ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Advisors: Mr. Seifu Hagos (MPH, PHDc)
Dr. Bilal Shikur (MD, MPH)

June 2016
Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Thesis Paper Submitted to School of Graduate Studies of Addis Ababa University, College of Health Science, School of Public Health as a Partial Fulfillment of the Requirement for the Degree of Master of Science in Public Health

Advisors: Mr. Seifu Hagos (MPH, PHDc)
Dr. Bilal Shikur (MD, MPH)

June 2016
Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Approved by Examining Board

_____	_____	_____
Name	Signature	Date

Chairperson, Department of Graduate Committee

_____	_____	_____
Name	Signature	Date

Advisor

Mr. Seifu Hagos___	_____	_____
Dr. Bilal Shikur___	_____	_____

Examiner

Dr. Mulugeta Betre_	_____	_____

Acknowledgment

First and foremost, I would like to thank the Almighty God for providing me with all my necessities and made me and my family healthy. The intercession of Saint Mary, all Angels and Saints have also helped me throughout my entire life, for which I am so grateful.

I would like to express my heart-felt gratitude to my advisors Mr. Seifu Hagos and Dr. Bilal Shikur for all their support and enriching comments throughout the study period. I would also like to acknowledge the valuable time and fruitful advice of Dr. Eshetu Girma.

My sincerely thanks extend to Addis Ababa University for the financial support of this thesis project. My appreciation and deepest gratitude also goes to the study participants for their precious time and for sharing their priceless experiences.

My special thanks also goes to my dearest husband, my parents, and my brothers for their continuous encouragement and support by taking care of my children throughout my academic lifetime.

Finally yet importantly, I would like to thank Yeka Sub City and Bole Sub City Health Office staffs and urban health extension workers for helping me identify the study participants.

Table of Contents

List of Tables

Table of Figures

Acronyms

Acronyms	Description
EBF	Exclusive Breastfeeding
FES	Focused Ethnographic Study
GAIN	Global Alliance for Improved Nutrition
IYCF	Infant and Young Child Feeding
MNP	Micronutrient Powder
NGO	Non-governmental organization
ORS	Oral Rehydration Solution
WHO	World Health Organization

Abstract

The nutritional status of children under two years of age is directly affected by infant and young child feeding (IYCF) practices. To enhance nutrition, health, and development of children aged 6-23 months, the improvement of IYCF practices is crucial. In Ethiopia breastfeeding is not adequate, complementary foods Introduced not on time, and the consumption of animal source food and vitamin A rich food is very low. And inappropriate IYCF practice has negative impact on their growth. The aim of the study was to explore mothers or caregivers' perception on characteristics of IYC foods and to identify the cultural, behavioral, and psychological aspects of IYCF practice in Addis Ababa, Ethiopia.

The study employed Focused Ethnographic Study (FES) and it was conducted in Bole and Yeka Sub-Cities. A priory sampling technique was used to recruit study participants and data was collected in two phases by using in-depth interview and cognitive mapping techniques. A total of 16 participants were involved and thematic analysis was performed for qualitative data.

Cerifam and porridge were the core IYC foods in both behavioral and cultural perspectives. Cold/stored foods /left overs are widely considered bad for IYC. Low income coupled with high-priced IYC foods, raising a child by babysitters, and poor appetite of a child were the major challenges that parents faced while raising their IYC. From mothers' perspective, the health benefit of the food they feed their IYC is crucial and is the main value that influence their decision on IYC food. Caregivers report valuing foods for their contribution to mental development and that improves child's weight. They believe all foods are not equally healthy and foods essential for child health are very expensive.

Currently infants and young children routinely receive cereal based foods. Inappropriate feeding practice: feeding below recommendation, feeding leftovers, pre-mastication was identified. Financial problem was the major challenge and the health benefit of food is the main value that influence caregivers' food choice. Health education and BCC (behavioral change communication) intervention is needed to improve caregivers' perception and feeding behavior. The government should consider alternative child care. Additional researches needed to evaluate the effect of IYCF practice on IYC nutritional status in urban settings.

1 Introduction

1.1 Background

Initiating breastfeeding within one hour after birth protects the new born from getting infection and from mortality (1). The World Health Organization (WHO) recommends, exclusive breastfeeding for 6 months is the optimal way of feeding infants (2). Exclusive breastfeeding (EBF) is defined by WHO as the Infant fed only breast milk without any liquids or solids except ORS, vitamin and mineral drops or syrups and medicines (3). For infant and young children (IYC) aged 6-23 months, breast milk is a good source of energy and nutrients (1). In addition to breastfeeding, infants should be given complementary foods from 6 months up to 24 months or more (4). Complementary foods are foods such as liquids, semisolids, and solids other than breast milk that are introduced to an infant to provide nutrients (5).During the transition period, the complementary foods should be timely, adequate, and safe to meet the nutritional needs of the infants (6).

The nutritional status of children under two years of age is directly affected by the infant and young child feeding (IYCF) practices, and eventually, impact child survival. To enhance nutrition, health, and development of children aged 6-23 months, the improvement of IYCF practices is crucial. WHO developed 15 IYCF indicators (8 core and 7 optional indicators) to monitor IYCF practices. Core indicators evaluate breastfeeding initiation, Exclusive breastfeeding, continued breastfeeding, introduction of complementary feeding, dietary diversity, meal frequency, acceptable diet, and consumption of iron-rich and iron-fortified foods of IYC. Optional indicators also evaluate breastfeeding, duration of breastfeeding, bottle feeding of infants and milk feeding frequency for non-breastfed children (7). Good complementary feeding practices are crucial to protect infants and children from malnutrition; both under nutrition and over nutrition (6). Malnutrition is a problem immediately caused by inadequate dietary intake and disease (infection). Insufficient access to food, inadequate maternal and childcare practice, poor water and sanitation and inadequate health services are the underlying cause at household level. (8). The achieved millennium developmental goal and the current sustainable developmental goals are launched to combat malnutrition worldwide. Ethiopian Government approved National Nutrition Strategy (NNS) and Health sector transformational plan (HSTP) to reduce the magnitude of malnutrition in Ethiopia, especially

amongst children under the age of five(9, 10). The Ethiopian government also commit to end child under-nutrition by launching 'Seqota Declaration' (11).

