BARRIERS TO EXCLUSIVE BREAST-FEEDING AND NUTRITIONAL STATUS OF EXCLUSIVELY AND NON-EXCLUSIVELY BREASTFED INFANTS IN TERKIDI REFUGEE CAMP, GAMBELLA, WESTERN ETHIOPIA

MSW DISSERTATION RESEARCH PROJECT REPORT

MSWP-001

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INDIRA GHANDI NATIONAL OPEN UNIVERSITY SCHOOL OF SOCIAL WORK

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ADDIS ABABA, ETHIOPIA

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MSW Dissertation Research Project Report

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DECLERATION

I hereby declare that the dissertation entitled BARRIERS TO EXCLUSIVE BREAST-FEEDING AND NUTRITIONAL STATUS OF EXCLUSIVELY AND NON-EXCLUSIVELY BREASTFED INFANTS IN TERKIDI REFUGEE CAMP, GAMBELLA, WESTERN ETHIOPIA which is submitted by me for the partial fulfillment of the MSW to Indira Gandhi National Open University, (IGNOU) in New Delhi is my own original work and has not been submitted earlier, either to IGNOU or to any other institution for the fulfillment of the requirements for any other programme of study. I also declare that no chapter of this manuscript in a whole or in part is lifted and incorporated in this report from any earlier work done by me or others.

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CERTIFICATE

This is to certify that Mr. AHMED MOHAMMED ABDULAHI who is the student of MSW Programme from Indira Gandhi National Open University, New Delhi was working under my supervision and guidance for his/her project work for the Course MSWP-001.

His Dissertation Research Project Work entitled BARRIERS TO EXCLUSIVE BREAST-FEEDING AND NUTRITIONAL STATUS OF EXCLUSIVELY AND NON-EXCLUSIVELY BREASTFED INFANTS IN TERKIDI REFUGEE CAMP, GAMBELLA, WESTERN ETHIOPIA, which he is submitting, is his genuine and original work.

Place: Signature: ----------

Date: Name: ----------

Address of Supervisor: ----------

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Ahmed Mohammed

May 2018

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LIST OF ABBREVIATION

AIDS	Acquired Immune Deficiency Syndrome
ANOVA	Analysis of Variance
AOR	Adjusted Odd Ratio
ARRA	Administration of Refugees and Returnees Affairs
BMS	Breast Milk Substitute
CEE	Central and East Europe
CIS	Common Wealth of Independent State
CSA	Central Statistics Agency
EBF	Exclusive Breast Feeding
EIEBF	Early Initiation of Exclusive Breast-Feeding
ENA	Essential Nutritional Action
ENN	Emergency Nutrition Network
FAO	Food and Agricultural Organization
FGD	Focus Group Discussion
GAM	Global Acute Malnutrition
GFD	General Food Distribution
HIV	Human Immuno-Virus
HSV	Herpes Simplex Virus
IGNOU	Indira Gandhi National Open University
IQ	Intelligence Quotient
IYCF	Infant and Young Child Feeding
MTMSG	Mother-to-Mother Support Group
RCC	Refugee Central Committee
SOP	Standard Operation Procedure
UK	United Kingdom
UNHCR	United Nations Higher Commissioners for Refugee
UNICEF	United Nations International Children's Fund
USA	United States of America
WASH	Water and Hygiene and Sanitation
WFP	World Food Program
WHA	World Health Assembly
WHO	World Health Organization

Abstract

This research thesis intended to assess the barriers or factors affecting effective practices of exclusive breast-feeding and nutritional status of infants 0-6months who were exclusively breast feed and not, at Terkidi refugee camp, Gambella region, Western Ethiopia. This research employed a mixed cross sectional study design of both quantitative and more of qualitative methods. Totally, 250 lactating mothers who are users of nutrition program services, with infants' 0-6months were selected through simple random sampling, assisted by systematic random sampling selecting mothers at an equal interval of k^{th} term. The data collection tools were semi-structured interview questionnaires, focus group discussions guides, and direct observation, documentary analysis, interview guides whereas data analysis done using SPSS IBM 20 version software, ENA software, different statistical tools tests like chi square test, percentage, frequency, Odd ratio (OR), linear and logistic regressions, were used to assess its significance at P<=0.05. It was found that the factors influencing EBF were maternal age, intension to breast feed, the income status and type of income source, lack of previous experience in EBF, level of knowledge in EBF, and key message, type of household, and family size, family support, institutional at facility& community level support group, cultural belief by mothers, easy availability of animal milk, and infant morbidity and maternal breast complication. It was found that the rate infant under nutrition: acute malnutrition 24.4%, underweight 17.2%, stunting 12.8%. The mother's knowledge of EBF was *93.9%,* attitude *89%*, practice 77.6% respectively. The recommendation was that the mothers had good awareness on EBF, positive attitude but low practice of EBF due to many factors and high undernuttion rate that require a coordinated intervention among stakeholders.

Key words: Exclusive breast-feeding, Breast feeding initiation, complementary feeding, breast feeding substitute, optimal infant and young child feeding, artificial feeding.

Chapter One

Introduction

1.1. Background of the Study

Breastfeeding becomes an optimal way to feed infants for the first six months of life by many international organizations like WHO and UNICEF. They have developed various guidelines and strategies to promote infant and young child feeding practices. They have also established a clear indicator to measure the prevalence of infant feeding practices, and some of these indicators include breast feeding initiation just a few hours after a birth, rate of exclusive breastfeeding up to the first 6months, introduction of complementary feeding at 6months with continuous breast feeding up to two years, etc.

A study conducted at the Palestinian refugees indicated that feeding appropriate and adequate nutrition during infancy and early childhood called "critical window period" is very essential for the development of each child's full potential and for promoting optimal growth. This was due the fact that this age is the peak for growth faltering, deficiencies of some essential micronutrients, and early childhood illness like diarrhea(Qanadelo, 2010)**.**

His study indicated that many factors affected mother's choice to breastfeed. Some of these factors include: socioeconomic status, cultural beliefs, level of social support, level of education, maternal work demands, range of cares provided during pregnancy, childbirth and the early postpartum period (medical advice), family pressures and advertising for infant formula as well as biological factors such as: infant size, sex, development, interest/desire, growth rate, appetite, physical activity, and maternal locational capacity, etc. may also influence the decision about the type of feeding for infant, supplementation, and also determine the need and timing of complementary feeding.

The other studyshowed that breast-feeding is a natural gift that infant receives from the maternal breast. It also indicated that Exclusive breastfeeding has been defined as feeding of an infant with breast milk only without giving any other foods, not even water. This definition allows the inclusion

of prescribed medicines, immunizations, vitamins, and mineral supplements in addition to breast milk (WANYONYI, 2010).

The study further (Debra J Hector, March 2005)showed that breastfeeding as a practice was identified by optimal feeding (i.e. exclusive breast-feeding for the first six months and continued breastfeeding for up to two years, with the introduction of other foods).

This research mainly focused on the breast feeding practices for the first 6months of life as breast feeding initiation, frequency of feeding, and exclusive breast feeding and other major determinants of EBF and how that could hampered the effectiveness of the feeding practices and how this could critically influence or contribute to the nutritional status of infants.

Though many researches have been done on the prevalence of malnutrition especially for children 6-59 months, there is almost no significant research done on causal factors which can determine the rate of exclusive breastfeeding, as well as the possible effect of these determinants on the rate of child under nutrition and which intervention mechanism can best address the critical challenges affecting children, in particular infants under 6 months of age in refugee camp setting.

(Debra J Hector, March 2005)indicated that the barriers to exclusive breastfeeding (EBF) can be illustrated in to different categories by using conceptual framework. The framework is designed in to three levels namely individual, group and society. From this framework, one can generate premises about the determinants of breastfeeding, especially EBF and the types of interventions that may be used to address them.

Accordingly, the individual level factors connote directly to the mother, infant, and the 'mother-infant dyad'. These factors 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 factors can directly influence the initiation and duration of breastfeeding, and frequently correlated with social and demographic variables.

Group level factors are environmental factors in which the mothers and infants, and infants find themselves, or something that can enable mother to breastfeed. Environments with a direct influence on mothers and infants include: the hospital and health facilities environment, or the facilities where services are given and infant friendly environment like baby friendly center in which practices and

procedures such as infants routinely rooming-in with mothers to allow demand feeding, postpartum skin-to-skin contact and providing professional support with breastfeeding technique difficulties influence the early feeding experience and the follow-up care and support, the home and peer environment, where physical and social factors such as size of household, parity, family circumstances, partner attitudes and support, and peer support affect the time, energy and resolve that mothers have for breastfeeding and also 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 breastmilk influence mother's ability to combine work and breastfeeding and the community environment, which signals the extent to which breastfeeding is recognized as a norm, and reinforced by facilities and policies in public places, for example parenting rooms in shopping centers and entertainment venues, 'breastfeeding friendly' public transport, restaurants, etc. are among others.

The public policy environment, which modifies how each of these environments influence mother's feeding decisions, have a significant impact on the hospital, home, and work environments that in turn, influence infant feeding decisions directly.

Societal level factors are broad level factor as a basic factor which influence the acceptability and expetitions about breastfeeding and provide the background or the context in which mothers' feeding practices occur. Some of these factors include: cultural norms on breastfeeding, child feeding, and parenting; the role of women in society including how working outside the home is valued; the degree 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 as breastmilk substitutes and complementary foods in the food system.

Generally, 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 or other facility level may lead to her deciding to stop breastfeeding early. Similarly, lack of support at home or in the community, etc. 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 (detail information in chapter two).

Globally, new estimates for the year 2004 found that stunting, severe wasting, and fetal growth restriction together were responsible for 2.2 million deaths of children under five years. Deficiencies of vitamin A and Zinc were estimated to be responsible for 0.6 million and 0.4 million deaths, respectively; and sub-optimum breastfeeding for 1.4 million deaths, (B. e. al, 2008)

(Robert E Black, 2013) on the Maternal and Child undernutrition, indicated a conceptual framework analysis that illustrate how child undernutrition is caused by multiple interrelated causal factors. Accordingly, child undernutrition has three interrelated causal factors: the immediate factors, the underlying factors, and the root causes or basic factors. For first instance, child undernutrition is an outcome of the balance between food intake and food requirements, which is influenced by disease and care. Inadequate energy and nutrient intake, infectious disease and inadequate care are thus the proximal risk factors for child undernutrition. Specifically, chronic energy and/or nutrient depletion in young children leads to slowed skeletal growth and a loss of, or failure to accumulate, muscle mass and fat and deficiencies of specific nutrients.

Because of the dependent status of infants and young children (under 2 years of age), food intake and disease are strongly influenced by the feeding, care-giving, and health care–seeking practices of the caregiver. As a result, it is not conceptually meaningful to separate, for example, food intake from feeding practices. Inappropriate infant and young child feeding practices have a negative impact on child nutrition status. The World Health Organization recommends breastfeeding initiation within 1 hour of birth, exclusive breastfeeding for the first 6 months, and appropriate complementary feeding beginning at 6 months, with breastfeeding continued for 2 years and beyond. Where these practices are not been followed, negative impacts on child nutrition and health can result.

Similarly, (Debra J Hector, March 2005) indicated that Breastfeeding could save 820,000 lives annually, which means, preventing 13% of all deaths of children under five years. Breastfeeding reduces one-third of respiratory infections and about half of all diarrhea episodes in low- and middle-income countries.

The other factors contributed to the high level of child undernutrition were: the lack of food diversity and access to food and lower position of women in income level and education which was attributed to the root cause of poverty, and socio-cultural factors at the community and society level such as

family support, but our main focus here is to the relationship between factors affecting exclusive breastfeeding and how this could in turn affect child undernutrition and survival.

In Ethiopia, several studies have also shown that exclusive breastfeeding for the first six months plays a great role in preventing morbidity and mortality. However, a study by (T. S. e. al, 2012)in Bale Goba District, southeast Ethiopia, has shown that large portions of infants are not exclusively breastfed and according to the infant feeding recommendations, the prevalence rate on EBF was 71.3%.

In addition, did similar study in Ethiopia to assess the determinants three--hundred and fourteen breastfeeding mothers with their index child less than 2 years were enrolled. Even though 93.6 % of study participants had heard about EBF, only 34.7 % were knowledgeable about the recommended duration. About 89.5 % had a positive attitude, but only 59.3 % believed that only EBF is enough for child up to six months and 26.4 % of children were exclusively breastfed for six months, this shows that though mothers have good knowledge, the practice was very law (Niguse Tadele*, 2015)

In the same manner, a study by the nutrition survey 2016 at Terkidi refugee camp indicated that timely initiation of breast-feeding was 82% and the rate of EBF was 84.8% while introduction of solid semi solid food at 6months was 78% respectively. From the survey result, even though the result of breast-feeding seemed to be good, there is still a gap of more than 5% and there is no research done about the major determinants that can affect EBF and the likely relationship between rate of EBF and child undernutrition.

There also need a research on the detail status of breast-feeding in terms of people's knowledge, attitude and other related issues. In addition, the rate of child undernutrition for infants less than 6 months was overlooked also same to rate of EBF. Therefore, the output of this research partially intended to fill the gaps of existing breastfeeding challenges in the study area.

1.2. Statement of the Problem

(Francisco, 2010) indicated that child mortality reduced for the last several decades and these "changes" according to him was due the change in general malnutrition. This indicates that there is a direct relation between nutrition and child survival. Child survival, which is related to the infant's

nutrition, mainly from exclusive breast-feeding, has helped them. Therefore, if there is a change in EBF practice there is a change in child survival. Child mortality, which is related to the low practice of EBF, is caused by breastfeeding determinants such as social, economic and health related risks.

Despite the vast amount of data supporting the many health benefits of exclusive breastfeeding, exclusive breastfeeding rates worldwide remain strikingly low—at about 25% in Africa, 45% in Asia, and 31% in Latin America and the Caribbean. This amounts to an average of only 39% of infant's ≤6 months of age being exclusively breastfed in developing countries. In light of this, it is important to investigate the potential barriers to the adoption of exclusive breastfeeding practices, and understand why women often do not always practice exclusive breastfeeding even though they may be aware of its benefits.

(Inger Aakre1, 2017) conducted a study at a Saharawi Refugee Camp in Algeria, Western Africa, showed that the prevalence of undernutrition was high among children 6–59 months of age, with a wasting, stunting and underweight prevalence of 9.1%, 29.1% and 18.6% respectively. It was found that breastfeeding practices was poor among the Saharawi refugee children; only 11.7% and 21.6% were exclusively or predominantly breastfed, respectively. Further, as many as 43.2% were given solid, semi solid or soft foods despite their young age. There were 64.9%, which were early initiated to breastfeeding. In multiple regression models, exclusive or predominant breastfeeding seemed to protect against underweight.

The study finally concluded that breastfeeding practices were poor among the Saharawi refugees, and there was a clear relationship between poor breastfeeding practices and undernourishment. Exclusive or predominant breastfeeding (Breastfeeding plus other liquids such as plain water or tea, etc.) could be increased only if the mother had initiated breastfeeding early. Similarly, early initiation of breastfeeding had an increased probability if the child was born at home, and with multiparty and the promotion of optimal breastfeeding practices should be promoted in the refugee camps to achieve better infant feeding practices and prevent undernourishment among the children. Further, to assess if promotion of exclusive breastfeeding and early initiation is a current practice in the refugee camps, the mother's current knowledge of infant child feeding should be examined.

According to (WANYONYI, 2010), despite the extensive available information on the benefits of exclusive breastfeeding both for the mother and the infant, in Kenya only 13% of children below six

months are exclusively breastfed. It was also reported that a prevalence of 2.3% of exclusive breastfeeding in Uasin Gishu District. The mean duration in months of EBF was 1.5 in 1998, 1.6 in 2003, and 1.7 in 2008 in Rift Valley Province. It was also identified that high infant mortality rates associated with diarrhea, acute respiratory infections, and poor responses to vaccinations result from lack of exclusive breastfeeding. Acute respiratory infections and diarrheal diseases are two of the major causes of infant mortality in the developing world.

The infant mortality rate in Kenya was 77 deaths per 1,000 live births and 61 deaths per 1,000 live births in the Rift Valley Province. While almost all Kenyan mothers initiate breastfeeding, 85% to 90% of them offer water and other liquids to their babies in the first month. This increases the babies‟ risk. The early introduction of other foods is of public health concern because it exposes infants to increased infection, particularly diarrheal diseases. It may also lead to poorer infant nutrition and adversely affect growth rates. The fifty- ninth World Health Assembly projected that by 2015 the relative contribution to the global prevalence of childhood under nutrition was expected to increase from 16% to 38% for Africa.

He further indicated that the estimated level for exclusive breastfeeding for the first six months of life could reduce infant mortality by a remarkable 13% and by an additional 2% were it not for the fact that breastfeeding might transmit HIV. Full breastfeeding for at least six months has large beneficial effects on child survival regardless of socio – economic status. However, the beneficial effects of breastfeeding are dose – dependent. Therefore increasing the rate of exclusive breastfeeding should be a major target for breastfeeding promotion

It is argued that promotion of EBF is the most effective child health intervention currently feasible for implementation at population – level in low-income countries and that was because exclusive breastfeeding reduces infant deaths in developing countries by reducing diarrhea and infectious diseases (WANYONYI, 2010)

The study further found that the frequency of exclusive breastfeeding during the first months of life is low and in order to promote exclusive breastfeeding, infant feeding recommendations should be realized. In addition, the study described that breastfeeding is an important determinant of the nutritional status of the child which in turn influences child growth and development. Hence, good nutrition protects fetus, infant and young children from permanent physical and intellectual stunting.

So, in order to improve the health and quality of life children and their families, promotion of breastfeeding must be seen as a priority.

Globally, the promotion of breastfeeding is a major public health concern. Breastfeeding reduces the risk of both under nutrition and overweight later in childhood this means, breastfed children are healthier and have fewer hospitalizations than non-breastfed children development.

In this era of HIV/AIDS, exclusive breastfeeding faced a great challenge as mothers who are HIV/AIDS positive are advised to formula feed their infants to minimize transmission of the virus to the infant. Feeds introduced to infants may have too much fat and carbohydrates leading to obesity, poor muscle development, and low resistance to infections. For HIV- positive mothers, infant's risk of death from infectious diseases is high in the absence of breastfeeding development.

In Terkidi Refugee Camp, the Annual Standardized Enhanced Nutrition Survey (SENS) since 2014-2016 for children 6-59 months of age indicated that, even though there is slight reduction from 30.3 in 2014 to 24.4 in 2016 respectively, the Global Acute Malnutrition (GAM) Rate was still very high and was above the threshold of 15%.

The (CSA, 2016) indicated that only 58% of infants were exclusively breastfed for the first six months. With regard to the refugee setting, (Millicent Kavosa, 2016) nutrition survey indicated that timely initiation of breast-feeding was 82% and the rate of EBF was 84.8% while introduction of solid semi solid food at 6months was 78% respectively. From the survey result, even though the result of breast-feeding seems to have be good, there is still a gap of more than 5% and there is no research done about the major determinants that can affect EBF and the likely relationship between rate of EBF and child undernutrition. There also need a research on the detail status of breast-feeding in terms of people's knowledge, attitude, etc. and other related issues. In addition, the rate of child undernutrition for infants less than 6 months was not done and that age group was overlooked.

In addition to the above, the Nutrition Survey 2016, the rate of child undernutrition (GAM rate was about 24.4% for children 6 to 59months and any figure > 15% is critical as per the sphere standard) and this has been the main concern and most challenging issues, which requires more integrated intervention approach from the humanitarian agencies even if there are different services giving response to the crises. On top of that, out of the current total population of 70,699, the newly arrived

refugees between September 1st, 2016 to March 21st 2017 was 14,528, which are currently in a deteriorated living condition, this makes the camp to be in an emergency situation, where the overall rate of breast feeding condition also disrupted and changes the previous prevalence of EBF (UNHCR, 2017).

Hence, lack of current data on EBF for new arrivals and any changes in living style also makes complex to identify the likely determinants of EBF and in turn affects the nutritional status of infants in this age group. This means, the negative impact in the rate of EBF, affecting child undernutrition, also affects the rate of malnutrition for the other age category, especially children 6-59months, which accounts for 18.1% of the population in the camp. The presence of complex nature of health risks and other issues in the camp along with poor infant feeding practices exacerbate the severity of child undernutrition that requires urgent solution.

Most of the research been conducted in the camp in particular nutrition survey mainly focus on the general indicators which is mostly quantitative and doesn't exactly describe the real picture of the breast feeding status and no other research been carried out especially on the relationship between poor infant feeding practices and nutritional status of infants which could be a cause for the later.

Therefore, understanding the factors that influence the prevalence of exclusive breastfeeding (which is hence termed as determinants or barriers to breastfeeding) is crucial in planning for effective intervention strategy and the research is planned to fill these gaps and provide feasible recommendation on the best workable solution.

1.3. Research Objectives

1.3.1. General Objective

The main objective of this study was to examine the major factors affecting effective practice of exclusive breastfeeding and the relationship between exclusive breastfeeding and nutritional status of infant who are exclusively breastfeed and non-exclusively breastfeed.

