have you heard about exclusive breast feeding? (Explain)
    1= Yes
    2=No

12. If yes explain……

13. Where did you hear about EBF?

1clinic/hospital

2.radio/television

3.friends

4.newspaper/magazines

14. Do you practice EBF?

1=Yes

2=No

1. If yes, give reasons.....
2. When do you breastfeed your baby?

1=Time tabled

2=As the baby demands

15. If no give reasons.....

PART C. FACTORS AFFECTING EXCLUSIVE BREASTFEEDING

ECONOMIC FACTORS

16. What is your educational level?

1. None
2. Primary
3. Secondary
4. Tertiary

17. What do you do for a living?.....

18. How much do you/ or your spouse earn per month?

1. Less than K500
2. K500 to K1000
3. K1000 to K2500
4. K 2500 to K3500
5. More than K3500

19. Is the income enough for the family?

1=Yes

2=No

20. How does adequate/ inadequate income affect EBF? .....

PART D. ENVIRONMENTAL FACTORS

21. How many are you at your household? ----------

22. Does your culture allow you to practice EBF? Explain

1=Yes

2=No

23. Does your spouse support EBF?

1=Yes

2=No

24. How many mothers in your immediate neighborhood practice EBF? .....

25. Do you receive support from other mothers EBF?

1=Yes

2=No

26. What reasons do mothers who don't practice EBF give?

---

27. How often did you attend anti-natal clinic?

1= Very often

2=Often

3= Rarely

4= Don't

28. Did you learn about exclusive breastfeeding during anti-natal clinics? Explain

1= Yes

2=No

29. How often do you attend under five clinics? Explain further

1= Very often

2=Often

3= Rarely

4= Don't

30. Do you learn about EBF during under five clinics?

1= Yes

2=No

Appendix 5: check list for Focus Group Discussions (FDG)

Question 1: What do you understand by exclusive breastfeeding?

Question 2: What are the benefits of exclusive breastfeeding?

Question 3: What are the challenges that you face in practicing exclusive breastfeeding? (socio – cultural, economic and political influences) (Probe)

Instructions: *The group should list the challenges. After listing the challenges, the group should rank the challenges using pair-wise (if few challenges) or matrix ranking (if many challenges).*

Question 4: Referring to the outcomes from the ranking what can be done better to promote exclusive breastfeeding?