1.2 Statement of the Problem

Globally, 26 percent children under-five years of age are stunted in 2011 and high prevalence of stunting was in Africa - 36 percent (12). World-wide, about 30% of children under the age of five are stunted because of poor feeding and repeated infections (13). In Ethiopia 44 percent of children under age five are stunted, and 21 percent of children are severely stunted, 10 percent wasted and 29 percent underweight in 2011. In Addis Ababa, 22 percent children under-five years of age are stunted, 6.4 percent underweight, and 5.7 percent are overweight (14). Malnutrition cause increased mortality, poor health, impaired motor, cognitive and behavioral development, slow physical growth, diminished immunity reduced learning capacity, inferior performance, and long term consequence, ultimately lower adult work performance and economic productivity and non-communicable diseases(15)

Inappropriate practices such as short duration of EBF and inadequate complementary feeding practice combined with poverty and food insecurity are major determinants of high prevalence of malnutrition among young children (16). Only a small proportion (4%) of children age 6-23 months are fed appropriately based on the recommended IYCF practices. Among children age 6-23 months, the consumption of foods made from grains are more common than foods from any other food group. Even though animal source foods such as meat, fish, poultry, and eggs are very important for health and mental growth, the introduction of these foods in the diet is late, and very few children consume them (14, 17, 18). Low dietary diversity (taking less than the recommended 4 food group) is a significant predictor of stunting. (19). IYCF practice is more appropriate in older children and children in urban areas than younger and rural resident (14). In Ethiopia, harmful traditional practices like food taboos contribute to the poor nutritional status of majority of IYC (9).

Although, some studies show IYCF practice and associated factors, these studies do not reflect how mothers choose specific IYC foods, caregivers' experience concerning food and food related problems, the core values (dimensions) as well as how caregivers view specific foods in relation to their basic cultural values, in Ethiopian context, especially in urban setting. There

is one study done in rural Ethiopia (Desse zuria) that describes the above issues (20). As knowing caregiver's experience regarding food and childcare related problems in urban area is crucial, we would like to conduct the study in Addis Ababa.

1.3 Rationale of the Study

The research question of this study was what kind of foods given to IYC in urban setting? How do mothers perceive IYC foods in perspective of value dimensions? What are the challenges caregivers face to raise their children? Complementary feeding is not only about providing food to a child, but also involves feeding behaviors of mothers. Understanding these behaviors and their influential factors is very important to prevent malnutrition during the period of 6-23 months. The aim of this study is to explore caregiver's perception on characteristics of IYC foods and cultural and psychological aspect of IYCF behavior. The result of this study may yield rich data that will help the mothers or caregivers of IYC to advance their understanding on IYCF and improve their feeding practices. The result will be used by urban health extension workers, pediatricians, or other health professionals in ANC, immunization, and under 5 clinics. Other researchers could also use this data for further studies. The result of this study will also contribute to the policy makers and programmers to plan, design, and development of nutritional interventions such as micronutrient powder (MNP) supplementation or other public health measures such as behavior change communication (BCC) interventions.

2 Literature Review

2.1 Malnutrition

After six months of a child's age to twenty four months, the prevalence of malnutrition in many countries rises because of an increase in infection, poor feeding practices, and micronutrient deficiencies that interfere with optimal growth manifests in this period (14). A child's physical growth, mental growth, and development will be slow, if the child is malnourished during the first two years of life (21). More than one third of child deaths every year around the world are attributed to under nutrition, which is one form of malnutrition that weakens the body's resistance to illness (8).

Globally, the prevalence of stunting, underweight, and wasting in children younger than 5 years in 2010 were estimated 27%, 16%, and 9% respectively with higher prevalence in Africa than in Asia (22). In Ethiopia, poor nutritional status of children has been a serious problem for many years. The estimated national prevalence of stunting, underweight, and wasting among children was 44.4%, 28.7%, and 9.7% respectively (14). Breastfeeding was found to be protective for underweight and wasting whereas bottle feeding, initiation of complementary feeding at inappropriate age, and low dietary diversity was significant predictors for stunting (19).

2.2 Complementary Feeding Practice

"Complementary feeding is defined as the process starting when breast milk alone is no longer
sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids
are needed, along with breast milk"(4). Mothers feeding their infants with foods immediately after birth and the prevalence of early initiation of complementary feeding before 6 months of age was high in urban than rural. The major reasons were perception of mothers towards breast milk insufficiency to satisfy the water demand and nutritional need of the infant, working outside home, and lack of information about the real time of initiation of complementary feeding (23-25).

Appropriate Complementary Feeding Practices; introduction of complementary feeding on recommended time, providing diversified food on recommended frequency among mothers of children aged less than two years were very low in many countries (3, 18, 26, 27). Non-EBF mothers do not wash their hands after defecation and do not properly clean utensils before feeding than EBF mothers (27).

2.3 Foods and drinks given for IYC

In most developing instant cereals such as CERELAC, sweetened cookies, and traditional porridges and grain, roots and tubers were most common food items given to IYC aged 6-23 months (18, 24, 26, 28, 29). Porridge was the most common first food for infants in urban areas, mothers also give a combination of various foods for their 6-8 months of age, and the number increases as the age increases, i.e. from 9 months to 12 months (25). IYC were also given sweet foods (cream-filled sponge cakes, sugary biscuits or cookies) because mothers believe that these foods are 'nutritive and easy to digest' and convenient 'first' food that satisfy a child's hunger The intake of manufactured food, soft drinks and artificial juices were also high and more prevalent among children aged 9-12 and more used by mothers with no formal education than the educated one (3, 30-32).

In low and middle income countries the consumption of sugary snacks by IYC were increasing and higher rate was seen among children aged 12-23 months, who were living in urban and wealthier families than infants and from rural and poor families (33). Studies showed that the usage of nutritious foods like egg, fruits, vegetables, meat, fish, and poultry is very low (18, 33, 34). The consumption of Vitamin A rich foods and flesh foods were high in IYC 18-23 months of age (26).

The main beverage given to infants was water, as mothers perceive it is good for health. Mothers also choose to provide their children fruit juices and flavored milk, as provide vitamins and calcium, which are essential for child growth. Factors that influence mothers' choice of beverage were child preference and nature, parenting style, mothers' experience and family influence, i.e. grandparents (35).

2.4 Food Preparation for IYC

Mothers prepare special foods for their children, i.e. different foods from the family diet (20, 34, 36). However, in some countries there was no homemade specially prepared complementary food for IYC. This is because families were unwilling to buy foods that cannot be eaten by everyone in the household (30, 37).

2.5 Dietary Diversity and Meal frequency

In developing countries the prevalence of adequate dietary diversity was very low (18, 26, 37, 38). Minimum dietary diversity and minimum meal frequency rate was high in urban areas than in rural areas (25). Children aged 18-23 months were more likely to practice adequate dietary diversity than 6-11 and 12-17 months. Children who were born third and from illiterate mothers had a risk to be feed inappropriately (18, 26, 38). The frequency of complementary feeding of exclusive breastfed children was low at the age of 6-8 months and high at the age of 12-23 months than non-exclusive breastfed children (27).