The impact of barriers to exclusive breastfeeding is measured in terms of their relationship and in terms of mothers' level of knowledge, attitude, and practice of exclusive breastfeeding and the rate of infants' nutritional status.

1.3.2. Specific Objectives

- To investigate the majors barriers influencing the effectiveness of exclusive breastfeeding.
- To examine the relationship between exclusive breastfeeding and the nutritional status of infants who are exclusively breastfed and not.
- To assess the mothers' knowledge and attitude and practice towards exclusive breastfeeding.

1.4. Research Questions

This research study answers the following questions:

- What are the major barriers influencing effective practice of exclusive breastfeeding?
- What are the relationship between exclusive breastfeeding and the nutritional status of infants who are exclusively breastfeed and not?
- What are the mothers' level of understanding and attitude towards EBF?

1.5. Delimitation of the Study

The study was carried out in the refugee camp and the findings could be applied only to the other refugee population, which have similar sociodemographic and other characteristics. The outcome of the study mainly focused on barriers affecting exclusive breast feeding practices and may contribute a lot in the promotion of exclusive breast feeding practices in the camp and may play a great role in that context. It may also contribute to others who may need it as a reference for further similar studies in factors affecting exclusive breast feeding practices.

1.6. Scope and Limitation of the Study

1.6.1. Scope of the Study

The main scope this research study was to conduct investigation on the factors or barriers hindering the effective practice of EBF among lactating mothers with infant's 0-6months, living in Terkidi refugee camp for at least 6months and beneficiaries at the agency providing nutritional services, where study was carried out. The study also focused on identifying the nutritional status of infants in the mentioned age group including those exclusively breastfeed and those who provided other feeding, as well as, the relationship between infant's nutritional status and breast feeding, including the mothers level of understanding in exclusive breastfeeding, change of their behavior and rate of breast-feeding practices.

For the scope of this study, about **551** lactating mothers with infants' 0-6months were taken to be the sample frame from which **250** lactating mothers of infant's 0-6months were selected to take part on this study. The study did not include data from those lactating mothers, who were living out of the camp, and only come for general food distribution and those mothers who are living with HIV/AIDS.

1.6.2. Limitation of the Study

This study was not inclusive of lactating mothers who are not living in the Terkidi Refugee camp during the period of the research. The study also did not include HIV positive infants and the results may not be generalized to the entire population of mothers with infant's 0-6months. The other was a language limitation that most of the mothers could not understand English and the translation may to some extent have altered the meaning of the question. In addition to the above, data collected from infant feeding were based on a cross sectional study and did not reveal whether it varies from one day to another.

1.7. Conceptual Definition of Operational Terms

Artificial feeding: Feeding with breastmilk substitutes.

Breastmilk substitutes (BMS): Any food being marketed or otherwise represented as a partial or total replacement of breastmilk, whether or not suitable for that purpose; in practical terms this includes milk or milk powder marketed for children under 2 years and complementary foods, juices and teas marketed for children under 6 months.

Complementary feeding (previously called "weaning'') the giving of complementary foods in addition to breastmilk or infant formula.

Complementary foods: Any food, whether commercially manufactured, or locally, or home prepared, suitable as a complement to breastmilk or infant formula when either becomes insufficient to satisfy the nutritional requirements of the infant (from the age of 6 months). Complementary foods marketed for children under 6 months are breastmilk substitutes.

Exclusive breastfeeding: Only breastfeeding or breastmilk feeding and no other foods or fluids (no water, no juices, no tea, no pre-lacteal feeds), with the exception of drops or syrups consisting of micronutrient supplements or medicines.

Infants: Children less than 12 months.

Infant feeding equipment: Bottles; teats; syringes (usually in an institutional setting); or baby cups sometimes fitted with lids.

Infant formula: A breastmilk substitute formulated industrially in accordance with Codex Alimentarius Standards (joint FAO/WHO food standards programme) to satisfy the normal nutritional requirements of infants up to six months of age. Infant formula may also be prepared at home in which case it is described as "home-prepared."

The International Code: The International Code of Marketing of Breast- Milk Substitutes, adopted by the World Health Assembly (WHA) in 1981 and all relevant WHA Resolutions, referred to here as "the International Code."

The aim of the International Code is to contribute to the provision of safe and adequate nutrition for infants by the protection and promotion of breastfeeding and by ensuring the proper use of breastmilk substitutes (see definition above) when these are necessary, are based on adequate information and through appropriate marketing and distribution. The Code and all relevant WHA Resolutions set out the responsibilities of the infant food industry, health workers, national governments, and concerned organizations in relation to the marketing of breastmilk substitutes, bottles, and teats.

Optimal infant and young child feeding: Exclusive breastfeeding for the first six months of life, followed by continued breastfeeding with adequate complementary foods for up to two years and beyond.

Other milks: Dried whole, semi-skimmed, or skimmed milk; liquid whole, semi-skimmed or skimmed milk; soymilks.

Relaction: is the re-establishment of breastfeeding after the breastmilk supply has stopped, or is reduced. Source, (Emergency Nutrition Network (ENN), 2004)

1.8. Organization of the Study

This research study is organized in five chapters. The first chapter provides the introductory part of the research consisting of background of the study, the purpose of the research especially assessing the major barriers which influence proper practice of EBF and contribution to high rate of

undernutrition, statement of the problem that shows, how seriousness the problem is, objective of the research, research question, delimitation, limitation, scope, of the study, definition of operational terms and organization of the thesis.

The second chapter mainly focused on the reviewing of different literature that relate to the subject matter of study that have been conducted elsewhere in the world. The issues in this chapter include definition of exclusive breast feeding, benefits of exclusive breast feeding for the mother, for the baby and for the community, barriers to exclusive breastfeeding and different conceptual frame work approaches which classify and look them in to individual, group and wider community levels including other influencing factors and finally the researcher's summary points.

The third chapter mainly focused on research design and methodology, which include issues like study design, description of the study area, the universe of the study, sampling method and sampling size, tools and procedure for data collection,data processing, and analysis, etc.

The forth chapter presented the reader with data analysis, interpretation, and discussion. The details under this section include presentation of results in response to three different research questions, the factors influencing exclusive breast feeding like maternal socio demographic factors, and socio economic factors and description of factors based on the conceptual frame work approach including maternal character, social support, cultural issues, and maternal and child health condition. The other components are the nutritional status of infants and relationship with exclusive breast-feeding, and in addition, the mothers level of knowledge, and attitude towards EBF, and common breast-feeding, practice, summary of findings from field observation and focus group discussion.

The fifth chapter mainly focused on the summary of the main findings, conclusion, and recommendation (suggestion).

Chapter Two

Review Literature:

2.1. Introduction

This chapter dealt with review of different literatures that carried out elsewhere in the world and from which the main subject of the study been referenced. Further, the issues under study such as factors affecting effective practice of exclusive breast-feeding and the failure to exclusively breastfeed and linkages between the EBF and child under nutrition were among others.

In addition, most of the key words used during the review of literature were factors affecting exclusive breast-feeding, factors affecting child under nutrition, breast milk, benefits of breast-feeding, knowledge, attitude and practice, sociodemographic characteristics, social support, cultural as well as societal cultural, conceptual frame work approach, etc. Therefore, definition of key terms, and summary of references mentioned in this research were included.

2.2. Definition of Exclusive Breastfeeding

WHO (2016) stated that exclusive breastfeeding means 'that the infant receives only breast milk; no other liquids or solids are given – not even water – with the exception of oral rehydration solution, or drops/syrups of vitamins, minerals or medicines. Breast milk contains all the nutrients that the baby needs. That means breast milk is the natural and original food for babies, which provides all the energy and nutrients that infant needs for the first months of life.

It also recommend that breastfeeding protect against many illnesses like diarrhea and common childhood illness such as pneumonia, and has long-term health benefit for mother and child like reducing risks of overweight and obesity in childhood and adolescence. It also associated with higher intelligence quotient (IQ) in children.

2.3. Benefits of Breastfeeding

Review of different literature indicates that breast milk has remarkable health benefits for infants and young Children especially under 2years of age. It has also benefit for the mother as well as the society.

2.3.1. Benefit of EBF for the Baby

Many researchers have identified that EBF has enormous benefits for infants. For instance, (Fatoumata Binta Diallo&, 2009) in Conakry, Guinea, indicated that the risks of morbidity was reduced closer to 70%, when the child exclusively breastfed. This indicated that Exclusive breastfeeding protected against serious morbidities (diarrhea, respiratory infections, and low growth) in the first six months of life.

It was stated that infants who exclusively breastfed from 0-6 months had a significantly lower prevalence of diarrhea and acute respiratory infection than those infants who are not exclusively breastfed. Exclusive breastfeeding reduces risk of Mother-to-Child HIV Transmission and for the first 6 months of life, exclusive breastfeeding remains the most appropriate option for many HIV-infected mothers in sub-Saharan Africa including Ethiopia. However, to increase the acceptability and feasibility for EBF for the HIV-infected infants, there should be good promotion of EBF as the best option for all infants (NJERI, 2012).

The study further indicated that mixed breastfeeding quadrupled mother-to-infant HIV transmission and was associated with a three times greater risk of transmission and death by age 6 months when compared to exclusive breastfeeding. In the same study, predominant breastfeeding was associated with a 2.6 fold increase in HIV transmission as compared to exclusive breastfeeding. It was also shown that expressed breast milk from a HIV positive mother can be utilized for replacement feeding, as it is free from active HIV, safe, nutritious, affordable, available, and protective.

In addition to this, breast milk is a natural gift that fulfills a baby's entire nutritional as well as fluid requirement of the baby in the first six months of life. Therefore, there is no need to give water or other liquid for infants to maintain lost moisture in hot climate. It also provides colostrum, which is

the baby's immunization, that has antibodies vitamin A, and other that prevent them from neonatal death.

The same study showed that first milk, colostrum gradually changes its composition from birth and this helped them as a main source of nutrient and this is one of the major benefits of breast milk. Breastfeeding is also associated with decreasing acute illnesses such as gastrointestinal infections, lower respiratory tract diseases, and acute otitis media. It also showed that children not breastfeed are 10times higher at risk of dying, due to any case and 3-fold higher risk of not being hospitalized for any cause.

2.3.2. The value of breastfeeding to the mother:

Wanyonyi (2010) indicated that Breastfeeding has different benefits for the mother if it is based on the demand. This includes; it helps protect against another pregnancy ovulation by producing prolactin that prevent the formation of ovarian steroid, prevents. Prolactin has an inhibiting influence on the synthesis of ovarian steroids, delaying ovulation cycle. It helps to produce oxytocin that help uterus contract after birth and prevent bleeding. It also helps reduce uterine disorder, ovarian and breast cancer if babies breast longer period. In the same study, it indicated that breastfeeding after birth helps to swiftly allow mother's weight loss after pregnancy. This is because the reserve fat accumulated during pregnancy help to produce milk and these enable her to loss at least 500kcal per day.

2.3.3. Breastfeeding benefits for community

NJERI (2012) indicated that breastfeeding has many benefits for the community including:

1. Breast milk contains no waste or pollution;
2. It helps food support programs, to reduce costs while that is encouraging breastfeeding and decreasing formula use;
3. It helps breastfeeding mothers to have healthy babies that have less absence from work, because they do not have to stay home as frequently because their children are healthier.

It also indicated that it could save about 4 million dollars from the cost of the formula use, for e.g. in USA America and that was if 50% of infants were exclusively breastfed for the first three months of life.

2.4. Barriers Affecting Exclusive Breast Feeding (EBF)

Several researches have been done by different researchers on the factors affecting exclusive breast-feeding. Different literatures reveal applying different approaches and that created confusion on the best way to tackle the problems hindering effective practice of EBF and therefore, it has been important to look in to some of them and how these factors have been associated with the practice of EBF. Some of them are explained below.

Debra J Hector (2005) developed a systematic approach in selecting factors for examination of 'determinants' or barriers influencing EBF. The main objective of deloping that was to be used as a common factors for affecting breast feeding and been adapted to solve the problems in affecting effective implementation of EBF. Before the development of this tool, many researchers had conducted different studies and no two studies investigate the same factors using comparable methods, thus making it impossible to identify common factors across studies that may be helpful for more study. The majority of studies implicitly focus on a particular subset of factors, usually those socio-demographic attributes of the mother and family, without due acknowledgement of the wide range of additional potential influences.

The socio-demographic characteristics of the mother are actually 'risk markers', those factors that signal where a problem is occurring, but may not directly contribute to it. A systematic approach to research is therefore required to gain a complete picture of the issues surrounding improved breastfeeding practices, and to identify factors that may be modifiable for intervention planning. Several studies identified lists of possible factors affecting breastfeeding practices, and/or have grouped or categorized these factors.

The tools they developed, in their study of influences on mothers feeding decisions, proposed an adaptation of an 'ecological model', in which influences are seen as emanating from relationships between people and groups, and their environments. They extended more focus on environments and

the wider social contexts of people and groups. According to them, the factors affecting the practice of EBF were referred to as predictors, determinants, barriers, influences, and contributing factors.

Table2.1: Conceptual framework of factors affecting breastfeeding

Categories of Factors Affecting Exclusive Breastfeeding practices
Socio-demographic characteristics of the mother and family
Structural and social support
Health and risk status of mothers and infants
Mothers' knowledge, attitudes, and skills
Aspects of the feeding regime/practices
Health services (including hospital and health facilities) organization, policies and practices
Socio-cultural, economic and environmental factors

The following diagram depicts the conceptual framework approach of factors affecting exclusive breast feeding practices as adopted by (Debra J Hector, 2005)

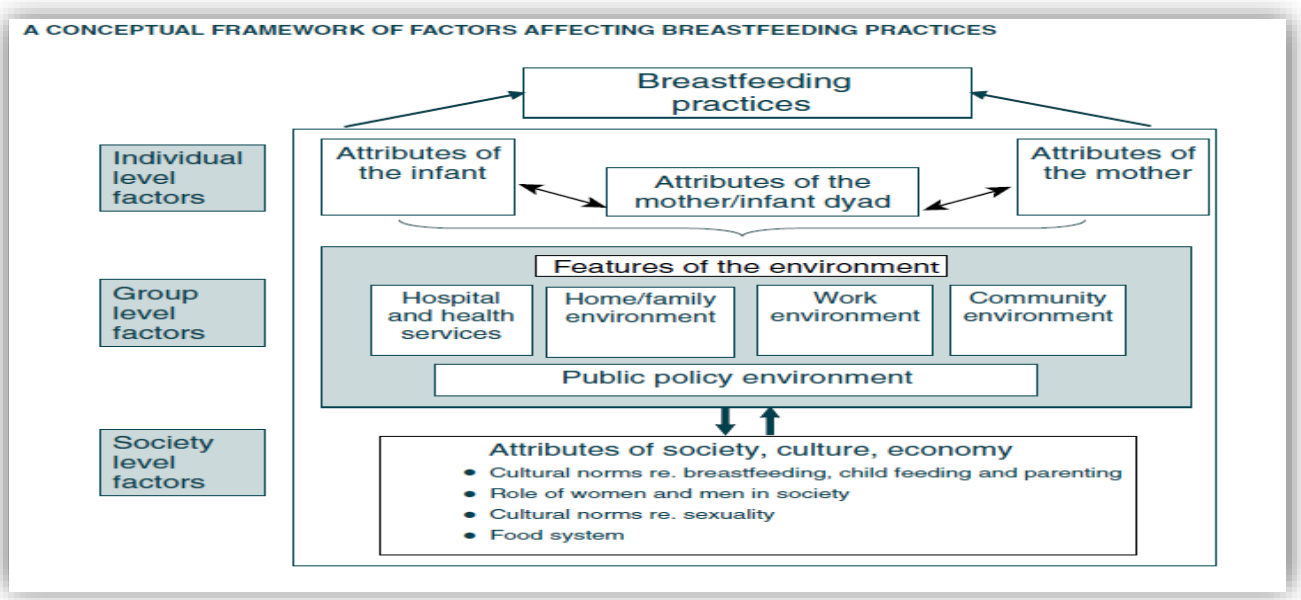

Figure 2.1: Conceptual Framework of factors affecting EBF (Debra J Hector, 2005)

The above conceptual framework proposes three levels of factors that influence breastfeeding practices: individual, group, and society. The framework can be used to generate hypotheses about factors affecting breastfeeding and the types of interventions that might be used to address them.

Individual level factors: relate directly to the mother, infant, and the 'mother-infant dyad'. 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's. Each one of these can directly influence the initiation and duration of breastfeeding. They are also frequently correlated with social and demographic variables. Group level factors are the attributes of the environments in which mothers and infants find themselves, the attributes that enable mothers to breastfeed.

Environments with a direct influence on mothers and infants include the hospital and health facilities environment, in which practices and procedures such as infants routinely rooming-in with mothers to allow demand feeding, postpartum skin-to-skin contact and providing professional support with breastfeeding technique difficulties influence the early feeding experience and the follow-up care and support, the home and peer environment, where physical and social factors such as size of household, parity, family circumstances, partner attitudes and support, and peer support affect the time, energy and resolve that mothers have for breastfeeding 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 breastmilk influence mother's ability to combine work and breastfeeding the community environment, which signals the extent to which breastfeeding is recognized as a norm, and reinforced by facilities and policies in public places, for example parenting rooms in shopping centers and entertainment venues, 'breastfeeding friendly' public transport, restaurants

Other Conceptual framework on factors associated with EBF Practices

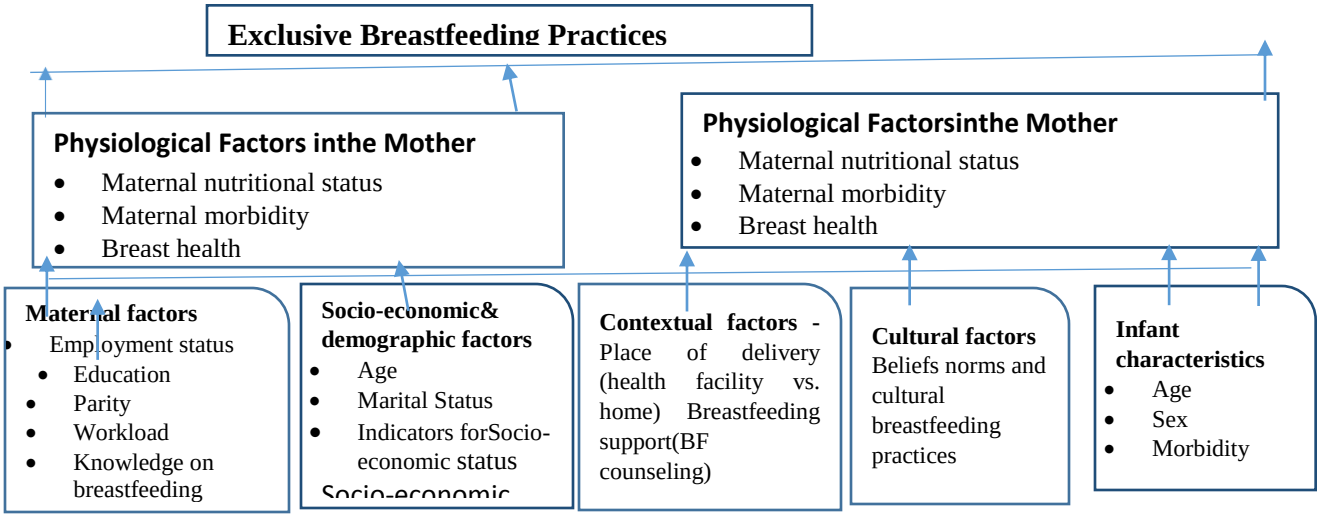

Figure2.2: Conceptual Framework of Factors Affecting EBF Practices (NJERI, 2012).

Summary of the two Conceptual Framework Approaches

The approach depicted by this researcher was structured in to two main categories namely individual level factors and group level factors with complex elements at individual, family, or group and external social factors. Despite this approach comprised of many elements, it has been good to relate with the other conceptual framework approach illustrated under figure 1, above, which clearly designed the approach in to a hierarchical structural one at individual level, group level and societal level. This approach was proposed based on the medical theoretical approach and different conceptual framework of the causes of malnutrition by UNICEF.

This model put factors at individual level (related to mothers, psychological and physiological condition as mothers health status, nutrition, etc. and the infant condition like its health status like morbidity and nutritional status), the family or house hold level factors like the household food security, hygiene and sanitation practices and family members' support, socio economic, socio demographic, the health and nutrition institutional services, and further societal and community level factors as social support, government as well as cultural issues etc. It comfortably presented as they are interlinked to one another and the factors at the base or root affects the factors underlying or at the middle while it intern causes or affects breast feeding and exclusive breast feeding in different direction and varying degrees.

Therefore, in order to have a better theoretical base to guide this study and provide good insight in to the interpretation of results, infer appropriate recommendation for good intervention strategies, and pave a way for further researches, the amalgamation of the two approaches aforementioned above is valid and reliable.

To gain a clearer picture of the factors in detail, the term barriers to exclusive breastfeeding are outlined in different terms as determinants, predictors, or factors that influence the effective practice of EBF and that contributes to the health and nutritional risks and even cause infants and child mortality.

2.4.1. Mother's Personal Characteristics(e.g. Mother's Knowledge& Attitude)

According to (NJERI, 2012), maternal characteristics such as education, influence breastfeeding practices. The study also indicated that duration of exclusive breastfeeding is mainly associated with information and knowledge about breastfeeding. Mother's level of education been reported to be positively associated with initiation, exclusiveness, and duration of breastfeeding.

2.4.2. Sociodemographic Characteristic

According to the study,exclusive breastfeeding was associated significantly with current marital status, economical status, etc. and that evidenced there is a significant association between breastfeeding rates and socio-demographic characteristics of mothers including maternal age, maternal education level, and family income.

On top of that, the study found that breastfeeding rates increase with an increasing maternal age for all race-ethnicity groups, and hence, older mothers breastfeed more probably than younger. However, low level of breastfeeding was recorded with lower level of maternal education whereas higher rates of breastfeeding were linked with higher family incomes than for mothers with lower family incomes.

2.4.3. Cultural Factors

NJERI (2012) also stated that different cultural factors such as different beliefs or myths have an influence on breastfeeding. For instance, Indian people belief that mother's milk is not ready until 2-3 days and postpartum delays initiation of breastfeeding while colostrum generally discarded. He also identified that different cultural beliefs among Lebanese women has caused that the mother could potentially harm her infant through breastfeeding and some of the cultural beliefs include an inherited inability to produce milk, having "bad milk", and transmission of abdominal cramps to infants through breast milk.

It was further witnessed that obstacles to exclusive breastfeeding include the perception of insufficient breast milk, fear of dying or becoming too sick to breastfeed. Moreover, breast milk insufficiency was perceived to be a reason for discontinuing exclusive breastfeeding. From most of the studies, cultural practices do not agree with exclusive breastfeeding for 6 months.

2.4.4. Environmental Factors

Environmental factors can influence breast-feeding, and these include Commercial incentives for formula feeding, supplementing newborns with formula, and using bottles before discharge, has greater influence on EB. His evidence, in developing countries show that initial breastfeeding has enormous benefit and can reduces deaths due to diarrheal disorders and lower respiratory tract infections in children which is otherwise influenced by the environmental factors (NJERI, 2012)

2.4.5. Medical Condition

It was also indicated that different medical condition such as mother and child's health condition could affect breastfeeding. The medical condition includes the case when mothers with HIV, permanently avoid breastfeeding, and other mother who have, herpes simplex virus type 1 (HSV-1), temporarily, avoid breastfeeding, and an illness that prevent mother from taking care of their babies such as sepsis, and maternal medication that affect the infants health (NJERI, 2012)

The other health conditions provide disease such as breast abscess, hepatitis B, Hepatitis C, mastitis, tuberculosis, etc. Even though mother with such condition can continue breastfeeding, they will consider bottle-feeding and this influences breastfeeding. Other are in case of child's birth weight is under 1.5kg (very low), born at less than 32weeks of gestational period, and newborn who are at risk of hypoglycemia, may need other food than breast milk and which will affect breastfeeding.

2.4.6. Lack of Access to Services (like Health, Water, Nutrition, etc.)

According to studies by (Nabeela Ahmed, 2015), inadequate breastfeeding practices can be attributed to food insecurity, income-poverty and lack of access to education and health services, Infant feeding practices pose risks if poor in terms of portion size, feeding frequency and diversity. Meaning diet and illness are immediate factors closely bound up with maternal health and nutritional status as well as care-giving practices and for instance, Diarrheal and acute respiratory infections are the cause of two-thirds of all deaths of children under one year.

2.5. Summary of the literature

Different studies have been conducted so far on the benefits of exclusive breast-feeding, especially for infants under 6 months. It is also ongoing by different researchers but when focusing on the practice of EBF, the prevalence is still very low especially in developing countries and similarly in Ethiopia, the practice is very low.

Further, even if there has been many nutrition and health survey being conducted annually, in a refugee camp, the practice of infant and young child feeding (IYCF), particularly, the practice of EBF was found to be very low while the rate of malnutrition is very critical, there is a gap on the research done why the rate of malnutrition was very high and what factors cause poor practice of EBF and how the poor practice of EBF influenced the nutritional status of infants 0-6 months. The gaps in the practice of EBF for the first 6months of life also contribute to the child's nutritional status beyond 6 months, particularly for the first two years of life.

Therefore, the research study has analyzed the major barriers influencing the successful practice of EBF and the way gaps in effective EBF practice influenced the nutritional status of infants. On top of that, the level of nutritional status of infants under study was identified along with the level of understanding and beliefs on EBF.

Finally, the researcher pointed-out some workable recommendation to improve the gaps identified. Therefore, this research study carried high significance for those who provide similar services and willing to conduct further studies in a similar refugee camp context with similar sociodemographic character

Chapter Three

Research Design and Methodology

3.1. Introduction

This chapter deals with the study design mixed of both quantitative and qualitative, research methodology employed in undertaking the empirical study, description of the study area and its and criteria involved, universe of the study, sampling size and methods, and tools and procedures used in data collection, data processing and analysis techniques were all described.

3.2. Research Design

In this study, a mixed research method was designed and utilized, with data collected using both qualitative and quantitative data gathering tools designed mixed with-in the questionnaire. Under qualitative method, data was gathered using interview schedule, focus group discussion as well as key informant interviews and field observation whereas the quantitative method utilizes an open ended interview schedule was administered to gather the data at the existing nutritional facilities. Further, the researcher utilized a descriptive Cross-sectional study using documentary data analysis, which was designed at finding out the prevalence of a phenomenon, problem, attitude, or issue by taking a picture or cross-section of the population.

3.2.1. Quantitative Survey

This method consisted of questionnaires developed with questions having numerical values that was used to indicate the patterns shown by numerical data and been tested to get acceptance. For this purpose, interview schedule were administered to assess the factors affecting exclusive breast feeding, and to measure the nutritional status of infants who were breast feed and not exclusively breast feed and how that related to malnutrition. For instance, to collect data for the nutritional status of infants, the method contained measuring the current weight, birth weight and the height of infants, using salter or digital scale and measuring board.

3.2.2. Qualitative Survey

This method was used to assess in detail the reality of facts in the study area and to crosscheck the data with the findings of qualitative method. Qualitative survey utilized semi-structured interview with open-ended questions, focus group discussion guides and non-participant observation were used for data collection. Of these tools, focus group discussion was used at the group level where diversified members were interviewed for data collection. The members include key informants and direct beneficiaries especially the pregnant and lactating mothers at the nutritional services to find their knowledge about the program, their satisfaction and why in some cases the services didn't work, and some of the strategy to improve the level of service utilization and promote the best practices.

3.3. Description of the Study Area

The study was carried out at Terkidi Refugee camp, Gambella Regional State, Western Ethiopia. There are seven refugee camps in Gambella regional state namely: Terkidi, Kule, Ngunyel, Fugnido 1, Fugnido II, Jewi, Okugo (Dima). Among these refugee camps, Terkidi is the most populated camp and the second nearest camp to the Gambella town. The camp is located at 48kms away from the Gambella town, but around 7.5km away from Itang town. The camp is located within the administrative zone of Itang town, which located 8^0 12'00'' N and 34^0 16'00''E and altitude of 480meters.

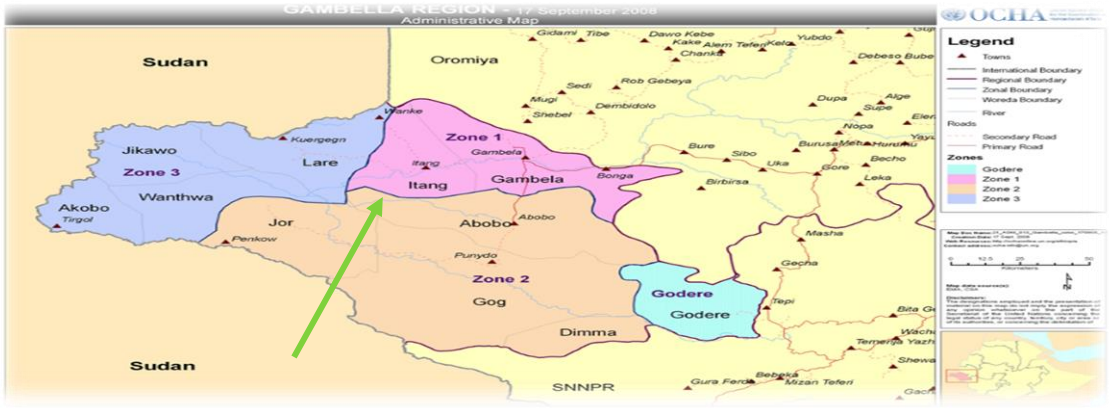

Figure 3.1: Administrative Map of Gambella Regional State, Source, (Neda, 2015)

The camp was established during March 12, 2014 when high influx of south Sudanese refugees crossed the Ethiopian border at two routes namely Pagag and Burubiey. The total numbers of refugees are currently 70,699 individuals and the total numbers of Households were 12052. The

Terkidi population accounts for 18.9% of total refugees in Gambella (which 397455) and from this population, child 0-4years 20% (boys=9.8%, girls=10%) and if children under 5years are 20% and the ratio of infants under 6months were almost nearest to 4.5% of under 5years children. Therefore, this study takes in to account this particular target.

3.4. Universe of the Study

The universe of the study contained all lactating mothers whose children is 0-6 months of age and who were breastfeeding at the time when the study was conducted and also living throughout Terkidi camp. The total number of lactating mother whose infant is 0-6months were about 551, asper the data of Blanket supplementary feeding program by GOAL Ethiopia Report week 39, 2017.

3.4.1. Inclusive Criteria

The lactating mothers whose infants reached 6months were included in the study to get large sample size. The study also included lactating mothers with twins.

3.4.2. Exclusive Criteria

The study did not include the lactating mothers who are HIV positive and whose age of the child was aforementioned above and those mothers who were coming during General Food Distribution and were moving out of the camp.

3.5. Sampling Method and Sample Size

This study employed a mixed sampling method like simple random sampling to give equal chances for all targeted lactating mothers, and then using systematic random sampling as the Camp arrangement was in a systematic way. Before selection of the household for interview, census of all lactating mothers with children 0-6months living in the camp were carried out for sampling frame.

For this study, all the households with lactating mothers 0-6 months were entered in to computer by giving them number from one to N, where in this case N was the sample frame used for selecting the lactating mother for which interviews were conducted as a direct respondents whose children in the study target were taken. Sample size calculation for this study has been derived from the (COCHRAN, 1977).

The Cochran equation:

$\mathbf{n_0 = \frac{z^2 p(1-p)}{e^2}}$

Where:

$\boldsymbol{n_0}$= required Sample Size,

Z^2 *is* The abscissa of the normal curve that cuts off an area α at the tails;

$(\mathbf{1-\alpha})$- Equals the desired confidence level, (95%)

P= the estimated proportion of an attribute that is present in the population, q is 1-p.

e = the level of required precision;

The value for is found in the statistical tables, which contain in the area under the normal curve. E.g. z=1.96 for 95% level of confidence. If a non-response rate with no replacement is considered, the sample will be increased by adding that amount percentage on the sample formula. Based on the above, Cochran provided the formula for the sample making correction for finite population (N<10000) as:

$\mathrm{n} = \frac{n_0}{1+\left(\frac{n_0}{N}\right)}$**, from** this, $\mathbf{n}=\frac{\frac{z^2 p(1-P)}{e^2}}{1+\left(\frac{z^2 p(1-P)}{N}\right)}$**.**

Therefore, if the total population of lactating mothers with children 0-6months (N) currently in the camp are reported to be 551 (Ethiopia, 2017) then the number of lactating mothers to be contacted during data an interview will be calculated by using the following formula as follows**:**

Given N = 551,

p = 0.5, e = .05,

Z = 1.96 at a confidence level of 95%.

Therefore: $n_0 = \frac{z^2 p(1-P)}{e^2}$, $n_0 = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2}$, $= \frac{3.8416 * 0.25}{0.0025}$, $n_0 = \frac{0.9604}{0.0025} = 384.16$.

Nevertheless, for N<10,000, using the formula above, the sample size will be: $\mathrm{n}= \frac{\frac{z^2 p(1-P)}{e^2}}{1+\left(\frac{z^2 p(1-P)}{N}\right)}$

$$\mathbf{n} = \frac{\frac{(0.5*0.5)(1.96)^2}{(0.05)^2}}{1+\left(\frac{\frac{(0.5*0.5)(1.96)^2}{(0.05)^2}}{551}\right)} = \frac{384.16}{1+\left(\frac{384.16}{551}\right)} = \frac{384.16}{1+0.697} = \frac{384.16}{1.697} = \mathbf{226.38.}$$

When we rounded off the result will be **227**. Similarly, if non-response rate of 10% (.0.1) is considered the formula will be n_f = (n+0.1n) = 227+ (227*0.1), $n_{f.} = 249.7.$ When rounded off this will be **250.**

3.6. Tools and Procedures for Data Collection

To fulfill the requirement of research, the researcher utilized different tools for data collection that contained the necessary details as per the research objectives understudy, whereas protocols for how to use them also provided with those tools.

3.6.1. Data Collection Tools

3.6.1.1. Interview Schedule

Interview schedule to collect data under this study was prepared containing a mix of questionnaires of both closed ended and open end. Each questionnaire also contained pre-coded alternatives responses. It was structured in to different sections I, II, III&IV to directly collect the data required by each objective. For instance, the section I& IV were designed to contain all the data related to the factors influencing exclusive breast-feeding and linked to answer the first research objective. The II section was designed to contain data about the infants' nutritional status to answer the second research objective. The III section was a transitional section used to collect data about Mothers knowledge, her attitude, and current feeding practice and was -inked to answer the third research objective, which indicated the knowledge gap of the respondent. The interview schedule was tested in the filed before data collection, and a little modification was made on the tentative interview schedule.

3.6.1.2. Observation Guide:

In addition to the above tools, the researcher utilized a non-participant observation to assess the issues in the subject matter of study and along with this; direct observation was carried out during service delivery at the nutrition center, to identify how services were delivered to the beneficiaries. The main purpose of using this tool was to find the real situation regarding the ongoing service delivery and triangulate the findings with other data as well as to cover some of the data not include with other tools.

In addition to cross checking data quality and validity, the tool helped to identify different issues that was not included in the interview schedule and the status of different services been delivered in the camp but have related connection with the nutritional services been given in the camp. During observation some of the services been identified by the researcher having relation with the nutritional services include food security, water hygiene and sanitation (WASH), health services and livelihood programs, etc.

3.6.1.3. Interview Guide:

In order to collect relevant information for the research understudy, the interview guide/protocol was prepared and utilized to guide the enumerator during the interview session and to give respondents enough time to respond on what was interview. Therefore, the guide consists the following points:

- Before asking the detail make sure that informed consents are agreed up on by respondents and continue once they understood why the objective of survey is done and how it not affect them and their responses are kept confidential.
- Asking question at a time and repeat question & wait for response,
- Make sure that respondents understand the question and verify this through their nonverbal communication,
- First start with introductory question, then transformational and ask the very sensitive question at the end
- Listen carefully, while asking and waiting for responses and take note
- During interview to maintain the eye contact, tone of voice, facial expression, and gesture of respondents,
- Also not to lead with answers but to probe what they think about on the subject,
- During interview avoid pre-judgmental attitude and use tact full skills in handling the interview
- During interview to sit clearly with respondents in a one-to-one contact with no barriers between them.
- Use very clear language, for this data collectors are trained in advance on how to do interview and internalize all the questions in the interview guide,
- Finally, thanking the respondents for their response

3.6.1.4. Focus Group Discussion Guide

For the qualitative data collection, focus group discussion guide prepared and employed for data collection on the subject matter. Enumerators collected data by directly contacting with members of pregnant and lactating women. The average members in each group were from eight to twelve individuals. The information collected during interview-involved issues regarding their views on the services delivered to them, the challenges they faced, motivating factors and ways for improving the gaps. The interviewing procedure for the group carried out with some of the questionnaires designed with open-ended questions.

In general, about four FGDs were conducted with key informants and with mother-to-mother support group, members at four Zones of Terkidi refugee camp and recording of the session were performed for the data to be reviewed and utilized later during data analysis.

Once the data was completed, it was coded, scrutinized, edited, and was used to tri-angulate the data been collected with one collected with interview schedule questionnaire. Before, the data collected from the group, the objectives of the study were described. In addition to taking consent, issues of confidentiality of data were reassured. On average, each FGD lasted from 30-35 minutes.

3.6.1.5. Documentary Analysis

In addition to interview schedule, documentary analysis was used in gathering and relating data containing crucial information on the subject matter. For this purpose, all published and unpublished research materials, dissertations, theses, breast-feeding journals, progress reports in the study area, web-based files, and other were analyzed to strengthen the information obtained and verify some of the issues under investigation, which might not be related with a descriptive cross-sectional survey. Data were analysis based on the thematic category and content analysis was applied.

3.6.2. Data Collection Procedure:

Before starting the data collection, the researcher arranged a discussion forum before one week with different stakeholders such as staffs of the nutrition agency, health, community leaders especially refugee administrative bodies called refugee central committee referred to as RCC, etc.

In a discussion, the purpose of the research, and the target group and procedure of data collection all raised. Then, the researcher recruited about five enumerators who can speak the nuer language of the study population and given them a one-day training on interview methodologies and quality data collection. The next day, questionnaires of data collection were tested in the field.

Following that, preparation of sample frame and sampled households with the target group for interview (lists of respondents were selected and ready-made for interviewers). Finally, the real interview session were started in the presence of the researcher in one of a selected zone in the camp. Along with the interview sessions, other respective data regarding child's weight and height were collected at the facility level at two sites by appointing mothers during the service delivery was going on. On average, the interview session with each mother lasted from 25-30minutes.

In general, the whole data collection processes including anthropometric data were completed within one month and ten days and closer supervision and data controlling was carried out. Finally, the data collected from respondents were checked, edited, and was entered in to computer for further data processing and this could take up to around 1 month.

3.7. Data Processing and Analysis

Once the data were collected, it was entered in to computer and some of the software used for these purposes was as follows:

ENA Software: The anthropometric data of infants were entered in to the computer using Emergency Nutrition Assessment (ENA) software with a version updated in 2015. Then data analysis and interpretation was done regarding the nutritional status of infants, which was described using the WHO Z-Score growth standard deviation (WHO, 2006). The Z-Score standard deviation result indicators included stunting, underweight, and wasting. From that, the -3 score indicate severe wasting, and from -3 to -2 indicate moderate malnutrition, while the value greater than or equal to -2 indicate normal nutritional status. In general, the GAM Rate for the infants in the Camp was about 24.4

IBM SPSS statistics 20: was used to enter the entire data for further analysis and interpretation. In addition, the impacts of EBF on the nutritional status of infants that were exclusively breastfeed and

not, were studied, analyzed and interpreted to provide with successful ideas towards good practice of EBF, that may have benefit to the nutritional services as well as other stakeholders.

Regarding the indicators of this study, the independent variables were the primary data been collected from lactating mothers who are the direct beneficiaries at the nutritional Services of the Terkidi refugee camp. Further, the anthropometric data of infants collected were an independent variable while the nutritional status of infants under study, the GAM Rate of infants (0-6) months, were the dependent variables while the current practices of Exclusive Breast Feeding was also another dependent variable. Finally, the data collected from the respondents, regarding the barriers, or sociodemographic data, are the independent variable.

Regarding data analysis, and interpretation, descriptive statistics such as frequency, percentage, mean, cross tabulation as well as inferential statistics such as chi-square, binary logistic regression, etc. were utilized depending on the research objective to be attained.

3.8 Ethical consideration of the study

While conducting this study, the researcher followed different procedure of applying major ethical issues. Before the actual data collection and during the orientation training for the enumerators, the researcher raised the major ethical issues to be considered and seriously emphasized on them to be observed and applied by the enumerators so that respondents could freely and voluntarily respond to what they felt regarding the subject understudy. Some of the major ethical issues been applied during the study were as follows: Information, Informed Consent, respects for anonymity and confidentiality, beneficence-don't harm, respect for privacy, assurance, etc.

3.8.1. Information

Before each interview session, the investigator provided clear information about the purpose of the s conducting the study, for all concerned bodies to get approval for conducting research. Further, each respondents were received clear information about the purpose of the study and how it benefits given codes and the actual data collected during interview will be handled at the researcher level and not disclosed to other bodies as well as not employed for further issues than the researcher used for the fulfilment of MSW graduate degree.It was agreed that theirdata should be kept confidential and

finally informed consent was taken and the respondents decided to freely and express what they felt about the issues under study.