2.6 Mother's Perception on IYC foods

Adolescent girls from semi-urban and rural areas of Ethiopia believed that infants should be given water and butter immediately after birth. Fewer girls agreed on the provision of fruit, vegetables, and animal source foods at 6 months of age (39). Some mothers discontinue breastfeeding as they perceive that breast milk is 'poisonous' or 'harmful' and that 'breastfeeding too long will affect the child's intelligence (30). Some Mothers give junk foods for their IYC because they believe these foods are soft and suitable to meet child's nutritional need (24). From caregivers perspective the primary importance of IYC food was its "healthiness "and they believed that all foods are not equally healthy (28). Some caregivers believed the foods that they gave to their IYC are low on 'healthiness' (37).

2.7 Barriers Affecting Complementary Feeding

Numerous socioeconomic and cultural factors influence patterns of feeding children and the nutritional status of children (14). The major factors associated with appropriate complementary feeding practice were child's age, 18-23 months, mothers who had postnatal care, and mother's literacy (26). The main barriers for appropriate child feeding practices were

caregiver's knowledge about breastfeeding and complementary feeding; influence of cultural custodians on the caregivers; and patterns and burden of other responsibilities the caregivers have in the household (24, 40). Mothers are influenced by highly respected peoples in the community and in family such as health care providers, elderly peoples, and grandmothers. These respected people influence the mothers to give prelacteal liquids (herbal drinks) after birth in the first days of life and to start complementary foods before 6 months of age as they perceive these drinks and foods are part of healthy growth and make them strong (24, 30). Both rural and urban mothers, delayed initiation of complementary foods because of inability to afford commercial foods and unaware of low cost home prepared weaning foods (25).

Poverty and lack of financial resources were the critical and primary concern of caregivers to buy nutritious foods and to give good childcare. Time shortage due to caregivers' multiple responsibilities was one of the other concerns (20, 28). Access to food, perception of food, and the power of male partners, as they procure the household foods, were the major factors that affect the selection of IYC foods (28, 37). The power to use money (decision on male hand) in the household and type of food given at the time of weaning (milk) were significantly associated with underweight. (41).

2.8 Conceptual Framework

IYCF behaviors are influenced by caregiver's decisions and it is based on their knowledge, perception, education level, socioeconomic status, and occupation. Family norms and cultural beliefs also have influence on the mother's choice and IYCF practice(42, 43).

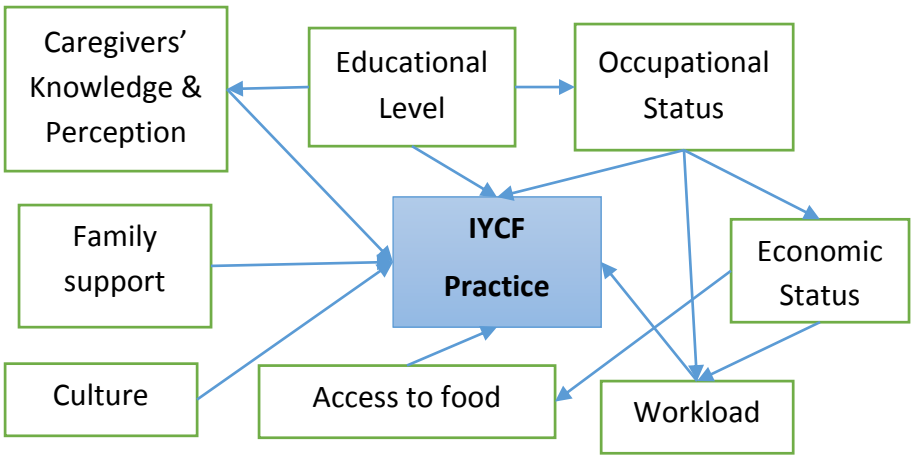


Figure 1 Conceptual framework for IYCF practice

3 Objective

3.1 General Objective

The general objective of this study is to explore mothers or caregivers' perception on characteristics of IYC foods and to map the cultural, behavioral, and psychological aspects of IYCF practice in Addis Ababa, Ethiopia.

3.2 Specific Objectives

1. To explore the type of foods that are given to IYC in Addis Ababa
2. To identify the sources of IYC and family food acquisition, preparation, and storage in Addis Ababa
3. Examine the challenges experienced by caregivers and coping mechanism in Addis Ababa
4. To understand mothers' perception on characteristics of IYC foods and value dimensions in Addis Ababa

4 Methods

4.1 Study Area and Study Period

The study was conducted Addis Ababa. Addis Ababa is a Capital city of Ethiopia and it is the largest city in Ethiopia with a population of 3.385 million people. From the 10 Sub-Cities, Yeka Sub-City and Bole Sub-City were selected to meet mothers who have low living standard and high living standard. Urban health extension program is one of the program that has been used to improve the health status of Addis Ababa residents. Based on the urban health extension workers' recommendation, 2 Woredas from each Sub- Cities were selected. The study was conducted from December 2015 to April 2016

4.2 Study Design

Focused Ethnographic Study (FES) was employ. FES is a methodology used to answer a set of specific questions that are required by policymakers and agencies for making decisions about nutrition or public health interventions (37). FES has been conducted in different countries such as Bangladesh, Ghana, Afghanistan, South Africa, and others for different intervention projects such as acute respiratory infection, vitamin A, IYCF and others by WHO and GAIN (28, 29, 37, 44, 45).

The main goal of FES is to obtain information on situations and behaviors in a population that are important for several decision-making activities. An important feature of an FES is its modular construction. Structuring data collection into short modules makes it possible to modify the number of respondents for any given issue, to modify the flow of interviews and easily modify specific focal issues so that data collection can be modified to find the differences within a population and across populations. Conducting field research in phases is another feature of FES methodology (37).

FES design has two phases. In phase one, key informants are interviewed and the aim is to identify the culturally significant 'core' IYC foods and to obtain information about issues related to IYCF and childcare. In phase two, caregiver respondents or mothers are interviewed and the aim is mainly to explore caregiver perceptions on characteristics of IYC foods from the perspective of basic value dimensions and to identify types of child-care problems faced by

parents of IYC. Cognitive mapping techniques such as “free listing”, “rating” and “pile sorting” exercises are used to collect data.

4.3 Study Population

The study populations are mothers or caregivers who have infant and young children 6-23 months of age. The study target was households and those who are residents in the Yeka and Bole Sub-Cities.

4.4 Sample Size and Sampling Procedure

A priori sampling technique was used to recruit study participants who have specific experience of IYCF. The participants were recruited based on the predefined sub-group of the 6-23 months’ age range and effort was made to include all socio-economic sub-groups in both phases

In phase one, key informants were recruited by using the following criteria, by the help of local urban health extension workers

1. Mothers who have infant and young child from 6-23 month of age
2. Mothers who Live in Bole and Yeka Sub-Cities for 1 year
3. Mothers who know IYCF practice very well in the community/study area

As the biological and behavioral variability across 18 months (6-23 months) is large, dividing the age range into small groups was crucial. Based on the results of previous studies, key informants were categorized into four groups i.e. 6-8 months, 9-11 months, 12-17 months, and 18-23 months (28). Four key informants i.e. one key informant from each age group was interviewed in this phase.