3.8.2. Informed consent

As was tried to indicate in the above discussion, informed consent was taken before starting any interview session and interviews was done only for those mothers who agreed to take part in the research. The informed consent form was prepared and presented with the questionnaires and that was indicated on the questionnaires.

3.8.3. Respect for Autonomy& Confidentiality

When conducting this research, the issue of confidentiality and anonymity is closely connected with the rights of beneficence, respect for the dignity and trustworthiness. For anonymity to respected, it was confirmed that the subject's identity should not be linked with personal responses.For this to be realized, the researcher clearly provided more clear information on how to manage the privacy of respondents.

Similarly, it was clearly indicated before the interview session that the information they provide would be kept confidential by using only code numbers and securely putting the data. They were advised also not give their name and that no one will have access to the non-coded data except the principal investigator and the data will not be used for purposes other than this study. To this extent, they were given the priority to express their views and give response based on their willingness and active participation as that helps for the success of this study.

3.8.4. Beneficence-“Not Harm”

For the purpose of the research, the term beneficence-not harm was taken seriously and was tried to mean the participants will be benefited from the study indirectly when some of the barriers to the main issues under study will alleviated and to the level of their wellbeing and so that the major impacts to beneficence is manifested in the form of psychological, economical, emotional and social wellbeing with no harm to them.

Chapter Four

Data Analysis, Interpretation, and Discussion

4.1. Introduction

This chapter mainly dealt with the main findings of the study, data analysis, interpretation, and discussions on the results in detail. For the findings and presentation of the results and interpretation, discussed tables and graphs were used. The detail discussion were presented in to the three category based on the objectives and research questions. Under the first objective on barriers to exclusive breast-feeding, maternal profiles like sociodemographic characteristics including age, education status, and marriage status and their relation with EBF, socioeconomic factors of mothers (household) like employment or occupation, kinds of occupation, status of income and sources of income, types of house household, and family size and their relation with EBF were covered. Finally general summary of the factors affecting EBF were also touched.

Under the second objective, the nutritional status of the infants, the relation between their nutritional statuses with breast-feeding, the different kinds of infant feeding from birth to six months, infants, and maternal morbidity statuses and their relation with nutritional status were all covered.

The third objective about the mothers' knowledge level, attitudinal change and the rate of EBF and other common practices were summarized. Finally, the findings from the focus group discussions and field observation findings by the researcher were included in detail.

4.2. Factors Affecting Exclusive Breast-feeding (EBF)

Under this section, all factors that may have effect or association with the practice of exclusive breast-feeding were presented. These factors were presented in response with the research question. In order to measure-to-measure relation with the factors and EBF, it was identified in terms of predictor variables or independent variables and the target variable or dependent variable. For instance, the independent variables or factors influencing the good practice of exclusive breast feeding include socio demographic characteristics of the mother, socio economic character of the mothers at household, other factors related services delivery by mothers, maternal health and child morbidity, maternal personal characteristics such as her intention or psychological, awareness, etc.,

social cultural factors, environmental factors, etc. Unlike independent variables, the dependent variables include the practice of EBF and the timely initiation of breast-feeding, etc.

In order to assess the relationship between the independent and dependent variables, some statistical tools been utilized include chi square, frequencies, logistic regression where odd ratio (OR) and adjusted odd ratio (AOR) with confidence interval (CI=95%) were compared with their Wald chi squares (X^2) tests and all these tools were taken significantly at(value < 0.05)

4.2.1. Maternal Socio-demographic Factors Vs EBF

4.2.1.1. Maternal Age

The study was started by collecting data from 250 lactating mothers with infants' age 0-6months. All lactating mothers represented from each household been labelled and given code. As indicated in the figure below, about 72.7% of mothers were in the age group of 21-30years followed by the age group 31-40yrs that was 16.2%, while the age group 31-40years is 10.3%.

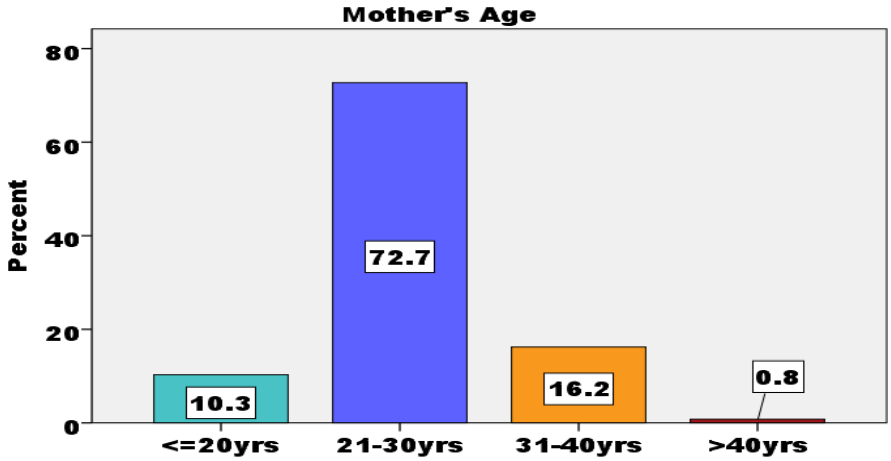

Figure4.1: Mother's Age distribution from this survey 2017

As per the result of this finding, the relationship with maternal sociodemographic factors like age, marital status and educational status were investigated. Accordingly, it was reported that maternal age was associated both with timely initiation of exclusive breast feeding and exclusive breast-feeding. Chi square test was used to test for significant association of these factors with timely initiation of EBF and EBF (chi square x^2 = 32.122& P=0.00) and (chi square x^2= 9.66, p= 0.022) respectively.

The result of this study (table 4.1) indicated that the rate of timely initiation increased with an increase in age of the mother while young age practices less, as they are the beginner and no previous experience. The same is true for EBF, which increased with age except middle age of the mother. This study was in contrast with the study conducted at (Mensa, 2017) which indicated that Mothers 15-24 years old were 12 times [AOR=12.02 (1.153, 25.180)] more likely to exclusively breast-feed their baby than those in age range 35-44 years.

In other words, the study result was agreed with the study conducted by (WANYONYI, 2010) which indicated that Younger maternal age was associated with a short length of breastfeeding, as they appreciate the aesthetic aspects of having beautiful breasts and believe that breastfeeding leads to less attractive breasts and so they choose not to breastfeed; they had one child who was the first born.

In addition, the study indicated that Young mothers have limited exposure and no experience of breastfeeding, they are surround by myths, and this makes it difficult for them to accomplish breastfeeding successfully. Young mothers are less likely to breastfed than older mothers because, myths surrounding its impact on the young mothers. However, the old age have practiced more breast feeding because they are the one who have more previous experience and that currently learnt to solve the problem both physically and psychologically.

Table 4.1: Maternal Socio-demographic Factors VsEIEBF & EBF

Independent Variables	Dependent Variables(N=250)							
	Timely Initiation of EBF with-in <1hr				EBF in 24 hrs recall			
	N	%	Chi square	P. Value	N	%	Chi square	P. Value
Maternal Age			32.12	0.00			9.66	0.022
<=20yrs	8	30.8			19	73.1		
21-30yrs	60	32.6			148	80.4		
31-40yrs	28	68.3			24	58.5		
>40yrs	2	100			2	100		
Marital Status							0.315	0.854
Married	98	95.9	3.92	0.69	189	76.2		
Divorced	1	1			1	0.5		
Widowed	3	3.1			3	1.6		
Level of Education			28.99	0.004			4.175	0.383
Illiterate	63	33.9			138	74.2		
Primary incomplete	26	59.1			**36**	81.8		
Primary Complete	5	35.7			10	71.4		
Secondary Incomplete	4	50			8	100		
Secondary Complete	0	0			1	100		

4.2.1.2. Mother's Marital Status

The result indicated that 98% of the lactating mothers in the camp were married while and only small number of mothers was widowed and there were no significantly registered divorced mothers.

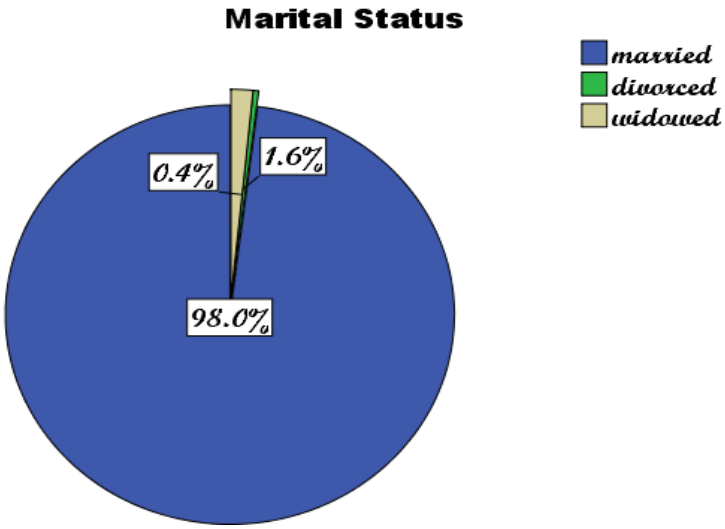

Figure4.2: Marital Status from this survey 2017

The study result (table 4.1) showed that though married mother exclusively breast feed than others, marital status has no association with both breast feeding initiation and EBF (x^2 =3.92, df =2, P =0.69) and this study complied with the study conducted by (**Njeri, 2010)** which indicated that there was no relationship between marital status and breast feeding practice. This study contrasted with the study conducted by (WANYONYI, 2010) that indicated there was a relationship between marital status and exclusive breastfeeding; $\chi 2$ = 1.417, df = 1, P = 0.039 at significance level 0.05 and according to his findings, single mothers exclusively breastfed more than their married partners because single mothers as heads of households might have less family support and having too much work prevented her from breastfeeding while the married one more likely to breast feed.

Other study conducted by (Ahmed Gharib Khamis, 2017) at three districts, Zanzibar, Tanzania, which found that their study didn't find any association between education status of mothers, employment and their marital status. According them, there were many other studies, which did not find the influence of marriage, employment, and education status to EBF practice.

Table 4.2: Cross Tabulation of Mother's age and Marital Status

Mother's Age	Marital Status			Total
	Married	Divorced	Widowed	
<=20yrs	25 (10.0%)	1(100%)	0	26
21-30yrs	183 (73.2%)		0	183
31-40yrs	37 (14.8%)	0	3 (75%)	40
>40yrs	1 (0.8%)	0	0	1
Total	**246 (98.4%)**	**1**	**3**	**250**

Source compiled from research survey July 2017

Findings from the above (table 4.2.) showed that 73.2% of the married mothers are in the age group 21-30years, and the age group 31-40 years account for 14.8% of married. The maximum widowed age range was reported to be in the group of 31-40, which is 75%.

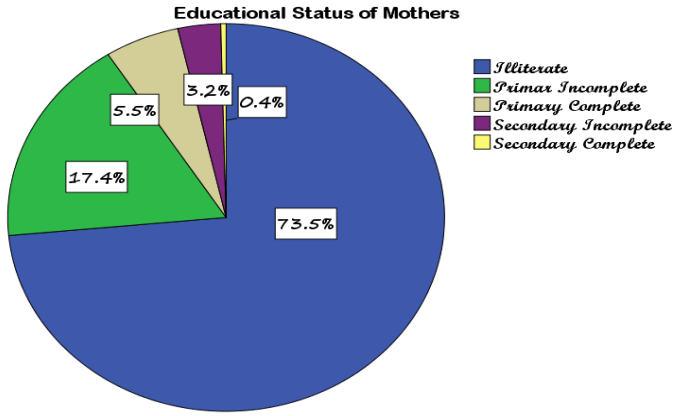

Figure 4.3:Educational Status of the Mother from this survey 2017

4.2.1.3. Mother's Educational Status

The study result indicated that almost three in fourth of lactating mothers were illiterate followed by those who Primary incomplete and those who completed primary school covered 17.4% and 5.5% respectively. The study also indicated that high figure of the illiterate mothers were from the young adult age 21-30years followed by the middle adult mother of 31-40years. Therefore, there was big gap for the mother's level of education in the young adult of age 21-30years, as they have played big role in child rearing and become homemaker and was the result of early marriage prevalent in the camp.

Regarding the relationship between maternal education and practice of EBF, the result of this study as pointed in the table 4-0-1, indicated that maternal education did not have association with EBF (x^2 = 4.175, p=0.383) whereas maternal education was associated with timely initiation of (x^2= 29.998, p.

value = 0.004) though 100% EBF rate was reported in the table for those were in secondary level while the number reduced along those illiterate.

So the study agreed with study done in Tanzania by (Ahmed Gharib Khamis, 2017)as discussed above. The study also coincides with the study done by (Njeri, 2010), except the difference found in initiation and practice of EBF.According to him, more educated mother or mother with higher levels of education become better informed on decisions regarding infant feeding choices.

4.2.2. Maternal Socio-economic Status & Exclusive Breastfeeding

4.2.2.1. Maternal Occupation and Forms of Employment

The study result showed that about 92.9% of the study population did not have any kind of employment and about 4% of mother was those who had full time employment, and out of this group, about 50% were those completed the primary school. The result also indicated that more than 75% of those unemployed were among those who were illiterate while majority of the self-employed mothers were among those who were illiterate.

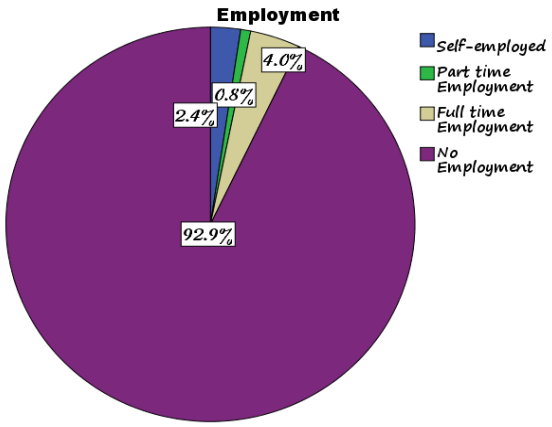

Figure4.4:Maternal Employment Status from this survey 2017

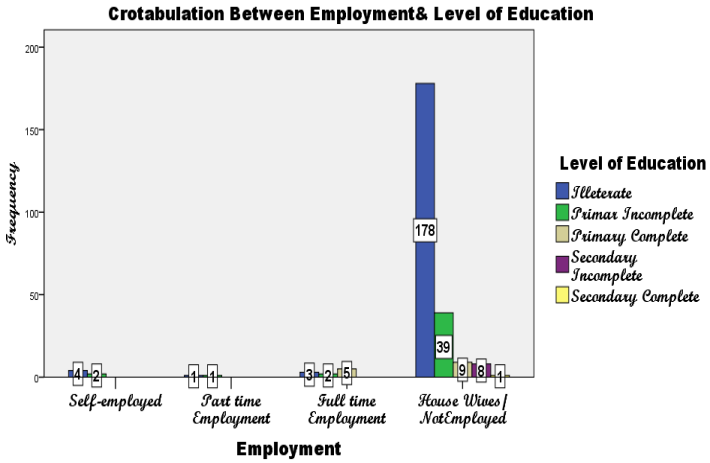

Figure 4.5: Maternal level of employment&Educational status, from this survey 2017

The study result further indicated that more than 92.9% of the mothers who were not employed, were engaged mainly on others forms of employment and these can be related to the coping mechanism such as those related to related labor work and creation of income by selling products from GFD, lending or borrowing from relatives or friends and engage themselves on harmful practices, etc. It also indicated that most of those engaged on full time employment were

engaged on office work, while most of those self-employed were engaged on other forms of employment and some farming activities in the refugee camps. For further detail, please see the table below.

Table 4.3: Maternal Socio Economic& Demographic Factors' Vs EIEBF& EBF

Variables	EIEBF in <1hr				EBF in 24 hrs recall			
	N	%	Chi square	P. Value	N	%	Chi square	P. Value
Employment		df=9	9.84	0.364		df=3	1.95	0.58
Self-employed	2	33.3			5	83.3		
Part time Employment	2	100			3	100		
Full time Employment	5	50			9	90		
No Employment	89	37.9			177	75.3		
Forms of Employment		df=9	10.67	0.299		df=3	5.17	0.16
Office Work	5	71.4			7	100		
Own Business	5	45.5			6	54.5		
Farm Work	2	13.3			12	80		
Others	86	39.1			169	76.4		
Family Size		df=3	7.3	0.064		df=1	4.8	0.028
1-4	70	71.4			155	79.9		
5-8	28	28.6			39	20.1		
Type of Household		df=3	9.25	0.026		df=1	0.532	0.47
Female Headed Household	86	36.6			178	75.7		
Male Headed Household	12	66.7			16	83.3		
Household Total Annual Income		df=12	56.64	0.000		df=4	1.86	0.762
<20,000	43	72.9			47	79.7		
20,000-40,000	10	52.6			13	68.4		
40,000-60,000	3	37.5			7	87.5		
>60,000	0	0			1	100		
Don't Know	42	25.5			126	75.8		
Household Sources of Income		df=12	40.22	0.000		df=4	3.96	0.412
Husband Salary	25	56.8			37	84.2		
sale of fire wood	14	18.2			59	76.6		
Sale relief Items (food, nutrition product, NFI, etc.)	51	42.5			91	75		
Remittances	1	50			1	50		
Small Business	7	70			6	60		

Source compiled from research survey July 2017

As per the finding from table 4.3, the relationship between maternal socio economic and exclusive breast feeding and initiation were investigated. Accordingly, majority of the indicator variables investigated showed that there was association between timely initiations of EBF except for mother's occupation forms of occupation or employment, while there was no any association with EBF. For instance, there was association between family size, type of household, maternal annual income, and sources of income while there was no any relation between these factors and EBF, except for breast feeding initiation.

For the relationship between the above variables and breast-feeding, chi square test was used to test the significance of association (for maternal occupation, x^2=9.84, df =9, p= 0.364 and x^2 =1.95, df=3, p=0.58 for BF initiation and EBF respectively). At the same time for forms of employment, x^2=10.67, df=9, p value=0.299, and x^2= 5.17, df=3, p value=0.16 for both timely initiation and practice of EBF respectively.

The findings of this study agreed with the one conducted by (Njeri, 2010), that confirmed there was no association between socio economic factors and EBF. However, this finding contrasts with the finding conducted at rural area of JAIPUR, India by (Dr. Veerbhan Singh1*, 2014)indicated that socioeconomic factors such as mother working conditions, family income, etc. are important factors affecting the care of infants in terms of breast feeding, weaning and personal hygiene.

4.2.2.2. Types of Household and Family Size

This study indicated that, majority of respondents play great role in a household management and in connection with this majority of the mothers was illiterate.

From this study, the role of family care and protection such as dealing with the household socio economic and health insurance and building the families welfare or family organization were all based in the hands of mothers.

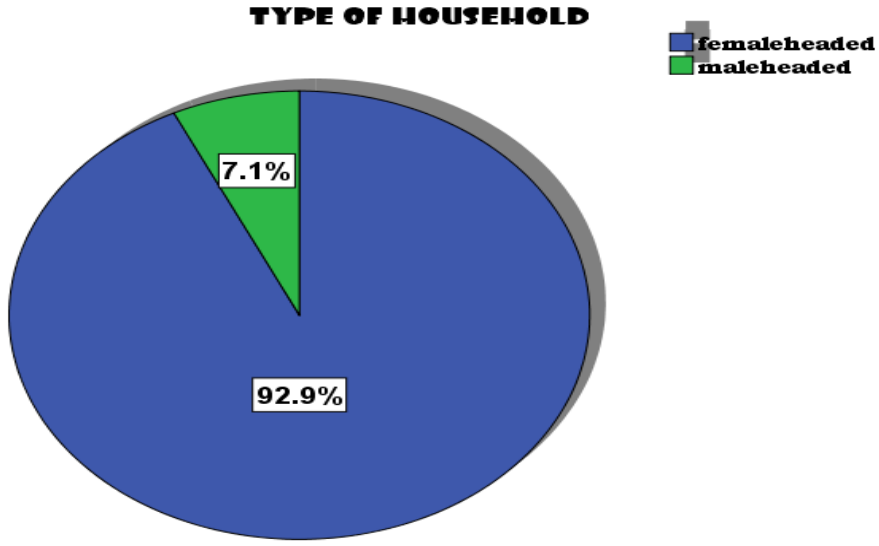

Figure 4.6: Types of House -hold distribution by Gender from this survey 2017

As per the finding from table 4.3, the type of house hold has significant relationship with early breast feeding initiation, but did not show any relationship with practice of EBF (X^2 = 9.25, df=3, p=0.026 & X^2= 0.532, df=1, p=0.47 for timely initiation and practice of EBF respectively, where p is significant at p<0.05).

According to this study, it was reported that male-headed households practiced more early initiation than female-headed household did and the reason could be that female-headed households were very busy in the household activities and that affected their practice of breast-feeding and husbands may have supported their wives. Since there was no clear studies conducted to why male-headed households than their counterparts, it required further study for why this happened.

In addition, the family size has no relationship with early initiation of exclusive breastfeeding while there exists a significant relationship between the family size and exclusive breastfeeding (X^2= 7.3, df =3, p= 0.064 & X^2= 4.8, df=1, p =0.028 for EIBF&EBF respectively). For instance, the households with lower family size practice more exclusive breastfeeding 79.9% than those with more children 20.1% (Table 4.3).

4.2.2.3. Maternal income levels and sources of income Vs EIFF& EBF

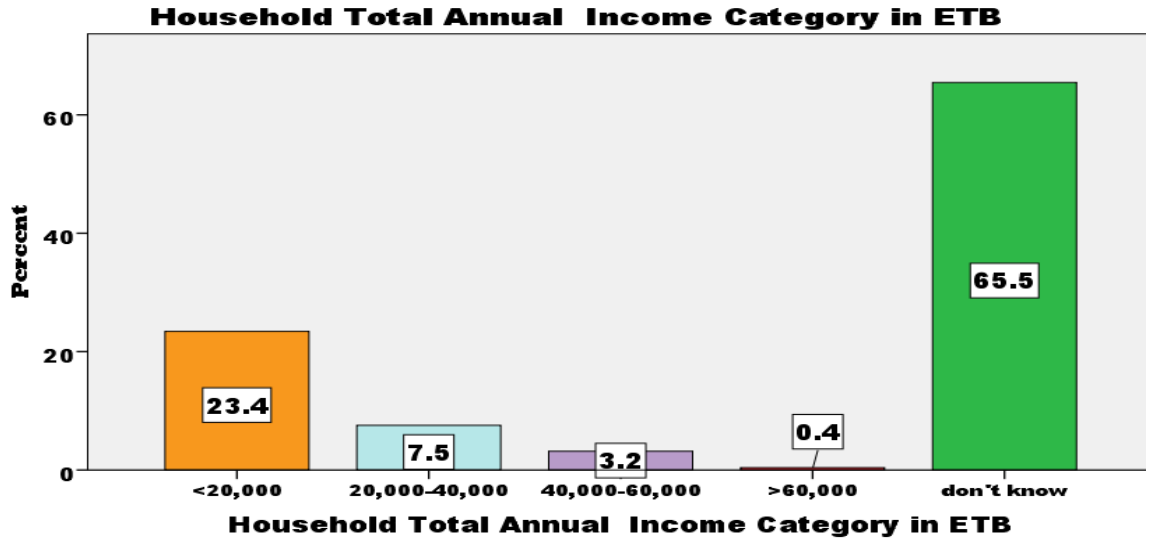

Figure 4.7: Household Total Annual Income, from this survey 2017

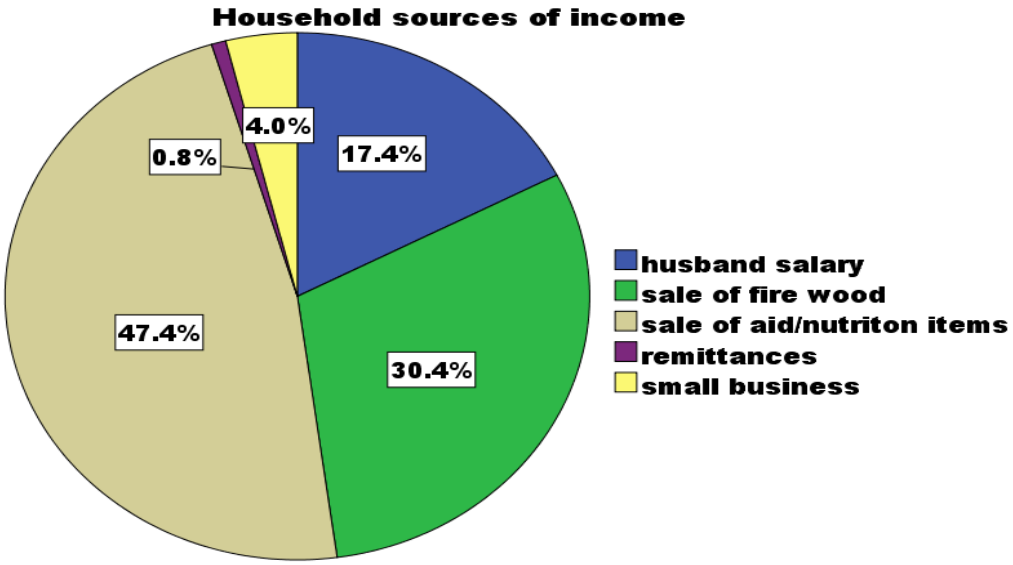

Figure 4.8: Household Sources of Income from this survey 2017

The study report indicated that majority of the respondent did not know their total annual income while the rest about one in five persons has reported that their total income was less than 20000ETB $740.74USD) which is the lowest income category in the hierarchy while only 7.5% was reported in the middle income category. From the above the result of table 4.3, the maternal source of income and income level has relationship with breast feeding initiation, but has no any association with exclusive breast-feeding. The chi square test indicated that for mother's total annual income (x^2= 40.22, p value=0.000, X^2=3.96, p value=0.412) for EIEBF& EBF respectively while for the source of income (X^2= 56.64, p value=0.000& x^2= 1.86, p value =0.762) for EIEBF& EBF respectively.

The data from the graph in figure 4.8 indicated that nearly half of the respondents (47.4%) earn their household income by selling the relief items that they receive to sustain their life. These relief items mainly include food items received from monthly general food distribution (GFD), non-food items and sometimes some products from nutrition supply. These means that the items they use for sustaining life is not only used in the form of money earned but also to be used as filling gaps during shortage of the other items.

In addition, the study identified that nearly about one in three persons (30.4%) earn and fulfil their house necessities other than food by selling firewood, while the rest of household get

income from husbands salary 17.4% followed by those who run small business 4% and that from the remittance is almost none.

In general, the numbers in the above figures 4.7&4.8 indicated that there was inadequate provision of livelihood program in the camp that may have affected the level of malnutrition as well as the problems related issues. There also a major impact on environment.

4.2.3. General Summary of Factors Influencing Exclusive Breast-feeding

The factors affecting proper practice of exclusive breast feeding practices were investigated to identify the main influential factor using logistic regression analysis in which crude odd ratio and adjusted odd ratio were employed to compare among these factors. The factors were arranged in to their category as

1. Maternal personal characteristic or perception,
2. Social Support
3. Cultural factors
4. Environmental as well as
5. Maternal and child health condition.

4.2.3.1. Maters' Personal Characteristics (Belief/knowledge on EBF, etc.)

As was stipulated in the table 4.4, maternal personal characteristics like personal beliefs that breast-feeding is time consuming, lack of previous experience in exclusive breast feeding, and having inadequate key information on EBF such as the benefit of EBF for babies against many infection, its help for mothers to stop post-partum hemorrhage and its valuable benefit for community and society at large were among the factors associated with the practice of EBF.

According to the logistic regression analysis, mothers who believe breastfeeding is time consuming is found to be 3.82 times practicing exclusive breastfeeding (CI (1.32,10.77), P value=0.011) while those belief on previous experience in the Practice of EBF (AOR=0.18, CI (0.06, 0.58)& P value=0.004), and those who belief having inadequate information on key messages about the benefits of EBF related to the child, the mother and the community at large (AOR=0.10, CI (0.02, 0.43)& P value =0.002) seemed to have less practice in EBF.

Table 4.4: Logistic Regression Analysis on the Factors Influencing EBF

Q.S.N	Independent Variable Vs response category (0=disagree, 1=agree, 2=strongly agree)	OR	PV	AOR	(95% CI)
Q41.1	**Mother's Personal Character (knowledge, belief or perception, etc.)**				
1	Breast-feeding makes mother's breasts loose shape.	1.05	0.069	2.90	(0.92, 9.15)
2	Having physical difficulties and problems about breastfeeding such as Sore or painful nipples or others	0.66	0.235	1.94	(0.65, 5.78)
3	The baby needs more than breastmilk/ Not enough breast milk production	-0.89	0.140	0.14	(0.13, 1.34)
4	Breastfeeding causes mothers busy/ Time consuming	1.34	0.011	3.82	(1.32, 10.77)
5	Breastfeeding don't quench the baby's thirsty	1.61	0.077	5.02	(0.84, 30.03)
6	A belief that low income level, or Being poor affect Breastfeeding	-0.92	0.124	0.40	(0.12, 1.29)
7	Stressful/ Concern that certain food mother eat will make the baby sick	0.93	0.140	2.54	(0.74, 8.72)
8	Failure in the Previous Breastfeeding Practice or lack of previous experience on EBF	-1.70	0.004	0.18	(0.06, 0.58)
9	Mothers being busy in different activities such as collecting food, water, firewood, business making, etc.	-0.61	0.236	0.54	(0.20, 1.50)
10	In adequate information that exclusively breastfed babies have less chances of developing different diseases related respiratory and GIT and maternal bleeding after delivery, etc.	-2.28	0.002	0.10	(0.02, 0.43)
Q41.2	**Social Support (Family, Peer group, health& Nutritional institution, community, etc.)**				
1	Support and encouragement in breastfeeding from Husband, or other family members or relatives	1.56	0.012	4.76	(1.41, 16.08)
2	Support from friends or community members encouragement is important for breastfeeding	-0.20	0.811	0.82	(0.16, 4.17)
3	Key Messages on breastfeeding or Support from the Nutritional Services during Service Delivery or Support from Professional Staffs at nutritional services	1.45	0.030	4.24	(1.15, 15.67)
4	Key Health messages on breastfeeding during antenatal care& other health campaign sessions	-0.87	0.208	0.42	(0.11, 1.62)
5	Support from the Mother- to -Mother Support Group or other support groups in the community	-1.22	0.022	0.23	(0.1, 0.84)
6	Support from the Existing Religious Institutions in the Community	1.07	0.185	2.91	(0.60, 14.17)
Q41.3.	**Cultural Factors**				
1	Colostrum is a "bad milk" and should be discarded	-2.05	0.097	0.13	(0.01, .45)
2	Poor mothers or malnourished can't breastfeed her baby	-1.68	0.037	0.19	(0.04, 0.91)
3	Breastfeeding from sick mother's breast makes the baby sick	-1.15	0.094	0.32	(0.08, 1.21)
4	Expressing breast milk is a taboo	0.70	0.291	2.02	(0.55, 7.45)
5	Breastfeeding in the Public is embarrassing& has less valued by Society	0.56	0.464	1.75	(0.39, 7.83)
Q 41.4.	**Environment Factors**				
1	Easy supplementation of formula in the Community	1.46	0.083	4.30	(0.82, 22.47)
2	Easily availability of animal milk	-2.75	0.004	0.06	(0.01, 0.42)
Q 41.5	**Medical Condition**				
1	Child's Health Condition	-1.41	0.032	0.24	(0.07, 0.88)
2	Use of medications harmful to the baby by the mother	-0.57	0.336	0.57	(0.18, 1.80)

Source compiled from research survey July 2017

4.2.3.2. Social Support

As indicated in the finding of table 4.4, social support such as family support, support from health or nutrition institutions, and support groups in the community have significant association

with EBF. As the analysis test by logistic regression, family support especially encouragement from husband and other family members like grand-mother have strong relation with breast feeding and those mother having such support found 4.76 times more likely to practice EBF than their counterpart who lacks such support, followed by mothers who got more support from the nutritional services likely to breastfeed 4.24times than those who did not get such services (CI (1.41,16.08), P value=0.012& CI (1.15, 15.67), P value=0.030) respectively while those mothers with support from MTMSGs were found less likely to practice EBF.

As obtained from focus group discussion, majority of the participants were agreed to have information on EBF and most of the information sources come from the nutrition services followed by health facilities while support from the existing mother-to-mother support groups and others were not adequate.

4.2.3.3. Cultural Factors

As revealed in the finding, some of the cultural factors like the mothers belief that malnourished mothers cannot breastfeed was found to be significantly associated with the practice of EBF and those mothers who had such beliefs were less like to breastfeed (AOR=0.19, 95%CI (0.04, 0.91), P value =0.037) where P significance at <0.05. This indicated that there was some cultural belief negatively influenced some mothers to have misconceptions not to exclusively breast feed.

4.2.3.4. Environmental Factors

As per the finding of this study, some factors associated with an external environment around the refugee camps in the study area, especially the availability of cheap sources of livestock in the area region paved a way for the easy availability of milk products (AOR=0.06, 95%CI (0.01, 0.42), P value=0.004, p value significant at p<0.05) which have negative relationship with the practice of EBF. Therefore, some of the respondents who have access to milk products were found less likely to practice EBF.

In addition to these, the findings from the FGD indicated that the easy availability of animal milk in the host community surrounding the camp and nearby areas like Lare, were among some of

the factors that influenced mothers to practice additional feeding in the first 6months of life which hinders the Practice of EBF.

4.2.3.5. Maternal and Child Medical Condition

It was reported in the finding that infants' health condition was significantly associated with the practice of EBF. That means, poor health status of infants were negatively related with breast feeding and mothers who infant was sick found less likely to breast feed than their counterpart whose infants' health condition were better (AOR=0.24. 95% CI (0.07, 0.88), p. value=0.032, where p value is significant<0.05).

In addition to the above finding, some mothers who have health problem in breast feeding and sickness that interferes with breast feeding, there was significant association with early initiation of breast feeding (X^2 =17.4, P value =0.008 p significant at P<0.05) and out of 91 mothers who had problem in breast feeding 44 (48.4%) did not early initiate breast feeding and out of 98 mothers who early initiated breast feeding in an hour, about 72 (73.5%) exclusively breast feed (X^2 =11.06, p value =0.011) and this showed that there significant association between mother who were early initiated breast feeding and exclusively breast feed and out of those who did not practice EBF 27.5% who early initiated were among those who had problem in breast feeding.

Further mothers problem in breast-feeding was also significantly associated with the practice of exclusive (X^2 =6.74, p value =0.034, p significant at P<0.05) and out 91 mothers with problems in breast-feeding 30 (33%) did not practice EBF, while this number accounts 50% of those who did not practice EBF. List of those problems encountered by mothers in breast-feeding include in adequate breast milk accounted for 65.6% of non-exclusivity, followed by baby refusing 21.9%, and pain in the breast 12.5%. The finding during the FGD discussion also confirms that some of the problems that discourage mothers not to practice EBF were poor health status of the mother, poor health status of the child, poor economic status at home and problems related nutritional status of child, etc.

4.3. Relationship between EBF& Nutritional Status of Infants

The discussion under this section mainly focused on finding the current nutritional status of infants 0-6months prevailing in the camp in terms of WHO nutritional standard indicators of the

prevalence of acute malnutrition or wasting (GAM Rate=SAM+GAM) based on WHZ Score standard deviation, the prevalence of underweight based on WAZ Score, moreover, the prevalence of stunting based on HAZ Score while all of them will be compared among children who exclusively breast feed and not.

4.3.1. Lists of Variables

Dependent Variable: the dependent variable is the variable to be measured for the purpose of achieving and responding to the research objectives or questions. The dependent variable under this section were the prevalence of infant nutrition such GAM Rate or wasting rate, under-weight rate, stunting rate, the most Common Breast Feeding Status, and Breast feeding initiation, and infant and maternal morbidity.

Independent variable is the variable whose values or observation is directly collected from the target group under study and which have directly influences the dependent variable understudy. The common independent variables used under this section include the height, weight, sexes, and age of infants, the place of child delivery, different types of infant feeding practices, duration, or time of starting other food for the infants, length of stay in the health facility, etc.

4.3.2. Characteristics of Infants

The data collected from the camp revealed that out of 250 lactating mothers contacted, about 250 infants, of age 0-6months, of which 130boys and 120 girls where each mother carried one child except one mother with twins.

4.3.3. Infant Feeding Practice since Birth

The study indicated that only 39.2% (n=98) of infants had breast feeding initiation for less than 1hour while 60.8% (n=152) breastfed lately than 1hour. This indicated that there was a gap in initiation of breast-feeding, which could contributed to low practice of EBF.

Table 4.5: Infants Feeding Practice since Birth (N=250)

Variables of Concern	n	%
Infants' age in month		
1	15	6.0
2	48	19.2
3	43	17.2
4	47	18.8

5	47	18.8
6	50	20.0
Total	250	100
Sex of infants		
Boy	130	52.0
Girls	120	48.0
Place of birth for Infants		
At health facility	154	61.6
At home	90	36
At TBA's house	6	2.4
Length of stay in the health facility after birth (154)		
Less than 24hrs	98	63.6
Up to 1 day	36	23.4
Up to 2days	19	12.3
Don't know	1	0.7
Breast Feeding Initiation (250)		
Less than 1 hour	98	39.2
Between 1 and 23 hours	136	54.4
More than 24 hours	13	5.2
Other	3	1.2
Feeding of colostrum just after birth (250)		
Yes	236	94.4
No	14	5.6
Other Feeding just after birth (250)		
Yes	29	11.6
No	221	88.4

Source compiled from research survey July 2017

From the table 4.5, 61.6% of infants were born at health facility while 36% and 2.4% were born in at home and at TBA's house respectively. This indicated that about 63.6% of the infants born in the health facility stayed in there for less than one 1day followed by 35.4% who stayed more than one day. From this, it can be deduced that some of the mothers could have developed some complications after birth.

From the study, the rates of breast feeding initiation after birth within one hour were very only 98 (39.2%) of all infants and out of these 74(75.5%) initiated in one hour (29.2%) of all infants were born at health facility, 21 infants (8.4%) of all or born at home cover 21.4% of initiation within one hour and only 3(1.2%) born at TBA's home. In relation, place of birth in the health facility, out of 154 born the rate of breast initiation with-in one hour were 74 (48.1%). Similarly, out of those give birth in health facility, 65 infants (42.2%) infants were those who initiated breastfeeding within one hour and were among infants stayed less than 24 hours. This means that though this number seems higher among those gave birth and stay under 24hours, it is very small compared the over birth in the health facility 154 and these indicated that the more the

length of stay in the health facility, the more may be the mother's health complicated due to post-natal problems.

Majority of the mother interviewed responded that they have given colostrum to their infants and these indicated that they have good understanding on the benefits of colostrum while some mothers have introduced some liquids or solids just after birth and these were due to some influence from family or others like grandmother or other members of the family due to misconception on the benefits of colostrum.

4.3.4. Infant Feeding Practice for the first Six Months of life

According to the data in the table 4.6, 22.4% (56) of respondents reported to practiced additional feeding in addition to breast-feeding. Among those who practiced additional feeding introduction of plain water 83.9%, infant formula 32.1%, any other water based liquid 19.6%, powdered or fresh animal milk 16.1%, while coffee or juice 5.4% (alternatively) were carried out and no any thin porridge were introduced.

Table 4.6: Infant feeding Practice during the first Six Months

Feeding Practices	N=250	
	n	%
Additional Feeding in addition to breastfeeding		
Yes	56	22.4
No	194	77.6
Additional Feeding in addition to breastfeeding		
***Plain water for example* n=56**		
Yes	47	83.9%
No	9	16.1%
I Don't Know	0	0.0%
Infant formula for example-n=56		
Yes	18	32.1%
No	38	67.9%
I Don't Know	0	0.0%
Other milk such as tinned, powdered, or fresh animal milk n=56		
Yes	9	16.1%
No	47	83.9%
I Don't Know	0	0.0%
Juice or juice drinks (56)		
Yes	3	5.4%
No	53	94.6%
I Don't Know	0	0.0%
Thin porridge for example(56)		
Yes	0	%
No	56	100

I Don't Know	0	0
Tea or coffee with milk (56)		
Yes	4	6.7
No	56	94.9
I Don't Know	0	0
Any other water based liquid (56)		
Yes	11	19.6
No	45	80.4
I Don't Know	0	0.0
Bottle feeding (8)		
Yes	8	3.2
No	242	96.8
Exact Time for to Start Other Feeding (62)		
at birth	10	16.
2months	16	25.8
4months	33	53.2
6 months	3	4.8
Reason for deciding to give other food or drinks (56)		
inadequate breast milk	46	82.1
baby sick or refuse	8	14.3
Due to mother sick or mother's health problem	2	3.6
Other Conditions	0	0
Breast Milk Expression (250)		
Yes	137	54.8
No	113	44.2
I Don't Know	0	0

Source compiled from research survey July 2017

In addition, the report revealed that bottle-feeding very low relative to different kinds of feeding (3.2%) and more than half of the respondents believe that additional feeding has to be started at four months while the practice was very low and was decreasing at 6months.

In light to the trends of feeding across child's age, though additional feeding was started since at birth, nearly seven in ten of respondents 39(69.6%) of those who practiced introduction of additional feeding were those from 4month on wards while 6months only 32.1% practiced additional feeding. Overall, 22.4% of infant were introduced with additional feeding, however, out of 20% infants that should start complementary feeding, only 7.2% of infants were feed with complementary feeding at the right time according to the standard of WHO.

Moreover, it was reported by respondent's hat the main reasons for deciding additional feeding during the early period were mainly due to the fact that some mothers believe that her breast milk production is inadequate (82.1%) and can satisfy her baby, followed by other reason that babies become sick or refused to feed her breast milk 14.3% mother sick 3.6%. As per the study,

breast-milk expression practice was very low and was below expected (54.8%) and some of the mother has not practiced despite they have good information on breast-feeding.