In phase two, recruitment of caregiver respondents was performed by the following criteria by the help of local urban health extension workers

1. Mothers who have infant and young child from 6-23 month of age
2. Mothers who Live in Bole and Yeka Sub-Cities
3. Mothers who can express their beliefs and ideas freely

However, the categorization of caregiver respondents by age group were redefined in to three age group based on the result of phase one. Twelve-caregiver respondents i.e. four from each age group was recruited and the sample size was determined by data saturation level.

4.5 Data Collection Procedures

Data collection was conducted by using face-to-face in-depth interview and it was performed by adapted protocol from FES studies done in different countries such as Ghana (28). The FES is structured into several protocols such as those protocols used to assess household behavior and market behavior. We used two household behavior protocols (key informant and caregiver respondents protocol) which contain several modules that are used to obtain information on specific topics related to IYC feeding**.**

Key informant interview was employed to identify the culturally significant 'core' IYC foods and to obtain a general picture of IYC feeding and care issues. It has seven modules including socio-demographic profile and each module used to address specific issue. Module 4 was not used as the study was in urban setting. In this phase, "free-listing"; open-ended question and guided discussion was used to collect the data. "Free- listing" is an exercise used to generate the lists of IYC foods and caregiving problems faced by parents.

Caregiver respondent interview was employed to obtain a general picture of mothers and caregivers perception towards IYCF and cultural values. It has seven modules and the same as the first phase. Household characteristics and household wealth index;24-hour dietary recall; open-ended question with guided discussion; 'rating' of value dimensions and 'rating' of specific food in relation to the value was used to collect data. "Rating" is an exercise that is used to find out the caregivers' views about the relative importance of the different value dimensions. Likert scale (1 to 5) was used for this exercise and the participants give 5 for the perception i.e. very important and 1 if it is not very important. This exercise used cards that have been created based on the results of the key informant interviews (phase one). The participants were asked to rate all 5 value dimensions and then asked to rate all the food items and action for each value dimensions.

Data collection was carried out mainly by the principal investigator and urban health extension workers involve in recording the interviews. The interviews were conducted in study participants' houses and took on average 1 hour for phase one and 30 minutes for phase two.

The protocols were translated into Amharic for conducting the interview. All interviews were recorded (tape-recorded) into audio-files for transcription in Amharic and then translated into English. Data recording formats that accompany each of the modules was used to capture the information during interview and to note down key things.

4.6 Operational Definitions

Caregiver:	Mother, father or grandmother of index child
Dietary diversity:	The number of different foods or food groups consumed by IYC in the previous 24 hours
Infant:	A child whose age ranges from 0-12 month
Infant and Young Child:	A child whose age is 6-23 month
Key informant:	Mothers who have infant and young children aged 6-23 months and firsthand knowledge about IYCF and child raising challenges in their community.
Meal frequency:	The number of times that the child is fed complementary foods in 24 hours.
Nutrient:	A substance that provides nourishment essential for the maintenance of IYC growth and development.

4.7 Data Analysis Procedure

Verbatim transcription was performed in Amharic from the recorded interviews and then translated into English. Open code software was used for coding and narrative interview data was analyses thematically. Modular analysis was also performed. Demographic and dietary data (both food lists from 'free listing 'exercise and 24-hours dietary recall) were tabularized and frequency was calculated. Mean and frequency was also calculated for cultural domain data which was collected through 'rating' exercise. Microsoft Office Products were used to summarize, transcribe, write up, calculate mean, and frequency.

4.8 Data Quality Management

The study was conducted mainly by the principal investigator. Data collection instruments were prepared from the protocol that used to assess household behavior (28). All interviews were tape recorded and verbatim transcription was performed carefully. Amharic transcripts were read repeatedly and the principal investigator went back to key informants to answer some questions that need clarification. In the way, the transcripts were given to the key informants for checking and they gave positive feedback. Translators were involved in translation of Amharic transcripts. After transcription the document changed into plain text and import to Open Code software for coding and thematic analysis The transcripts and reports were communicated with advisors and other experts in qualitative study.

4.9 Ethical Consideration

Ethical approval was obtained from Addis Ababa University School of Public Health Ethical and Research Review Committee. Permission letter was obtained from Addis Ababa Health Bureau and Yeka and Bole Sub-City Health Offices. Informed consent was taken from all study participant after proper explanation about the purpose of the study, confidentiality and all procedures that was used for the study. All the study participants were reassured that their names and / or any personal identifiers will not be recorded and the recorded documents will be used only for this study and will not be shared. The interview was conducted in private with participants to minimize the risk of participant's argument with family members and other respected people in the community. The participants compensated for spending their time for the interview.

4.10 Result Dissemination

Findings of the study will be presented and submitted to Addis Ababa University School of Public Health and will be communicated to all concerned bodies. These findings will be presented on annual professional conference and the research paper will be sent for possible publication on relevant scientific journals.

5 Result

5.1 Sociodemographic Characteristics of Study Participants

From the table 1, study participants (both key informants and caregiver respondents) represent a wide range of age, educational level and child raising experience (starting from new mothers to mothers with 5 or more children). All study participants were biological mothers except one who was grandmother of the index child. All of them were married and the age of the mother's range from lowest 24 up to 39. Regarding their educational status, almost all of them attended formal education except one who was illiterate. Around (12 out of 16) of caregivers were housewives and all of them except one had to quit their job to raise their children. Most of the households included in the study were headed by fathers (11 out of 16).

Table 1 Sociodemographic Characteristics of Study Participants, Addis Ababa,2016

Age of index child (months)	
6-8	5
9-11	5
12-23	6
Sex of index child	
Female	8
male	8
Participant's age (years)	
19-24	3
25-29	4
30-39	5
Participant's marital status	
Married	16
Maternal Education	
Illiterate	1
Primary (1-8)	3
Secondary (9-12)	6
Diploma	4
Degree	2
Maternal Occupation	
Housewife	12
House cleaner	1
Private business	2
NGO	1

Total house hold size	
3-4	8
5-6	4
7-8	2
9-10	1
Number of children of participants	
1	4
2-3	10
4-5	2
Number of under 5 children	
1	6
2	8
3	2
Head of the house	
Father	11
Mother	1
Both	4
Source of household income	
Monthly salary	9
Business	6
Monthly income and business	1
Household income level	
500-1,000	2
1,000-4,000	6
5,000-10,000	4
≥10,000	4

5.1.1 Material Conditions and Access of Study Participants

From the table 2, Electric stove (11 out of 16) was the most common sources of fuel use in participant's house. Majority of mothers (12 out of 16) get water from piped water which is available either inside the house or in their compound. Around (7 out of 16) of participants used shared toilet (a toilet which used by people who live in the surrounding) Regarding the materials of households, the roof of majority of caregiver's house was made of iron sheet (14 out of 16) and few from concrete (2 out of 16).