4.3.5. Infants and mothers Morbidity

The findings of the study (table 4.7) show that out of 250 respondents; more than half 56.8% (142) of infants had a documented evidence on morbidity. Of these morbidity, diarrhea 38.0%, Pneumonia 37.3%, common cold 16.9%, worm infestation 7.0% and measles .7% respectively. This indicated that diarrhea was a leading cause for child morbidity followed by pneumonia. With regard to the sexes of infants affected by morbidity, boys are more prone to different diseases as compared to girls (boys 72, girls 70, total 142) with the odd ratio of boys to girls (72:70 =1.03).

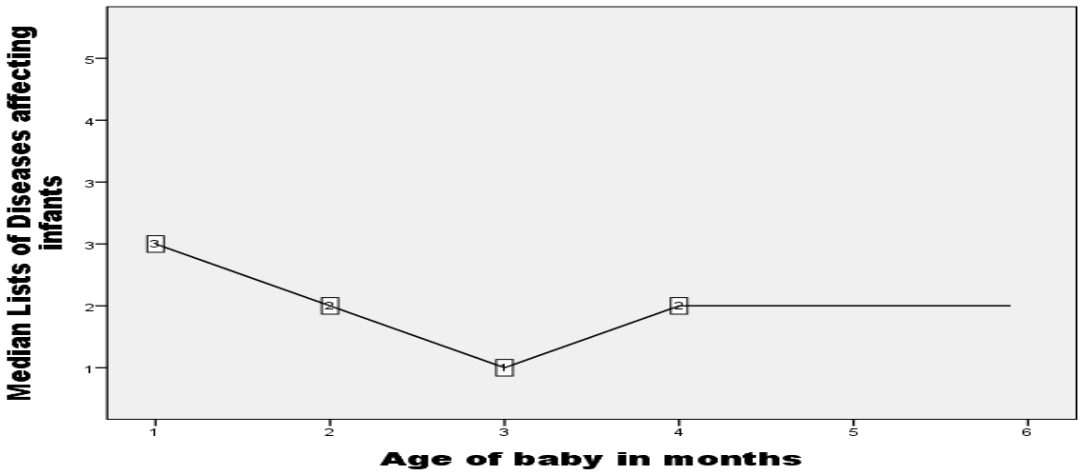

Figure 4.9: Infants' Morbidity during the first six months

In addition, when compared across the age of infants as from the above graph, (figure 4.9) the median number of infants affected by different diseases are at peak below one month, around birth probably due to law record of breast feeding initiation and decline and slightly decline at three months and slightly increases between three and four months, while remain almost constant until six months. The possible factor at this point could the introduction of other feeding (especially liquid based feeding) than breast-feeding beliefs that breast milk is not adequate for the baby

Table 4.7:Infants and Maternal Morbidity and Other Complication (Survey 2017)

Factors affecting infants& Maternal Health Status	n	%
Baby suffering from disease (250)		
Yes	142	56.8
No	107	42.8
I Don't Know	1	0.4
Lists of Disease affecting the baby (142)		
Diarrhea		
Boy	24	16.9
Girls	30	21.1
Total	**54**	**38**
Pneumonia		
Boy	31	21.8
Girls	22	15.5
Total	**53**	**37.3**
Common Cold		
Boy	10	7.0
Girls	14	9.9
Total	**24**	**16.9**
Worm Infestation		
Boy	6	4.2
Girls	4	2.8
Total	**10**	**7**
Measles		
Boy	1	0.8
Girls	0	0
Total	**1**	**0.7**
Place of admission for baby's sickness *(142)*	125	88.0
Health center		
nutrition or feeding Centre	6	4.2
Local healing Centre	11	7.7
Sickness affecting breast feeding *(177)*		
Yes	29	16.4
No	131	74.0
I Don't Know	17	9.6
Mother's problems in breastfeeding *(250)*		
Yes	73	29.2
No	163	65.2
I Don't Know	14	5.6
Mother's Sickness affect Breast feeding *(177)*		
Yes	29	16.4
No	130	74.0
Mother with Breast feeding Complication (76)		
Yes	31	40.3
No	42	55.3
I Don't Know	3	3.9
Lists of Mother's Problems in breastfeeding (74)		
Inadequate breast milk	44	59.5
baby refusing to breastfeed	17	23
pain in breasts	11	14.9
Other	2	2.7

As further explained in the (table 4.7), around nine in ten (88.0%) respondents reported that they have infants who been admitted to the health facility when sick, followed by referral to traditional healing center while referral to the feeding center for sickness was very low. This shows that there are still some gaps in utilization of nutrition facilities despite good awareness on the services. It was also reported that most of mothers (74.0%) believe that sickness of baby donot interfere with breast-feeding while 16.4% agree and some mothers does not know.

4.3.6. Mothers breast-feeding complication

The result show that about one third of respondent (29.2%) reported to have breast feeding complication nearest to three fourth (74.0%) of respondents reported to have no any complication while some others did not know. Some of the major breast-feeding complications reported by respondents (59.5%) were inadequate breast milk followed by infant's morbidity (23.0%) and some mothers suffered from pain in their breasts (14.9%) while there small number 2.7% of mother with others category.

4.3.7. Summary of Infants Undernutrition Vs EIEB&EBF

The findings from the anthropometric assessment of 250 infants indicated that the mean age of all infants was 3.81 months; the mean age for EBF was 3.76 months. The mean weight for all infants was 5.64kg, the mean height for EBF 5.71, and the mean height for all infants was 61.32cm; the mean height for EBF was 61.3cm.

Table 4.8: The prevalence of infants' UndernutritionVs sex distribution

Age (Month)	All Sex	WHZ			WAZ		HAZ	
		All Category	Prevalence of global Acute malnutrition (<-2 z-score and/or oedema)		Prevalence of underweight (<-2 z-score)		Prevalence of Stunting (<-2 z-score)	
			No.	%	No.	%	No.	%
0-6	Boys	130	32	12.8	21	8.4	14	5.6
	Girls	120	29	11.6	22	8.8	18	7.2
Total		**250**	**61**	**24.4**	**43**	**17.2**	**32**	**12.8**

Source compiled from research survey July 2017

The finding in table 4.8, indicated that out of all screened 250 infants in sex categories, the prevalence of global acute malnutrition, called ''GAM Rate'' for infant's 0-6months, was 24.4%,

12.8% for boys, 11.6% for girls, and the prevalence of underweight was 17.2%, 8.4% for boys, and 8.8% for girls while the prevalence of stunting was 12.8%, 5.6% for boys and 7.2% for girls.

The result shows that in all category girls were more prone to the undernutrition risks and in general**,** the prevalence rate for all category except that of stunting were above the threshold level of 15% WHO standard. However, the rate of stunting was not that much problem in the camp. This nutritional status of infants especially the GAM rate, if transformed into that of 6-59months, it was almost nearest to the GAM rate of 24.4% of 6-59months children by (nutrition survey 2016).

Table4.9: Trends of Undernutrition for Children (6-59 months)

Indicators	Year	
	2016	**2017**
Global Acute Malnutrition (W/H<-2Zscore and/or oedema)	24.4% (19.9-29.4)	23% (19.4-27.2)
Severely Acute Malnutrition (WH <-3Zscore and /or oedema	6.5% (4.2-9.8)	6.9% (4.9-9.7)
Total Stunted (Chronic Malnutrition)	11.4% (8.3-15.4)	12.8% (10.0-16.2)
Severely Stunted	0.9% (0.3-2.8)	1.8% (0.9-3.6)

Adapted from the Nutrition Survey Report (UNHCR Gambella, 2016/ 2017)

As indicated in the table 4.9, the trends of nutritional status of children 6-59months was not decreased to the level needed which should be below the threshold 15% and this was one of the questions behind this research. Since there was not any well-documented survey data for infants below 6 months in this camp, the findings of the study were compared with the survey result. Therefore, the finding of this study is almost related and similar with findings of (UNHCR nutrition survey 2016-2017).

Different studies indicated that there is a direct linkage with the infants' nutritional status during the first two years period and those above two years up to five years, and if there is a gap in the infant stage, this could affect the nutritional status of the rest age groups. Similarly, the increased the rate of undernutrition for infants, as per this study, the high will be the rate of undernutrition for the children 6-59months

Table 4.10: Relationship between EIBF, EBF,& Infants' Nutrition Status

Type of Prevalence	EIEBF								Exclusive BF							
	<1hr		Late>1hr		Total	%	From Over All > 1hr	X2	P	Yes		No		Total	From non EBF	X2	P
	N	%	N	%						N	%	N	%				
Acute Malnutrition Based on																	

WHZ																
Severely Malnourished=WHZ<-3Zscore+Oedema	1	5.9	16	94.1	17	**6.4%**	13.4	0.037	15	8.8	2	11.8	17	0.8%	1.95	0.38
Moderately Malnourished=WHZ =-3 &<-2Zscore	15	34.1	29	65.9	44	**11.6%**			35	79.5	9	20.5	44	3.6%		
GAM Rate	**16**	**26.2**	**45**	**73.8**	**24.4**	**18.0 %**			**50**	**82.0**	**11**	**18.0**	**61**	**4.4%**		
Stunting Based on HAZ																
Severely Stunted=HAZ<-3Zscore	5	55.6	4	44.4	9	1.6%	3.61	0.729	4	7.33	5	55.6	9	2.0%	7.33	0.026
Moderately stunted=HAZ =-3 &<-2Zscore	11	47.8	12	52.2	23	4.8%			15	65.2	8	34.8	23	3.2%		
Prevalence Rate	**16**	**50**	**16**	**50**	**32**	**6.4%**			**19**	**59.4**	**13**	**21.3**	**32**	**5.2%**		
Prevalence of Underweighted Based on WAZ																
Severely underweighted=WAZ<-3Zscore	6	66.7	3	33.3	9	1.2%	6	0.225	4	44.4	5	55.6	9	2.0%	9.09	0.011
Moderately underweighted=WAZ =-3 &<-2Zscore	18	52.9	16	47.1	34	6.4%			26	76.5	8	23.5	34	3.2%		
Prevalence Rate	**24**	**55.8**	**19**	**44.2**	**43**	**7.6%**			**30**	**69.8**	**13**	**30.2**	**43**	**5.2%**		

Source compiled from research survey July 2017

As indicated in the table 4.10, there is significant association between breast-feeding and the nutritional status of infants especially early initiation of breast feeding showed strong association with acute malnutrition than exclusive breast-feeding and out of all malnourished infants 61, about 45 (73.8%) of the GAM rate (those who breast fed their infant late than 1hr) and this figure covers 17.8% of all infants from the GAM Rate of 24.4% (x^2= 13.4, P value= 0.037), where p value is significant at 0.05.

The study conducted by (UNICE, 2013) showed that Undernutrition is a consequence of repeated infections, which may further worsen the child's nutritional status at a time of greater nutritional needs. This interaction between undernutrition and infection creates a potentially lethal cycle of worsening illness and deteriorating nutritional status. That means optimal breast breast-feeding especially early initiation is the best option to break a deteriorating condition of under nutrition. For example, infants not breastfed are 15 times more likely to die from pneumonia and 11 times more likely to die from diarrhea than children who are exclusively breastfed. Similarly, all-cause of mortality is 14 times higher for infants not breastfeeding than for exclusively breastfed children.

With regard to the relationship between the EBF and under nutrition, though it was not statistically significant, 4.4% of the total GAM Rate (18.0% of malnourished children) were those whose mother was not exclusively breastfeed. Therefore, the rest 20.0% of the GAM rate

could be due to different factors other than EB. This study had revealed that shortage of proper breastfeeding on breast milk only for the first 6 months contributed to the level of infants under nutrition. Hence, shortage of proper breast-feeding contributed 18.0% of the current child undernutrition.

Table 4.11: Relationship between EIEBF& EBF with Linear Regression Analysis

Prevalence of Underweighted Based on WAZ							
Independent Variables	**Unstandardized Coeff**		**Standardized Co**	**t**	**P value**	**95.0% Confidence In for B**	
	B	**Std. Error**	**Beta**			**Lower value**	**Upper value**
Breast Feeding Initiation	0.08	0.03	0.15	2.40	0.017	0.02	0.15
Exclusive Breastfeeding in 24hours recall	0.11	0.07	0.09	1.48	0.139	-0.04	0.25
Stunting Based on HAZ							
Breast Feeding Initiation	0.05	0.03	0.10	1.59	0.114	-.012	0.11
Exclusive Breastfeeding in 24hours recall	0.18	0.07	0.16	2.63	.009	.045	0.31
Acute Malnutrition Based on WHZ							
Breast Feeding Initiation	-0.04	0.04	-0.06	-0.99	0.321	-.124	0.04
Exclusive Breastfeeding in 24hours recall	-0.15	0.09	-0.11	-1.67	0.096	-.321	0.03

Source compiled from research survey July 2017

Table 4.12: Relationship between infants' Additional Feeding and Undernutrition

Prevalence of Acute Malnutrition					**Prevalence of Underweight**				**Prevalence Stunting**			
Types of Variables	**B**	**t**	**95.0% Confidence Interval for B**	**P value**	**B**	**T**	**95.0% Confidence Interval for B**	**P value**	**B**	**t**	**95.0% Confidence Interval for B**	**P value**
Bottle feeding	-0.11	-1.28	(-0.88, 0.19)	0.203	-0.15	-1.71	(-091, 0.07)	0.089	-0.08	-0.93	(-0.67, 0.24)	0.354
Pre-lacteal feeding	0.24	2.78	(0.10, 0.59)	0.006	0.01	0.12	(-0.21, 0.24)	0.903	-0.12	-1.31	(-0.35, 0.07)	0.194
Disease affecting the baby	0.31	3.87	(0.09, 0.27)	0.000	0.07	0.81	(-0.05, 0.12)	0.420	-0.05	-0.54	(-0.10, 0.06)	0.592

Source compiled from research survey July 2017

The result of the tables 4.11&4.12 shows that EBF is directly correlated/associated with stunting and while using chi square test shows significant association with prevalence of underweight (x^2 =9.09, p value=0.011), for while early breast feeding initiation is associated with child under weight, using regression, but using chi square the relation with acute malnutrition become significant (x^2 =4.34, p value 0.037) where p significant at <0.05. Similarly, the result indicated that mother who initiated EIEBF latter than 1hour is1.44 times to be under weight than those who did not EBF.

(UNICEF, 2013) as discussed above also demonstrated that early initiation of breastfeeding reduces the risk of neonatal mortality 0.31 Colostrum, the rich milk produced by the mother during the first few days after delivery, provides essential nutrients as well as antibodies to boost the baby's immune system, thus reducing the likelihood of death in the neonatal period. Beyond saving lives, early initiation of breastfeeding promotes stronger uterine contractions, reducing the likelihood of uterine bleeding. It also reduces the risk of hypothermia, improves bonding between mother and child, and promotes early milk production, which means that it shows the relation with child under nutrition.

In order to test the relationship between infant feeding and undernutrition, regression analysis was carried out and the result showed that there is a linear relation between early introduction of additional feeding in addition to breast milk and Disease affecting infants while there is no direct relation between the these factors and other infant undernutrition. The association between the factors and acute malnutrition was significant at ($P<0.05$). Some of the disease listed under the category include diarrhea=38.0%, pneumonia=37.3%, common cold=16.9%, worm infestation=7% and measles=0.7%.

4.4. Maternal Knowledge, Attitude, and Practice of EBF

The main objective of this section is to assess the respondent's level of understanding towards exclusive breast-feeding, their level of attitude and current breast-feeding practice in the camp. In order to respond to the research question, the researcher used some variables and some statistical tools. The variables used in terms of dependent and independent variables are as follows:

Dependent Variable: some of the dependent variable used include mothers level of understanding in EBF, and their level of attitude towards the issues related to EBF and how many of the respondents belief in the correct behaviour and finally the number of mothers currently practicing EBF were identified. Some of the tools used to measure the dependent variable were among the descriptive statistics such as frequency, percentage, etc.

Independent Variables: some of the independent variables used were mother's knowledge in breast feeding, different sources of information, knowledge on the duration of time for EBF, maternal knowledge on the benefits breast-feeding to the baby, mother and the community and

maternal belief towards different behaviors related to breast-feeding, and benefits of breast feeding, and misconception related to breast-feeding, etc. To measure these variables the researcher used tools such as the number of respondents, who belief in these behaviors and description in to percentage, whereas the results were presented in to tables and figures.

The following table 4.13 presents the finding obtained from the respondents regarding mothers' level of understanding, Beliefs, and the common types feeding practices, etc.

Table 4.13: Mothers' Knowledge, Attitude, and Practice (KAP)

Variables Understudy	N=250	
	n	%
A. Mother's Knowledge on Breast-feeding		
Mother having Information on breastfeeding		
Yes	243	97.2
No	6	2.4
Don't know	1	0.4
Sources of information on breastfeeding (250)		
Health workers	33	13.2
Community outreach workers or agents	134	53.6
Media (TV/radio)	4	1.6
MTMSG facilitators	51	20.4
Both Community outreach and MTMSG	12	4.8
Others	16	6.4
Mother's Know how on time of giving Only exclusive breast feeding (250)		
0-2months	3	1.2
2-4months	8	3.2
4-6months	233	93.2
Other	1	0.4
Don't know	6	2.4
Understood that only giving breast milk has benefit for the baby		
Yes	238	95.2
No	10	4.0
Don't know	2	0.8
a. Understands that EBF helps baby grow, prevent from disease and easily digestible		
Yes	232	92.8
No	12	4.8
Don't know	6	2.4
b. Understood that EBF helps mother to reduce more bleeding, uterus contraction, etc.		
Yes	196	78.4
No	38	15.2
Don't know	16	6.4
c. Understood that EBF has benefit for the community		
Yes	159	63.6
No	56	22.4
Don't know	35	14.0
B. Mother's Attitude on Breast-feeding (N=250)		
1.Believing that formula feeding or feeding from bottle has more benefit than breast milk		

Yes	13	5.2
No	227	90.8
Don't know	10	4.0
1.**Believing that feeding from breast milk affects the baby**		
Yes	24	9.6
No	220	88.0
Don't know	6	2.4
C. Current Breast Feeding Practice		
1. Child Exclusive Breastfeeding (EBF) in 24hours recall		
Yes	59	22.4
No	194	77.6
2.Type of Common Infant Breast Feeding Practice (250)		
Exclusive (only) Breastfeeding (EBF)	194	77.6
Artificial (bottle) feeding	8	3.2
Breastfeeding& Artificial or mixed feeding	19	7.6
Predominant Breast Feeding=(Water+ Breast milk)	32	12.8

Source compiled from research survey July 2017

4.4.1. Mothers' Understanding towards Breast-feeding

This general level of maternal understanding and attitude and practice towards EBF was one of the specific objectives of this study and was designed to measure maternal knowledge and attitude or perception levels towards the existing nutritional services given by the agency to identify and to find any gaps and propose recommendation. The level of measurement to be used to respond to the research question was the measurement in terms of the dependent and independent variables and presented by using descriptive statistics like percentage and cross tabulation.

The results of the table 4.13 show that almost all mothers have received information on breast-feeding 243 (97.2%), while only few mothers (2.4%) have no information, while the main sources of information 134 (53.6%) were from community outreach workers/agents (COAs), MTMSGs (20.4%), health workers or health facilities 33 (13.2%), others (6.4%), both MTMSGs and COAs (4.8%), and media (1.6%) respectively. This shows that respondents have access to information on breast feeding mainly from the nutrition facilities in total which is (79.3%) as compared to health facilities which cover (13.2%) of the information and some other respondents receive information from others like their peer group, family members or some-where else than institutional services.

From those respondents who have information on breast-feeding, 95.2% has information on the benefits of Exclusive breast-feeding while some mothers (4.8%) do not have information. It was

also reported that 92.1% (233) have information on the time of exclusive breast-feeding 4-6months and out of them 77.6% of respondents have practiced EBF while the rest 22.4% have information but not practiced.

Based on the result of respondent, it was reported that 92.8% (232) were knowledgeable about the benefit of EBF for the baby that it helps baby grow, prevent from disease and is easily digestible food while the rest did not have information. Similarly, 78.4% understood that EBF helps mother to reduce more bleeding, uterus contraction while the remaining 21.6% did not understand where as 63.3% were knowledgeable that EBF has benefited the community at large, while some respondents did not such understanding (36.4%) lack such valuable information. This indicates that there are still some knowledge gaps in the benefit of exclusive breastfeeding. The overall average in mothers understanding is about 93.9%, which showed most mothers have good awareness on Exclusive breast-feeding.

4.4.2. Mothers' Attitude towards EBF

Out of 97.2% of respondents, who reported to have good knowledge on breast feeding, 227 (90.8%) reported that they have correct belief that infants should get only breast milk for first six months, comparing that feeding breast milk alone has more benefits than those who feed with suboptimal breast feeding, formula feeding or feeding from bottle. Similarly, 88.0% (220) reported to have good perception about EBF that feeding from breast milk has good benefit for the baby, despite some mothers had reported to have some misconception about breast-feeding that feeding from breast milk affects the baby, while others belief that formula milk is better to add than breast milk alone. Generally, mothers with positive attitude in average were 89.0%.