The materials used for construction of wall was iron sheet (4 out of 16), mud (8 out of 16,) blocket (2 out of 16), and *compersato* (1 out of 16). Concrete (5 out of 16), tiles (3 out of 16), cement (7 out of 16) and soil (1 out of 16) are the materials that were used for floor respectively.

Table 2 Material Condition and Access of Study Participants, Addis Ababa, 2016

Amenities	Number of participants
Fuel source	
Electric stove	11
Charcoal	5
Firewood	3
Cylinder gas	2
Cow dung	1
Water source	
Piped water(private/shared)	12
Communal tap water (*bono*)	2
Mineral water	3
Toilet facility	
Indoor	8
Shared	7
Field	1

5.2 Infant and Young Child Feeding Practices

5.2.1 Foods for Infants and Young Children

One of the cognitive mapping technique 'free- listing' exercise was used in phase one to generate the lists of foods that are given to IYC from 6-23 months. Based on previous researches on complementary feeding, the age range of IYC was divided into four different age groups: 6-8 months; 9-11 months; 12-17 months; and 18-23 months. First the key informants were asked about the foods that she feeds her own child and then asked what other mothers with children who are the same age as her own IYC do.

Gruel, cow's milk, Cerifam, and potato and carrot were the most common and culturally dominate foods for the children aged 6-8 months. These foods were the foods perceived by caregivers as first baby foods. Key informants mentioned that these foods are light and easily digestible foods for children at this age. They describe that they use these commercial food (especially Cerifam) as first food because they promoted widely, they are easy to digest and their taste is good. Bulla porridge and porridge are foods that were mentioned by most KI after Cerifam, gruel and cow's milk.

For the children aged 9-11 month, gruel, meat, fruits (banana, orange, papaya, avocado), cow's milk, and rice were the most common foods mentioned by majority of key informants. This may indicate that animal products and fruits are the most important foods for this age group. Fruits were given either in the form of juice or mashed. Foods such as *Shiro*, porridge, soup, pasta, *pastini*, bread with tea, *Enjera* with *shiro*, are the foods that were listed more after the above foods.

Family food (food that prepared for the whole family) and macaroni were the most common and salient foods for the age group from 12-17 months. This indicates that when children turn one year, they start to be given family food. The key informants mentioned that at this age, families do not worry to prepare special foods for the children because they perceive that the children at this age can eat family foods. The other reason was related to their income since they cannot afford to prepare special IYC food. They give attention to the foods that are given between meals, that means after the children ate with the family they prepare foods like porridge, *pastini*, fruits, and so on at the snack time. But when they prepare family food they make it soft and less spicy so that the children can eat. *Kinche*, banana, *pastini*, rice, and porridge are foods that were elicited by most of key informants next to family food and macaroni.

The same as age group 12-17 months, family food and macaroni were the most common foods for the age group 18-23 months. In this age group, mothers tried to bring the children towards the family feeding system by feeding them whatever is cooked for the family in the house. Meat, pasta, rice and soup are foods that are called by majority of key informants following family food and macaroni.

5.2.2 Foods Consumed in the Previous 24 Hour

Qualitative 24-hour dietary recall was used to obtain the list of foods that the index child has eaten. Open ended question was used during discussion and caregivers was asked to list the foods that their child has eaten in the previous day after confirming the previous day was the usual day. This enable us to see the experience as well as the behavior of caregivers on IYCF practices. Table 13 describe the results of 12 IYC 6-23 months of age.

5.2.2.1 Breastfeeding

Majority of the mothers (12/16) were currently breastfeeding though few of them were not since they face a problem of decreased breast milk production at early stage starting from 45 days up to 3 months. Some of the mothers had difficulty of remembering the number of times they breastfed their IYC during the interview. However, the breastfeeding frequency ranges from 4 – 8 times per day and the frequency increases depending on the age of the child (those 6-8 month old), the demand of the child, and the availability of the mothers. An interesting finding of this study was mothers use breast milk to thin foods such as juice to make as they perceive it makes the food more nutritious. A 29 years old breastfeeding mother with 7-month old baby said

> *"When we prepare juice, we use either my breast milk or formula milk. I do not want to give her cow's milk because I believe that cow's milk is for cows not for us"*

5.2.2.2 Meal Frequency

The number of meal given to IYCs widely varies among caregivers. For infants aged 6-8 months the number of meal given was ranges from 2 - 6 times in the previous 24 hours. Commercial foods (RIRI, mother choice and Cerifam) were widely used and the number of times that the children ate these foods vary from once a day to three times a day. And these commercial foods were given to infants as a first meal of a day. A 24 years old new mother with 8-month old baby said that her infant had esophageal surgery 7 months ago and now she is afraid of feeding him more than twice in 24 hours.

For the age group of 9-11 months the meal frequency ranges from 1- 8 times per 24 hours. The mother in the lowest frequency does not prepare food for her infant and feed him even though she can afford to buy the required food items. It is because she believes cow's milk is enough for him as he is not on breastfeeding. She indicated that her child is sometimes fed when he is with his grandmother (her mother). This has been confirmed by her during the 24-hour dietary recall as she has mentioned that her mom took the child and feed him Pasta Al

Forno (baked pasta) when she was eating. At the end of the discussion the grandmother mentioned that her daughter (the mother of the index child) does not prepare food for her child because of her laziness.

For the age group of 12-23 months the feeding frequency ranges from 4-7 times in the previous 24 hours. Young children were given mostly egg as a first food of a day unlike infants who fed commercial foods.

5.2.2.3 Dietary Composition

Majority of mothers used commercial foods such as Cerifam (infant cereal produced by Faffa food company), mother's choice and RIRI especially for younger infants (6-8 months). Majority of IYCs received *enjera* with *shiro*, Indomie, Cerifam, porridge and cow's milk. Few of them took egg and very few received meat and fish. But most mothers add milk in most of their IYC foods to make the food more nutrient dense. However, there were caregivers who reported feeding their child after pre- mastication. They feed them peanut and roasted grain and their main reason is their children are eager to taste these foods and they pre- masticate it because it is difficult for them to chew. Another mother mentioned that even though she does not want to feed her daughter by pre- mastication, her husband feed her child when he eats roast. Few infants received cod liver oil, vitamin and coffee in the previous day and night.

Most caregivers prepare food for their IYCs at each meal time. The main reason is they believe that if they give them leftover, their children may get sick. The other reason given by caregivers was they children do not want to eat the food that they already eat. But some caregivers reuse left overs because they cannot afford to prepare frequently and some of them (10/16) does not have concern in relation to using leftover (they think that it will not cause any problem). All the food items listed in 24-hour dietary record was mentioned in the free listing of foods and the same as mentioned by key informants in the free listing, IYC were fed family food starting from the age 9 month.

5.3 Food Preparation and Storage

Mothers prepare food themselves for their children as they do not want their babysitters to prepare it. This is because they believe that babysitters are not as careful as mothers regarding food handling and hygiene. If they have to go out, they tell their babysitters to feed them the food that does not need preparation such as Cerifam. A 30-year-old KI mentioned that it is because if she tells them to prepare food when she is not around, they may not do it as clean as her and her children may have an accident like falling on fire. There were mothers who had job and business and prepare food with their babysitters, but they trained and supervise the babysitters. Male participation in food preparation is not mentioned by caregivers and this may indicate their involvement is very low. A 38-year-old mother with 5 children and low income explain as follows:

> *"When I hire maid I show them how I cook carefully and instruct them to observe. I will taste the food before giving it to my daughter. I taste the food to check if it is well prepared. This is because I know it by the taste"*

Electric stove was mainly used to cook food and in the absence of electricity they use charcoal. Tap water was used for drinking and cooking food, but they tried to keep it safe as much as possible by putting it in different containers and plastic bottles or in a water filter. A 32-year-old educated mother with low income explained how she store the water she used as follows:

> *"I use tap water for cooking and drinking. But in order to not make it dirt I put it in different container which has cover. For drinking I will put it in the plastic bottles (highland) or in a jar."*

Another 30-*year-old* mother with good monthly income (5,000 birr) said

> *"I use tap water for cooking, but if it is for food that does not need to be cooked for example for juice, I put it in the filter and use it."*

Most mothers (10/16) prepare food that the children can eat immediately and if left they do not feed them because of fear of contamination and health problem. The children also refuse

to eat and vomit when they are given the food that they already eat. Sometimes the children hate and they will never eat the food that they are given repeatedly. For example, a 27-year-old new mother with good income (6,000 birr per month) said

"There is a time that he finishes his food but if it is left I flush it away, because he will hate the food and refuse to eat it tomorrow. Secondly there is no need to give him back as there are other foods he does not eat."

Another 30-year-old degree holder mother with high monthly income (10,000) said

"…. we give her different food for each meal because when it kept the power that the food can produce bacteria will be wide. Secondly, as it is prepared by our hands, there is a high chance of contamination."

There were also caregivers who gave their IYC leftover. Some of them believe that using leftover has no that much effect on children and others use leftover because they cannot afford to prepare food in terms of money. For example, a 24-year-old new mother with low monthly income (500 birr) said

"For example, I cook indomie and if she does not finish, I will feed her twice or three times. But I will not feed her if it stays overnight because it will cause disease."

However, caregivers feed their children leftovers depending on the type of food and storing condition. If the food is one that can be easily spoilt such as meat and egg, they discard it or give it to the person who can eat because they perceive that it might be contaminated by bacteria and cause health problem. Unlike meat and egg, mothers believe that dry foods like *Beso* and soup can be given to IYC.

As the storing condition of food was different among mothers, some of them stored it in the fridge if they own one, otherwise they leave it in the same iron pot it was used for cooking. A 32-year-old mother described that when she stores food, she covered the iron pot that the food was cooked by clean cloth to prevent contamination of food by dirt, flies and other

bacteria. Interestingly, there were mothers who have a fridge, but they do not use it to store IYC food because they believe that the temperature of the fridge damages the food. A 38 years old educated mother said

> *"when the food is left, I will leave it in the same pot it was cooked. I do not give them food from the fridge because I think the temperature (coldness) of the fridge damage the food and Kill the cell even if it is reheated. I do not believe it is useful and good for their health."*

To feed IYC Mothers use spoon, mother's hand, and bottle depending on the type of food. For example, foods such as *firfir*, egg, and *enjera* are fed with the mother's hand; milk and gruel with bottle; oats, *pastini*, rice, potato, and carrot with spoon; porridge can be fed with both mother's hand and spoon. Mothers mentioned that young children eat foods such as *enjera* and bread by their own hand, under supervision. Very few mothers (3/16) use pre-mastication to feed their IYC. For example, a 30 years old high school complete mother said

> *"He is very excited to eat "kolo" when he sees me eating. What I do is I chew it and feed him. And he likes it."*

Unless mothers have jobs they were mostly responsible for feeding their children, otherwise their babysitters take care of their IYC. Few mothers mentioned that the participation of their husbands on feeding their children and this may indicate that male participation in feeding children is low. A 38 years old mother replied for the question who feed the baby as follows:

> *"Mostly I feed my daughter. However, my babysitter feeds her when I am not around. Sometimes my husband feeds her well when he is at home after I prepare the food."*

Mothers acquire foods from local shops, vegetable store, *Gulit* (a small local market which people could buy things depending on the amount of money they have), vegetable stores (a store for only vegetable and fruits), and millhouses (a building that houses milling machinery especially for flour) depending on the type of food item. *Shola (a* big market in Addis Ababa*)*, *Merkato (*the largest open-air market place in Addis Ababa*),* vegetable market (is a

big fruit and vegetable market in the city), supermarket, and milk houses were used as alternatives. Mostly mothers buy foods such as pasta, macaroni, bread and the likes from shop, fruits and vegetables from *Gulit* and vegetable market or from vegetable store. They also get crops and cereals either from *Gulit* or from millhouses. Key informants universally agree that the difference between these food sources was cost. Besides that, there was a difference of availability and quality of food items. A 28 years old mother with a high monthly income (10,000 birr) explained as

> *"……. sometimes you do not find some vegetables like egg plant in gulit and you need to go to Piyassa (vegetable market) t. Nonetheless, because it is far from our house, we buy it from supermarket. Most people thought supermarket is expensive but it I prefer to buy from there because they bring fruit and vegetables from their own farm and it is always fresh. For example, if I have no money I can buy 2 or 3 pieces of fruits or vegetable but if I go to gulit, I should buy the one that the seller plan to sell ("medeb")"*

A 30 years old mother with medium income (5,000 birr) described the quality and cost difference between food sources as follows

> *"I may buy papaya and banana from vegetable market, but when you buy mango and avocado from there, most of the time it is spoiled. Beside that there is price difference, very much. we buy I kg papaya 15 or 16 birr from here, it is 10 birr there."*

Most families purchase and prepare foods for their IYC especially when they are less than one year. When there is more than one child at home, there will be sharing of food. They prepare food for all small children in the house and the amount given was depending on their age. Mostly they know how much food their child needs from their experience. If the children eat family food, it will be modified and prepared based on their age. One informant said that she adds egg on a *Shiro* for her child from the one that she prepared for the family. Another 28 years old mother with 3 children and high monthly income (10,000 birr) said

"……It could be psychological, but for your surprise there are foods that we think it is for a child. For example, we do not eat pastini, thin pasta, and orange even though they are available at home.