According to the finding of focus group discussion most of the mothers had a belief that breast milk alone is the good infant feeding option as it helps both the child and the mother in terms of their health and nutrition.

However, still some mothers still have a believe that mothers breast milk alone is not enough for the baby, and additional feeding from animal milk help the baby satisfy his feeding while others belief that breast milk does not quench the thirst need of the baby and giving water or water based liquid is an option. Again, some mothers believe that some different cannot breast feed her baby when she became sick, or when the baby become sick, or when she had many other

tasks to do and when she goes away from her bay while few mothers believe that breast feeding is time consuming and stops to feed other feeding.

4.4.3. Common Breast-Feeding Practice in the Camp

The findings of this study showed that current EBF feeding practice was still very low compared to the WHO standard of above 90% and only 194 *(77.6%)*of respondents reported to feed only breast milk while rest of respondents practice other type of feeding such as predominant breast-feeding or breast milk and water 32 (12.8%), mixed feeding or breast milk & other feeding 19 (7.6%), bottle only feeding 8 (3.2%).

Table 4.14: Trends of EIEBF& EBF Practices in the Camp, from Survey Report 2016/2017

IYCf indicator	UNHCR Nutrition Survey		From thisStudy July 2017
	2016	2017	
Proportion of children breastfed <1hr	82.0%	96.6%	39.2%
Proportion of children (<6months) with EBF	84.8%	88.5%	77.6%
Proportion of children bottle fed (0-23m)	8.10%	13.2%	3.2%

The study report in the table 4.14 indicated that there is big difference between the result of this study and the nutrition survey result 2016 and 2017. This means that the current practice of both EIBF& EBF in the camp is still very low and is below the threshold 90%.The possible reasons for the variance is as follows:

- There was a difference in the target group of study especially for breast feeding initiation because the age group included in the survey was young infant's 0-23months while this study focused only on infants 0-6months.
- The difference in the case EBF was that the survey result did not identify those infants given breast milk and water together and those infants given infant formula or other feeding plus breast milk and it was found in this study that some responds who usually give plain water in addition to breast milk think that they are exclusively breastfeeding their infant and by definition of exclusive breastfeeding they understand that feeding breast milk and no other feeding like solid food, formula or animal milk but sometimes giving water thought as being no effect.

The finding from FGD study group confirmed that there was a gap in the understanding of the term exclusive breast-feeding against the definition of WHO and some mothers did not think giving water in addition to breast milk opposes the definition of EBF. It was clearly identified that some mothers were currently practicing other breast feeding practice and that there was some factors hindering mothers from exclusively breast feeding which included belief that she cannot produce enough breast milk, baby refusing to breast feed, belief that baby requires more than the breast milk, lack of knowledge on the benefit exclusive breast feeding and thinking that breast feeding is time consuming or makes busy when the mother has many tasks to do, etc.

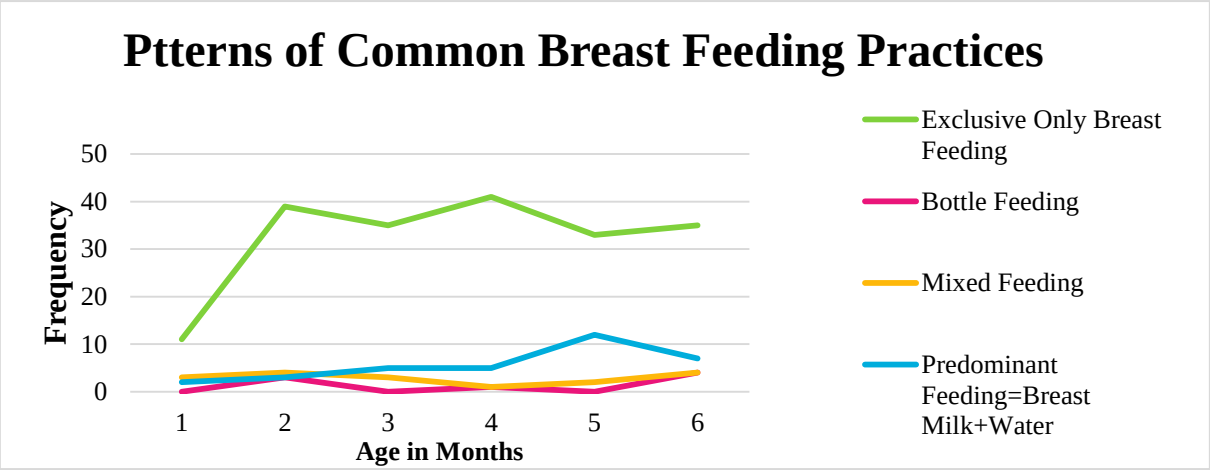

Figure 4.10: Pattern of Common breast Feeding Practice, by Research Survey 2017

4.5. Summaries of Focus Group Discussion Sessions

Totally, about four focus group discussions were carried out during the period of this study. The average number of members in each group was minimum 10 and maximum 12. The total numbers of participants from all group were about 45members, whereas the average time of discussion per group was 30-35 minutes. The main members of the group were mainly pregnant and lactating mothers.

The findings of the FGD showed that the sources of information regarding breast-feeding for the community were from the nutrition service providers, health facilities, mother support groups, family and friends, etc. It was found that the messages given to mothers were well accepted by mothers because it reflected for them about the benefit to their infants and mothers. The key messages include timely beast-feeding initiation, exclusive breast-feeding within an hour, hygiene, and sanitation, breastfeeding on for infants on demand, feeding position, and

attachment, breast milk expression especially for mothers that are busy and being away from their infants, etc.

In regards to exclusive breast-feeding, the study group agreed that they have understood giving only breast milk while some still mix water, and they understood that giving breast milk is advantageous to help baby grow and protect from different infections and is a nutritious food for the baby and it helps mother to delay her from pregnancy and protection from post-partum hemorrhage, while they lack the benefit for the large community. They also believe that breast milk alone is the only option for the baby while practicing is sometimes compromised by some mothers due to her challenge at home and lack financial support that enable them to have full requirement for the babies and mothers.

It was found also that many factors encourage mothers to maintain breast milk while other factors discourage/ hinder them to practice EBF. Some of the enabling factors include access to the existing services such as awareness campaign on health, nutrition and hygiene and sanitation, counseling and psychosocial support services to mothers, provision of supplementary feeding children who are malnourished children and pregnant and lactating mother, support given for mothers by mother groups which needs to be expanded more, etc.

The other factors which prevent mothers are lack of support and encouragement from the community leaders, limited access to financial support, income generating and livelihood scheme which helps mothers to gain employment and empowering them to be self-reliant than only depending relief, limited health campaign and supply services that only depended on facility based and not accessible up to the community especially in time of emergency and other packages like ANC and giving recognition for registration of infants, especially those born at home, the other is about the food security issues like reduction in food ration created a work load on mothers to find other coping mechanism such as engaging themselves in fire wood collection for business, and risky activities, whereas lack of adequate access to income generating activities also forced them to find solution by selling relief items and when lactating mothers cannot get support she is forced to engage in these activity and opt to give up breast feeding at wrong time than continuing up to six months, and early introduction of other food and artificial feeding etc.

Regarding some of the suggestion to improve exclusive breast feeding were to expand continuous and supportive education for the mothers at the community level, organizing more support groups and closely supporting them to empower themselves to help mothers and provide them with some incentives and motivation and closely follow up and giving them key supporting information and building their capacity, provide the income generating and livelihood opportunities, employment opportunities, etc.

The participants also commented regarding the existing nutritional services and accordingly, the services being given is well and satisfactory while appreciating the program for the infant and young child feeding program, the supplementary feeding program, and program for the support of malnourished children, and the community working team but emphasized more on the improvement of quality of services, expanding access to the community in terms of information sharing, counselling support, providing training for more support group leaders with expansion of the groups and timely follow.

Table 4.15: Summaries of Common Findings from the Focus Group Discussions

Questions (Main Focus Area)	Main and common findings on attitudes/perceptions and beliefs among the study groups
1. The Main Sources of Information about infant Feeding in this community?	• The nutrition Service provider the main and health facility, Mother to Mother support group,
2. What are some of the messages that you get regarding breastfeeding?	• The messages include: • Breast milk Expression, • Hygiene& Sanitation of breast feeding, • Exclusive Breast Feeding up to 6 months, • Give breast feeding every time and not to give water
3. Do you agree/concur with these messages? If no, why?	• The message is good because it helps the people or mother about the benefit of EBF.
4. From your understanding, what is meant by the term EBF?	• Giving only breast milk for the first 6months in order to support the infants get healthy but some agreed water is needed
5. What are the benefits of breastfeeding?	• Some of the benefits of Exclusive breast feeding is to help the baby grow well, prevent from disease and also help mother to be health, it also helps help mother to reduce post-partum hemorrhage, delay pregnancy
6. Do you believe that a baby can be fed on breast milk alone without even water for the first six months?	• Agreed that can be possible if the mother has full health as well as her baby is well.
7. Is exclusive breastfeeding a common practice in this community?	• Many mothers are practicing feeding only breast milk as they are adapted while some mothers still believe that adding water I addition to breastmilk in absence of other food or liquid mistaken
8. What are the factors that encourage mothers to practice exclusive breastfeeding for six months?	• Mother with complete health and nutrition status, • Strong and supportive information on breast feeding, provision of necessary basic items for mothers, • Enhanced counseling and supportive activities from the health, nutrition and other concerned institutions, • Attending counseling and tea talk sessions • Economically stable mother who can adequately eat and feed her child

9. What are some obstacles that discourage some mothers not to practice exclusive breastfeeding?	• Presence of the difficulty in breast feeding, • Lack of knowledge of knowledge about EBF, • Reduction of the food Ration from the previous amount per person of 16kg to 13kg and other component, • In adequacy of the employment opportunity for the household members or income generating scheme, • Limited support from health institution, especially on maternal and child health packages including ANC and PNC services, • Limited support from the community support groups • Limited family planning campaign that reduce multiple child bearing cultural and counselling scheme that reduce polygamy and boost support for family
10. Do you have any suggestions on what can be done to encourage mothers to practice exclusive breastfeeding for six months in this community?	• Providing information on EBF and BF initiation and other nutritional support that help mother being healthy, • Promoting supportive counseling for the mother in the community and Improvement in mother's economic status,
11. Is it appropriate for a mother to express milk for the baby?	• Expressing is possible but cultural not acceptable
12. What do you are the differences between the baby exclusively breastfeed and not?	• Most Mothers belief that a baby who is feed only breast milk is healthy than those who not.
13. What do you give for the baby just after birth in this community?	• Many mothers agreed that they give her first breast milk while some mothers give pre-lactating feeding like some fluids
14. How do you perceive EBF according to your culture?	• It is acceptable but some believe that the first milk is bad feed and not given.
15. Where do you prefer giving birth at home, or health Centre? Why?	• Most mothers belief that Health facility is a preferable place for mothers to give birth but due to some emergency that labor may happen at home and lack of transport from home to health facility especially during the night, some mothers give birth at home.
16. How do you perceive the level of services been given by the nutrition agency?	• It is good and satisfactory because the supplies given to the community especially the supplementary feeding and counseling support being given for mothers but should be well expanded and empowered the refugee mothers at large.

Source compiled from research survey July 2017 FGD

4.6. Researcher's Direct Observation of Different Services in the Camp

4.6.1. Nutritional Services

The nutritional services in Terkidi refugee camp is provided by the international humanitarian agency called GOAL international in Ethiopia. Recently GOAL provides nutritional services in the camp mainly targeting children under five years, pregnant and lactating mothers, and the other category such as those people with chronic disease such as TB, and HIV/AIDS, if they fulfill the nutrition admission requirement, etc.

Currently, the agency has more than ten thousand beneficiaries including children under five years, pregnant and lactating as well as those who are malnourished with any age group. The nutrition program is carried out at two sites each site having two zones and totally four zones in found the camp. There are six programs currently running its own services similarly in both sites

including BSFP, TSFP, OTP, IYCF, SC, Community Outreach, and the other C-MAMI program, which is included under the IYCF program.

BSFP is a blanket supplementary feeding program, providing service for all children under five years and above six months but not acutely malnourished, pregnant and lactating women under six months and only available when there is high rate of malnutrition in the camp above 15%, expressed by 6-59months children and when there is enough resources by the donating agency, in this case, WFP.

The OTP is the outpatient therapeutic feeding program nutritional, which gives services for the severely malnourished persons, and providing therapeutic product called Plumpy nut, the TSFP is a targeted supplementary feeding program for the moderately malnourished persons (cases), providing supplementary feeding nutritional product called Plumpy-sup, the IYCF, a program for young infants and child feeding providing services for infants 0-23months, lactating mothers and pregnant mothers, whose main service is counselling and psychosocial support, the SC is a stabilization center for the severely malnourished and those having medical complication providing an intensive therapeutic service, and the community outreach program a program operating in the community providing prevention services involving organizing and mobilizing community members and giving screening and referral services for malnourished cases, as well as home to home counselling services for the refugees.

The overall program is generally categorized in to two main parts community based and facility based where the facility based is more of treatment focused while the community based involves both prevention and follow up. Each of the program has its own staffs recruited at the camp, local and national level. Those professional who are experienced and have health and nutrition background at the national level while lesser experienced and have local language ability at the local which the casual workers, called incentive or community outreach agents are recruited at the camp level from the refugee themselves and mainly carry out social work activates at the community level.

The social work activities is being carried out and services are given for the clients on daily bases and the approach is casework method in the facility while case work is also given in the community through home to home visits and group work is carried out by organizing people who

are nearer to each other and have similar problems where members is from minimum six to twenty (6-20) and additionally community work is given at the camp or block level when is needed in the form of campaign like mass screening for active case finding and awareness raising session.

At camp level, the co-partner for the nutrition program is health partner providing additional support for the nutrition like ARRA, the administration for refugees and returnee affairs, MSF-Holland providing primary health care and nutritional support and the agency providing water, hygiene &sanitation service and supporting nutrition, IRC, the international rescue committee.

At zonal and regional or Gambella level, nutritional support is given by the agencies which provide coordination and monitoring, and donation support for the nutrition agency are the UNHCR, the united nations higher commissioner for refugees, UNICEF, the united nations international children fund and WFP, the world food program providing all general food distribution as well as supplementary nutrition products, etc.

Although the overall program performance is good, there are still issues that need improvement, such as expanding the outreach activities with enough social workers to ensure full access to the individual, group and community empowerment level such as organizing providing full packed training for more support group leaders to expand the number of groups with sustained supportive supervision and close follow up together with necessary encouragement, counseling and confidence building schemes, that ensures all stakeholder participation at the community level, while especial refreshment training and supportive leadership is essential to the concerned staffs and in general enhancing the IYCF program and over all creating strong integration and coordination with other program such as WASH, health, education is very helpful.

4.6.2. Health

Health care services are provided to the refugees by ARRA from government and MSF-Holland, whereas ARRA provides secondary health care services run in one health center and MSF-Holland provide primary health care that mainly focus on maternal and childcare involving ANC, PNC, EPI services. Whenever the services given by these agencies are good the main gaps is the quality especially, material support such as NFI, necessary health and medical supplies like enough mosquito nets, etc. as malaria rate is the top disease in the region and

country, accessibility issue in terms of transportation like ambulance service during 24hous for pregnant women especially during emergency time, commitment of staffs in fully serving the clients ethically as per the principle of social work and lack of strong coordination with other partner, etc.

4.6.3. WASH

Water and hygiene and sanitation services in the camp is given by IRC and the performance of programs overall is good but different between the departments meaning the supply of water status very good and there is good accessibility, while sometimes shortage occurs in some remote water points, while the hygiene and sanitation program is somewhat good.

The main gaps in this case is the quality of hygiene and sanitation condition in each household level especially such service as individual latrine provision not accessible for all households as well as the already existing service stopped as latrine become full in a short term and is reflected by open defecation, especially around remote areas while other service like removal of solid waste products and wariness of the community at large is still low coupled with poor coordination with the nutrition agency.

4.6.4. Education

The education service like early childhood is provided by save the children international, primary and junior by ARRA, and secondary by DICAC, youth education by NRC. Though the education services is good in terms of accessibility with little quality, the engagement of female student is still very poor which is still below the sphere standard, especially the adult education program is very poor as most of the adult refugees, who were displaced forcedly by inter-clan conflicts occurred in south Sudan**.** There is also no school-feeding program and adequate social work activities especially school social work activities, which supports children and their families.

In addition, most of the school program is fund shortage ridden program with low staff capacity, along with poor coordination between and with other agencies. Therefore, this affects the nutrition services and health education and information, education, communication scheme for

the refugees especially mothers which can support in promoting and alleviating the poor practices of EBF.

4.6.5. Food Security

The food security in the camp is provided by ARRA supported by WFP, monitored, and coordinated in collaboration with UNHCR. Currently there are gaps in terms of food basket requirement, and refugees receive less than 2100kilo calories asper sphere standard, where food ration was reduced from a standard 16kg to 13kg and incomplete food package, beyond this due to lack of enough provision of livelihood activities, there is a big challenge in selling of food products as and other relief items which created burden for the household in sharing and depending on nutritional products and these affected the nutrition full package.

Chapter Five

Summary, Conclusions& Suggestion

5.1. Summary of the Main Findings

Under this chapter, the summary of all the findings previously aforementioned are presented and along with conclusion and possible suggestions that can help other researchers, planners, decision makers and other professionals who want them to refer for further study, or other similar research else-where.

The main facts behind this study was about alarming rate of malnutrition prevailing in Terkidi refugee camp, one of the biggest camp with the second largest number of refugees next to Pugnido refugee camp, the vulnerable groups especially the number of children under five years, pregnant and lactating mothers are severely at risk, where infant and young child feeding practices are still below the sphere standard.

In order to contribute to the strategies and approach to alleviate the concern of high rate of infants and maternal undernutrition, this study focused on finding the level of infant undernutrition, which can be called ‘the hidden ‘or ‘forgotten group of society’, that may in the long run can hand over, the new generation, and be responsible for sustaining the life of particular generation, if and only if, their issues of undernutrition that became one of their major obstacles, can be heard, raised and got urgent solution.

Furthermore, some of the factors that hinder the effective practice of exclusive breast-feeding, thought to contribute to the high rate of infant undernuttion were among the focus of the research. Of course, many literatures have been reviewed to find the possible root causes for the main problem of the area and as malnutrition can be caused by complex and intertwined factors, this study only focused on some particular issues likely to have strong association with exclusive breastfeeding, and in what way this factors are linked together based on the conceptual frame work of factors affecting Exclusive breast feeding and accordingly some factors were found to be associated with the issue under study.

Moreover, the researcher has gone through various procedure including statistical tools utilization and applying some of international standards of infant and young child feeding indicators, especially those issued by WHO, and UNICEF, can be mentioned here. The statistical tools used were very valuable to identify and find the relationship among factors and validate the results from the research data collected. The researcher used several tools to cross check the data quality and reliability, despite the whole process in which research passed was tedious but with fruitful end.

In regard to issues related to malnutrition, the nutrition agency is providing a daily based services, giving support for a large number of refugees, deploying more than 100 staffs, the performance of the programs are okay, even saving a lot of critical lives, so playing its greater role.

The main issues should be raised is to utilize, the holistic synergy and maximize its humanitarian goal, measured in terms of addressing the program quality, where above the standard requirement and where the low level of EBF, practices found in this result should be above the standard 90%, and where all possible opportunities implemented and large number target groups especially the support groups empowered, expanded and sustained to help and solve their issues by themselves.

The findings indicate that the main factors affecting EBF and nutritional status of infants were involved at different levels of hierarchical structure similar to the conceptual framework aforementioned in the literature review and the low level hierarchy is related to the individual characteristic of both mother and baby, being influenced by the next hierarchy or group level characteristics such context at the house hold or family or group level being influenced by the external factors or factors in the social environment and high level characteristics at the community and the wide society level and they are linked as chains and interlinked. The big picture of the hierarchy is as follows:

At the individual level: the age of the mother, her intension to decide breastfeeding and the level of information regarding breastfeeding were found to be associated with EBF. For instance, the young mothers are more prone to challenges and cannot solve their problemsare less likely to practice EBF in these regard. Similarly, those mothers who lack key information about

breastfeeding had less intention to decide breast-feedingbecause she does not have self-confidence, easily overcome by the challenge, and opt not to breast feed according to the required standard, so they need strong support. Furthermore, such mothers who lack previous experience in breastfeeding, and misbehave and feels helpless. Regarding the type of the household and family size, those female-headed household and with large number of children found less likely to practice a good behaviour and needed a special support and counseling intervention to promote the needed behaviour.