5.3.1 Foods Perceived by Key Informants as Medicine

According to key Informants, there were food items that they consider as a medicine; orange, papaya, garlic and honey. They believe that these foods are useful for preventing diseases, treating intestinal parasites, and also for boosting immunity of IYC. Mothers give a great value for garlic and tomato mainly because they have lots of benefit and they are good to make the food tasty. The other interesting finding was mothers use their breast milk as a treatment for the diseases such as common cold and abdominal cramp. A 38 years old educated mother explain her perception as follows:

'Most of the time I do not use these medicines. For example, I give her papaya instead of Mebendazole to treat parasite. I give her orange more because common cold is prevalent in our surrounding. I believe that orange has vitamin C and it will protect her from common cold and sometimes I give her honey.''

Another 29 years old diploma holder mother explained her view as follows

'We add garlic in most of her foods as she does not breastfeed and her immunity is low. I think garlic is good to make her immunity strong'

5.4 Caregiving Problems Faced by Parents of IYC and Coping Mechanisms

5.4.1 Caregiving Problems

During the discussion caregivers explained that the biggest challenge starts when they have baby for the first time as it is new life and needs knowledge. Majority of caregivers (9/16) mentioned they are not facing problem to raise their IYC and it was because some of them were financially capable to take care their IYC. But the other interesting perspective was even though they have low income, they are happy because they believe that children are gifts and

good opportunity to get things. And also they are not worried about tomorrow, if they get what is needed for their child today, that is enough for them. The experience of caregivers on their first child also help the them to raise their index IYC without difficulty. A 28-year-old new mother with low monthly income (1,400 birr) said

> *"… nothing. We have no problem; in fact, we have income after she was born. Before her birth, we did not have buffet, television. …. Her father used to be sick but after her birth he is healthy. She is full of luck and I do not think there is something that is missed."*

Another 28-year-old mother who had 2 children and high monthly income (10,000 birr) explained her experience as follows:

> *"When I raise my first baby I did not know how the child grow, what he needs and how to feed him. I have learnt in my profession but feeding him was very difficult for me and raise him with lots of difficulties as I was not aware of child raising. But for the others (second and index child) it was very easy because I learn from him"*

5.4.1.1 Economical Problem/Low Income

Majority of mothers (9/16) used to have work but they had to quit their job in order to raise their IYC. And this was a very big decision for them because it has impact on their life both psychologically and economically.

5.4.1.1.1 Unable to Buy Food and Other Necessities

When it comes to the issue of raising a child, financial problem or low income was a very challenging and night mare for the caregivers. As IYC need more and different kind of foods for their growth and development, they cannot afford to do so. They believe that the foods that are very important for IYC such as milk, fish, chicken, and fruits like apple are very expensive and it is not in line with their economy. The expense is not only for food, also for health and hygiene (cost of diaper). This economic constraint exposes the caregivers to the

emotional disturbance and sadness. A 38 years old mother who had 5 children and low monthly income (1,500 birr) said

> *"The biggest problem is the economic condition; it is beyond your capacity. You cannot feed your children what you want to feed because our coin lost its value. Raising a child is very very difficult for those who have low income. Your children will be exposed to unwanted thinness because you cannot buy and do nothing. That is why I give 2 of my children to my mom."*

A 39 years old grandmother who was currently raising her grandson (the index child) and lived by her son's monthly salary (700 birr) with her husband and her 5 children said

> *"…. raising a child at this time is very difficult, everything is expensive. At his current age he need to have milk but I can afford to buy milk. There is a problem, if we eat breakfast we make our lunch for him. Even if we need to eat we are adults we can survive but he is small. Sometimes we borrow food for him from shop."*

Another 27 years old new mother with 5000-birr monthly income describe as follows

> *"…. raising a child requires more finance and currently it is very difficult. You cannot raise your child with local diaper ("shint cherk"), because first he will not be comfortable and second nobody will hold your baby with this. So you have to use pampers and its cost is beyond the cost of teff."*

Mothers use different ways to solve their economic problem. Some of them participate in income generating activities and try to cover the gaps not covered by their salary. Others try to balance the money they have as much as possible. Mothers restrict their needs and give priority for their children as they are growing. For example, a 38 years old mother with 5 children and low monthly income (1,500 birr) explained that

'Now I am starting a small business to solve my income shortage. I am going door to door and schools to sell clothes because our Woreda could not give as working place. So we are trying to cover what our children's needs. The other way I use is, I put the money that left from taxi in a small bank and through time it helps me to fulfil things."

Another 30 years old mother who used to have job and have 2 children and monthly 1500 birr said

"I have saved a little when I was working because I care about my children too much. If it is very essential, I will use that, otherwise I try to balance the salary that I have and give priority for them."

Another 32 years old mother with monthly income 2,000 birr describe her coping strategies as follows:

"…. I also cover all of the house work. Sometimes I try to cover our economic problem by working handmade things at home, selling enjera and you will arrange ways that makes you pass the problems for the time being. I also join EKUB. For instance, you can buy TEFF with it and use it for longer time. Things like this are the key for solving problems"

5.4.1.1.2 Lack of support/ work load

As raising a child by itself needs a lot of commitment, most caregivers were the one who do the childcare. They also do all activities in the household because they cannot afford to hire someone who can help them. This make their day busy and they cannot take care of themselves and get rest. They also cannot participate in the social life (funeral, wedding) and go shopping and to buy foods for their as no one is there to look after their IYC. It also affects their relationship with their husbands because their main focus is on their children and they may not get a time to do things that has to be done for their husbands. Those caregivers who had good income also face these problems as there is a problem of finding someone who can rely on and trusted. For example, a 29 years old mother with two children mentioned that

"It is difficult to send and bring my older child from school because sometimes the small one sleeps and I cannot take him with me. So I put holy bible beside him and went out. Shortage of time by itself, you do not get rest and peace for yourself. Whether you like it or not you need someone who help you when you have child, therwise You will detach from people."

A 32 years old mother of 2 children with high monthly income (10,000 birr) said

" I forget myself when I take care of him. It makes you very busy; when you feed him, wash him, change his cloth and sometimes it makes you very angry. Additionally, the house work will not be finished"

Another 30 years old mother with low monthly income (1,500 birr) explained how lack of time and support affect her as follows

"My social life is not as hot as the previous one because I give my full time for my children. Previously, I used to visit my families and I had connection with people but now I sacrifices everything for them. I do not even have time for myself. You know my husband is not happy, he said you are always doing things for your children. I have faced a lot but I am not mad."