At group or family level, the socio economic status of mothers such income level and source of income directly associated with mothers intention to early initiation of breast feeding which also associated with exclusiveness of breast-feeding and some of those mothers who think themselves poor or could not understand their income level as they live a persistence life selling relief items and engaged in firewood selling could not get time purely practice exclusive breast feeding and opt in to giving other alternative feeding. This condition will not only affect the household or family life, but also the smooth dyad among members and support for each other or positive roles to be discharged by members and the family support for the mother.

When the health condition of child become deteriorated the family cannot have capacity to care for the child and mothers taking care of infants also afflicted, where all result to poor practice of EBF as well as the child and mother undernutrition. These condition also influenced the families relation with other families and most families give time to spend on other issues such as their livelihood status, ensuring their food security issues by their coping mechanism and generally the external environment such as culture or society level event such as poverty, protection issues and other infra structure, such institutional service level as health, nutrition, water and sanitation service and education, etc.

At the wider public, issuesrelated to socio-cultural condition affects the families' smooth survival, and their well function in the social environment. The cross cutting issues such as child and maternal under nutrition are also another elements which are inseparable due to the disrupting smooth function of the family, where infants and mothers are among the group entirely afflicted by the crisis. The intervention required at this level, needsmany resources to rehabilitate the conditions. For instance, the high rate of malnutrition, and low rate of EBF

practice, in the camp require well integrated planning and intervention, coordination, monitoring, and evaluation in a timely manner.

The coordinated approach needed with-in and between entire agencies at different levels from local to higher levels should involve government support at the local, regional, and national levels with well-organized social work elements at various levels up the hierarchy including international principles, ethics, values, and methods should be included in the intervention and given recognition for its requirement.

5.2. Conclusion

Ethiopia is one of the countries in the sub-Saharan region having large number of population and highest rate of undernutrition especially with children under five years, the most affected group. Ethiopia's status of early initiation of exclusive breastfeeding& exclusive breastfeeding practice was very low, but it has made tremendous improvement compared to other countries by preparing a national nutrition improvement strategy. The country also designed an open door policy for receiving high influx of refugees, of which Gambella refugee camp accounts for the large number of refugees.

The rate of child under nutrition is very high in Gambella refugee camps and in particular Terkidi camp. The rate of exclusive breast-feeding is also below the standard rate of 90%, and as confirmed previously in the result, the rate of EBF is still very low. In relation with this, although most of the mothers in the camp have good awareness, and attitude towards EBF, the practice is affected by many factors, which needs more intervention.

Many international NGOs and UN agencies, as well as government counterpart especially ARRA, is struggling to support refugees to reduce the level of malnutrition and there was good improvement in this regard.

In regard to the services provided at the Terkidi refugee camp, there is also good progress, in fact the cause of malnutrition are too complex and most of the studies about the status of malnutrition, were merely based on assessing the indicators, while working more on the causal factors are overlooked.

Further several recommendation were proposed by jointly by these stakeholders, whereas major focus was not given for quality improvement and also looking for other proxy issues like food security, WASH, and livelihood issues were still below the standard.

For instance, the camp's WASH situation is very serious and integration of social workers mobilizing the community were initially adopted and standard operation procedure (SOP) were prepared but currently not commonly practiced by agencies and there is poor coordination among the key agencies especially those linked to nutrition, and only the nutrition or health partner is conducting monthly coordination meeting and strong emphasis needed to strengthen the community outreach and the Infant and Young Child Feeding department which can give utmost service in this regard. The number of staffs for the two department is very low and below the SOP standard and with poor capacity and follow up.

In addition to this, there is inadequate quality control system especially the community Infant and Young Child Feeding program and there is poor monitoring and evaluation from within the nutrition agency from up the hierarchy and there is limited capacity building program whereas all these are liked with the shortage of budget as per the stand of the agency. The contribution of the health sector for the nutrition component is also poor.

Furthermore, the inadequate quality control, and capacity building, and other staff development scheme, along with inadequate social work practices, made some its professional staffs poorly committed towards its work environment.

5.3. Recommendations

Based on the major findings and conclusions drawn, the researcher suggests the following social work interventions:

5.3.1. Implementing Agency

- With regard to quality control system, the agency should prepare its annual project implementation plan and share for its staffs at the grass root level.

- Based on the implementation plan, the agency should implement, administer have a timely scheduled supervision, follow up and evaluation and a feedback mechanism for rectifying of the gaps identified, document the lessons learned.
- The agency should prepare a scheduled capacity assessment for its staffs, and plan for capacity building and continuous follow up and measure the progress against the plan, and assess the overall performance including budget management,
- The agency should promote community level infant and young child feeding program through expansion its support group, providing with ample capacity building, unlimited follow up, with a scheduled forum for impact measurement whereby all stakeholders at the various levels including community leaders and other are invited to evaluate the success of the program and the gaps, putting their own feedback on the satisfaction.
- The implementing agency should prepare a system to assess the effectiveness of its staffs based on performance and prepare corrective action including positive reinforcement and negative reinforcement mechanism,
- The nutrition agency should increase the number of community level social workers and provide them with necessary kits, tools, and motivation system so that they are empowered.
- The agency should work closely with various agencies with regard to different capacity building workshops or refreshment training programs on different and relevant topics that are interrelated.
- The agency should expand its casework and counselling sessions not only at the facility level but also at the household level, including social group work and community work strategy at the community level.

5.3.2. Other Agency Rendering Similar Services

- There should be a coordinated integration of efforts from all stakeholders working in a correlated sectors to nutrition in a scheduled manner assessing for impact or success that has been achieved,
- All parties should prepare an annual social auditing and transparency and accountability assessment forum, where by community members be involved in the assessment of gaps ensure that all community based approach as well as right based approaches are implemented.

- All concerned stakeholders especially the health agencies, WASH and education as well as livelihood program shall integrate their community outreach strategy and plan together to implement and empower the refugees through a coordinated efforts to work closely especially through common community outreach agents providing them with relevant training on health, infant and young child feeding (IYCF), including optimum breastfeeding practice and other issues related to malnutrition and the cause, etc.
- Through collaborative approach, agencies are expected to have scheduled joint regular activity monitoring and evaluation focusing on IYCF standard WHO indicators such as early ignition of EBF, EBF for the baby till six months, complementary feeding or introduction of solid and semi solid minerals and vitamins, continue breastfeeding at 1year and 2years.
- All responsible agencies and implementing partners should review correct information, education communication tools that are refugee context and should have access to these tools.

5.3.3. The Refugees (Clients)

- The refugee should have close access to safe and adequate livelihood and income generating means and basic skill training on different small business, where by the family can enhance their own family life function that members will be assisted.
- The refugee community leaders called refugee central committees are advised to encourage the refugee community to promote exclusive breast feeding according WHO standard, and raise and advocate the issues related to challenges preventing its practice mainstreaming with other agendas such as education, food security, health issues, etc. giving it recognition
- The community members especially those have good access to different health related key information should mobilize and pass what they hear to other who don't have access and support each other through encouraging family members to support infants optimum breast feeding,
- Support groups should strengthen themselves and encourage more mothers to practice and involve all mothers in their counseling and psychosocial support program without expectation of external support.

- There should be mechanisms where community member's especially supportive group members may be competed for succeeding their tasks.

5.3.4. The UN-Agencies

- All responsible un-agencies like UNHCR, UNICEF, WFP, and WHO representatives along with regional health bureau and ARRA shall strengthen the community outreach strategy, and the community infant and young child feeding become strong.
- They should provide necessary resources to refugees and implementing partner with proper capacity building and promote community participation in identifying the problems affecting them from practicing good behaviour.
- The agencies shall provide essential TOT and other relevant training for implementing agency staffs, community members and leaders with proper supervision, monitoring and evaluation on issues such as, optimum breast feeding, good breast feeding position and attachments and misconception, benefits bysupplyingcommunities with correct information, education communication tools, that are refugee context and easily accessible.

5.3.5. For Future research

- This Study focuses on Assessing barriers to exclusive breast-feeding from mothers' perspective, in relation to high rate of malnutrition, based on cross sectional study. Therefore I recommend further studies to be done in terms of agencies , staffs, health facilities, or other sectors and its contribution to infant undernutrition, and how this relates to Acute Malnutrition, and contribution of issues related to sharing of food products and selling and how this could contribute to food security and then to malnutrition. Vice versa.

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APPENDICES

Appendix A: Interview Schedule for Lactating Mothers

Indira Gandhi National Open University Department of Social Work, Addis Ababa

Consent Form

Researcher's Information

My name is _____student of Indira Gandhi National Open University (IGNOU) Department of Social Work. He is conducting a research on "Barriers to Exclusive Breast-Feeding and Nutritional Status of Exclusively and Non-Exclusively Breastfed Infants in Terkidi Refugee Camp" Gambella, Western Ethiopia for the partial fulfilment of the Master in Social Work in Addis Ababa School of Social Work. He received permission from Indira Gandhi National Open University (IGNOU) Department of Social Work Addis Ababa to conduct this study.

Aim of the study

The purpose of this study is to assess the major barriers affecting exclusive breast-feeding and the nutritional status of infants. The study will help you to practice the recommended breastfeeding practice for proper nutritional care of your child. It can also provide baseline data for Policy makers and other researchers for further improvements on exclusive breastfeeding.

What participation Involves

You are selected purposively to participate in this study because you are a mother with a child age less than 6 months. Your participation is purely based on your willingness. You have the right to choose not to take part in this study. If you choose to take part, you have the right to stop at any time. If you are willing to participate, refuse, or decide to withdraw later, you will not be subjected to any ill-treatment.

If you agree to participate in the study, you will be asked to answer some questions about yourself, your household, and your breastfeeding practice. The interview with you will take about **25-30** minutes.

Confidentiality

The information that you provide here will be kept confidential by using only code numbers and securely putting the data. Do not give your name. No one will have access to the non-coded data except the principal investigator and the data will not be used for purposes other than this study. Your willingness and active participation is very important for the success of this study.

Code of the Respondent/ID: _____,
Name of Interviewer: _____ Name_____**signature**_____, Code__
Camp: _____, Address: Zone: ___, Time Started_____, Time finished _____
Block#:____Com#:____HH#:____
Date of interview: ___/___/____,
Could I have your Permission to continue?
1. If yes, continue the interview.
2. If no, skip to the next participant by writing reasons for his/her refusal._____
Informed consent Certified by: Respondent's Signature_____
Interviewer: Code_____Name_____signature_____
Date of interview _____Time started _____Time completed_____
Result of interview:
1. Completed
2. Respondent not available
3. Refused
4. Partially completed
Checked by: Supervisor: Name _____Signature_____

Section I. Socio-demographic and Socio economic characteristics of Household/mother (From Q1 to Q6)

1. **Mother's Age**
   1. <20 [___]
   2. 21-30 [___]
   3. 31-40 [___]
   4. 4. >40 [___]
2. **Marital status**
   1. Married [___]
   2. Single [___]
   3. Divorced [___]
   4. Widowed [___]
3. **Level of Education**
   1. Illiterate [___]
   2. Primary incomplete [___]

3. Primary complete [___]
4. Secondary incomplete [__]
5. Secondary complete [___]
6. Secondary and above [___]

4. **Employment/Occupation**
   1. Self-employed [___],
   2. Part –time employment [___]
   3. Full-time employment [___]
   4. No employment [___]

5. **Form of employment (Kinds of Occupation)**
   0. Office work [___],
   1. Business [___]
   2. Farm work [___]
   3. Others (specify),_____

6. Household Information

6.1.Number of children (Family Size) ____,

6.2.Type of House Hold :_____

1. Female Headed,
2. Male headed
3. Other, specify)

6.3.Household Total Income Category in ETB

1. < 20,000 [__].
2. 20,000-40, 000 [___]
3. 40,000-60,000 [__],
4. >60,000 [___]

8. Don't Know [___]

6.4. Household sources of income?

0. Husband Salary
1. Sale of fire wood
2. Sale relief items
3. Remittance
4. Small business

Section II. Infants' Nutritional Status Indicator (Q7 to Q31)

7. **Child Name _____,**
8. **Sex --------?**

0= Boy [___]

1= Girl [___]

9. **Age ---------- (months)/ Date of Birth ---/---/------**
10. **Height---------- (centimeters)**
11. **Weight at birth?**
    1. Less than 2.5Kg [___]
    2. 2.5 to 4.0kg [___]
    3. >4.0kg [___]
12. **Current Weight in kg-------**
13. **Place of birth?**
    1. Health facility [___],
    2. Home [___]
    3. At a TBA's house
14. If the answer is at health facility, for how long did she stay in the health facility?
    1. Less than 24Hr [___],
    2. For up to 1 day [___],
    3. More than 1 day. [___]
15. Has your baby [Call Name] ever been breastfed?
    0. No [___]
    1. Yes [___]
16. How long after birth did you first put [NAME] to the breast?
    1. Less than one hour [__]
    2. between 1 and 23 hours [__]
    3. More than 24 hours [__]
    4. Other [__]
17. Was your baby exclusively breastfed yesterday during the day and at night (at 24hrs recall)?
    0. No [___]
    1. Yes [___]
18. Did your baby feed on the first milk (colostrum) just after birth?
    0. No [___]
    1. Yes [___]
19. Did your baby [Name] received any other thing other than breast milk soon after birth?
    1. Yes [___]
    0. No [___]
    8. Don't Know [___]

20. Yesterday during day and night, did your baby [Name] received any other things in addition to breast milk?
    1. Yes [___]
    0. No [___]
    8. Don't Know [___]
21. If the Answer in Q21 is Yes, Which of the following did the baby [Name] receive?

a. Plain Water for example
    1. Yes [___]
    0. No [___]
    8. Don't Know [___]
b. Infant formula for example
    1. Yes [___]
    0. No [___]
    8. Don't Know [___]
c. Other milk such as tinned, powdered, or fresh animal milk,
    1. Yes [___]
    0. No [___]
    8. Don't Know [___]
d. Juice or juice drinks,
    1. Yes [___]
    0 No [___]
    8. Don't Know [___]
e. Thin porridge for example,
    1. Yes [___]
    0 No [___]
    8. Don't Know [___]
f. Tea or coffee with milk,
    1. Yes [___]
    0. No [___]
    8 Don't Know [___]
g. Any other water- based liquid,

1. Yes [___]

0. No [___]

8. Don't Know [___]

22. Did your baby [NAME] drink anything from a bottle with a nipple yesterday during the day or at night?

1. Yes [___]

0. No [___]

8. Don't Know [___]. If the answer is no, in Q22, please go to answer Q25

23. At what age of infant did you start giving other drinks?

1. at birth [__]
2. 2 months [__]
3. 4 months [__]
4. 6 months [__]
5. Other (specify) ----------

24. Why did you decide to feed infant on these drinks / foods besides breastmilk? ----------

---

25. Have you ever expressed your breast milk while you are away from your baby?

1. Yes [__]

0. No [___] If no, why? ----------

26. Has your baby [Name] ever been suffered from any disease in the recent past?

1. Yes [__]

0. No [___],

27. If Yes, which of the following disease?

1. Diarrhea [__]
2. Pneumonia [__]
3. Common cold [__]
4. Measles [__]
5. Worm infestation [__]

28. If so, where did the baby [Name] been admitted?

0. Health Centre [__]

1. Nutrition (Feeding Centre [__]
2. Local healing Center (traditional) [__].

29. Did the sickness interfered with breastfeeding?
    1. Yes [___]
    0. No. [__]
30. Have you experienced any problems in breastfeeding your baby?
    1. Yes [___]
    0. No. [___]
31. If yes, in Q29, Which problems have you experienced?
    1. Inadequate breastmilk [ ]
    2. Baby refusing to breastfeed [ ]
    3. Pain in breasts [ ]
    4. Other (specify) ----------.
32. Did your illness affect baby's breastfeeding?
    1. Yes [__]
    0. No. [__]

Section III-Mothers Knowledge, Attitude, and Practice (KAP) from (Q33 to Q 39)

Mother's Knowledge

33. Did you have any info about breastfeeding?
    0. Yes [__]
    1. No. [__]
34. If yes, what are your sources of information?
    1. Health Workers
    2. Outreach workers
    3. Media (TV/Radio),
    4. 4.MTMSG Facilitators
    5. 5.Community outreach& MTMSG
    6. Any other specify_____
35. To your understanding, how long should a baby be exclusively (only) breastfed?
    1. 0-2months [___]

2. 2-4 months [___]
3. 4-6 months [___]
8. Don't Know [___]

36. To your understanding, do you think that giving only breast milk for the baby has benefit?
    1. Yes [___]
    0. No [___].
37. If the answer is yes, which of the following options you think is best?

    Yes [__]

    0. No [___]

37.1. Helps baby grow, prevent from disease, easily digested than others, etc.
    1. Yes [__]
    0. No [___]
    8. Don't know

37.2. Helps mother to reduce more bleeding, uterus contraction, etc.
    1. Yes [__]
    0. No [___]
    8. Don't know

37.3. It helps the community
    1. Yes [__]
    0. No [___]
    8. Don't know

Mother's Attitude

38. Do you believe that formula Feeding or Feeding from bottle has more benefit than breast milk?
    1. Yes [__]
    0. No [___]
    8. Don't know
39. Do you belief that you baby got sick if you feed from breast milk that has got difficulty?
    1. Yes [__]
    0. No [___]
    8. Don't know

Common EBF Practice

40. Which feeding practice do you mostly prefer for your baby [Name]?

    1. Exclusive (only) breastfeeding [___]
    2. Bottle only feeding [___]
    3. Breastfeeding and artificial feed =Breastfeeding +other liquid/food [___]
    4. Predominant Feeding=Breastfeeding +Water [___]

Section IV. General Lists of the factors Influencing Exclusive Breast-Feeding (Dependent Variable) Q41

41. Which of the Factors do you think prevent you from feeding only Breast milk during the 6months? (select one option only based on the rate at right head with its score 0=dis agree, 1=somewhat agree, 2=strongly agree)

Independent Variables	0=Disagree	1=Agree	2= Strongly Agree
41.1. Mother's Personal Characteristics (knowledge, belief or perception, etc.)			
Breasting makes mother's breasts loose shape.			
I have physical difficulties and problems about breastfeeding such as Sore or painful nipples			
The baby needs more than breastmilk/ Not enough breast milk production			
Breastfeeding causes mothers busy/ Time consuming			
Breastfeeding don't quench the baby's thirsty			
A belief that low income level, or Being poor affect Breastfeeding			
Stressful/ Concern that certain food mother eat will make the baby sick			
Failure in the Previous Breastfeeding Practice or lack of experience affect			
Mothers Being busy in different activities such as collecting food, water, firewood, business making, etc. that make mothers move away from the baby.			
Lack of information that exclusively breastfed babies have less chances of developing skin allergies, less chances of developing obesity, diabetes, high blood pressure and cholesterol later in life and also that breastfeeding mothers have less chances of developing bleeding after delivery, postpartum depression, and reduce the occurrence of obesity related illness like high blood pressure and diabetes.			
41.2. Lack of Social Support (Family, Peer group, health& Nutritional institution, community, etc.			
Lack of Support and encouragement in breastfeeding from Husband			
Lack of support from Family, relatives and friends encouragement is important for breastfeeding			
Lack of key Messages on breastfeeding or Support from the Nutritional Services during Service Delivery or Lack of Support From Professional Staffs at Feeding Centre			
key Health messages on breastfeeding during antenatal clinics (before birth), during the sessions in the community, etc.			
Lack of Support from the Mother- to -Mother Support Group or any other groups supported by the community			
Lack of Support from the Existing Religious Institutions in the Community			
41.3. Cultural Factors			
Colostrum is a "bad milk" and should be discarded			
Poor mothers or malnourished can't breastfeed her baby			

Breastfeeding from sick mother's breast makes the baby sick			
Expressing breast milk is a taboo			
Breastfeeding in the Public is embarrassing& has less valued by Society			
41.4. Environment Factors			
Easy supplementation of formula in the Community			
Easily availability of animal milk			
41.5. Medical Condition			
Child's Health Condition			
Use of medications harmful to the baby by the mother			

Thanks for Your Cooperation!

Appendix B. Focus Group Discussion Guide:

1. What are the sources of infant feeding information in this community?
2. What are some of the messages that you get regarding breastfeeding?
3. Do you agree/concur with these messages? If no, why?
4. From your understanding, what are the benefits of breastfeeding?
5. Do you believe that a baby can be fed on breast milk alone without even water for the first six months?
6. Is exclusive breastfeeding a common practice in your community?
7. What are the factors that encourage mothers to practice exclusive breastfeeding for six months?
8. Why do some mothers choose not to practice exclusive breastfeeding?
9. Do you have any suggestions on what can be done to encourage mothers to practice exclusive breastfeeding for six months in this community?
10. Is it appropriate for a mother to express milk for the baby?
11. What do you are the differences between the baby exclusively breastfeed and not?
12. What do you give for the baby just after birth in this community?
13. How do you perceive EBF according to your culture?
14. Where do you prefer giving birth at home, or health Centre? Why?
15. How evaluate the level of services you are receiving? Very good, good, satisfactory, etc.\

Thank you for your Cooperation!!