A 30 years old mother who used to work and had to quit her job to raise her children said

"I believe you need your own income but it cannot be, as I choose to raise my children. Since you cannot hire housekeeper, you do all the house works by yourself. You might need rest but you cannot even when you gave birth. You will lose confidence when you stay at home, but Even though there are lots of things that disturbs you, it is mandatory to cope."

Mothers do the house work when their children sleep or when their husband is at home. Neighbours and husbands help the caregivers by taking care of their IYC while they go out and

also by buying foods that are necessary both for the IYC as well as for the whole family. A 29 years old caregiver who used to work and had low monthly income (3,500 birr) said

> *"There is one elderly women in front of our house and if it sunny, I will leave him there. Otherwise I will take him with me wherever I go because your child is your jewellery."*

Another 27 years old new mother with medium monthly income (6,000 birr) said

> *"Most of the time you cannot ask people favor because everyone has his own thing. Currently my husband helping me by taking care of our baby when I go out and by shopping, but I come back so fast because I cannot fully rely on him, I do not know if it is because I am a mother"*

5.4.1.2 Raising a Child by a Babysitter

The main reason that most caregivers quit their job was because of fear of the problems that caused by babysitters in IYC. In mothers' view babysitters are not as careful and committed as mothers. The problems elicited by mothers were: not holding the children carefully, not feeding them timely and properly and not letting the children move on their time they have to move. Due to these problems the children were exposed to accidents (falling down injury), health problems (malnutrition and common cold), unable to use or move their body. For example, a 29-year-old working mother with 2 children explain the problems as follows

> *"Last time, the babysitter fed my daughter juice at lunch which is prepared in the morning. Then she had vomiting and diarrhea. And One of my friend's son become diabetic due to feeding. The babysitter does not give him food appropriately and he cried a lot because he is hungry and thirsty. But when he cried she make him sleep without feeding him. Finally, the child becomes diabetic. It is not hereditary rather due to not getting food frequently and thirst."*

Another 38-year-old mother with low income describes how difficult raising a child by babysitter as follows

> *"It is difficult if you do not raise your child yourself. Babysitters are not as careful as you. For example, yesterday I went to my relative's funeral and on my way out I told her to take care of my daughter. But my baby falls down when she left her in the bed and went out to fetch water. At that time there could be fracture, twist or other disability on her."*

Another problem faced by working mothers explained as follows by a 30-year-old home staying mother of 2 children

> *"My friend is a working mother and she headed to work after she finishes the work at home. The babysitter holds the baby and spent the whole day by watching television. When the child becomes 9 months old, she does not control her right hand and leg. At that time the mother thought she is left handed. When she put her on stroller at 11 months, she cannot push it. The doctors said it is a problem caused by holding the child too much on one side. Now her leg is a bit rotated and her movement is not as the children in her age."*

Caregivers take their children with them wherever they go not to leave them to babysitters, unless they are working mothers. But the children get tired and sick when they are taken out. For example, a 38-year-old mother who had low monthly income (1,500 Birr) started a small business said

> *"Not to leave her with babysitter there is a day that I take her with me if I am nearby and have an umbrella. The problem is when you take them with you, they will get tired or their exposure to sunlight will cause health such as tonsillitis."*

As a solution, working mothers tried to control and supervise their babysitters by coming back home as frequently as possible.

5.4.1.3 Not Spacing Births

Not spacing births or giving birth frequently is the other main problem elicited by mothers. When the number of children increases and their income is not increasing, they have difficulties to buy food, cloth and other things that are essential for children. They are forced to share what they have and they believe that it is not enough for children. For example, a 38 years old key informant who had 5 children describe the problem as follows:

> *'Giving birth frequently has bad thing. First, you cannot buy food for the new child. What you would do is you decrease from the older one and feed the smaller and It create some kind of emotional disturbance. Because this one cries by holding your dress and the little one shout, they make you confused and stressed. and it is not good for everybody to give birth in our current market condition"*

Using contraceptives was the main solution mentioned by caregivers to solve the above-mentioned problem.

5.4.1.4 Working Mothers

Being a working mother is the other most important problem raised by mothers. When the mothers are working, it has a big effect on both the mother and the children. There is a lot of work load and stress on them when they are working mothers as they need to prepare food for their children before they go to work and after they get back as they need their children to be healthy. Even though they have babysitter, they prepare food and sterilize or boil the tools that their children going to use.

> *"Raising a child is very difficult for working mothers. I have a friend whose son is 8 months and he is sick. Firstly, she sends him to day care and go to work, but she brought him back because he was not comfortable. Then she leaves him to the babysitter and his body is decreasing because the babysitter does not give him food on time or she may not prepare or she may use it for herself, but his body weight decreases every day. Sometimes*

you may not notice what your child is missing if you go out in the morning and come back in the evening"

Interestingly, in order to solve this problem, caregivers make a big decision and quit their job to raise their children. Others tried to supervise their babysitters and for most they pray and leave things to God.

5.4.1.5 Having More Than One Child under the Age of Five in the House

For caregivers having small children is very difficult because the older children are jealous and took their bottles and contaminate. These expose the small ones to health problems. For example, a 30 years old key informant who had 2 children under the age of 5 said

'I am not facing any problem to give him care, but his older sister is very difficult. She put her hand in his mouth with nobody seeing her. She also took his bottle and they give him back when I am not around. So at 6 months he was very very sick "

To solve this problem, caregivers believe that it is needed to put eye on the older ones. They also mentioned that discussion, giving them advice and sometimes punishment is mandatory.

5.4.1.6 Health Problem

Health problem is the other concern of caregivers when it comes to raising a child. It was due to the natural process of growth as the children start to have teeth and sometimes related with care. For example, caregivers mentioned that their living area (crowded areas such as kebele's houses) has contribution to the health problem of children. For example, a 39 years old grandmother who were living in one room with her 6 family members said

"Oh it is very difficult. The breath of others is not good because there may be common cold and if they have common cold, I would say do not come near to him because he does not eat food. But he wants to be with them."

Another 33 years old mother with 2 children and high income (15,000 birr) said

"….. she gets sick when she starts to have teeth. At that time, we took her to hospital and she got better after they gave her glucose. It was very difficult for her and she was damaged. When you raise a child there is some disease they will have but it is not that much bad. "

5.4.1.7 Culture

Culture was mentioned as one problem that all mothers face during raising their children. Families do not want to see their children crying and in order to avoid that they give them whatever the children ask. When the families refuse to give the thing that is not appropriate for the child, the children will cry and the families change their mind. This makes the children spoiled and irritable. For example, a 30-year-old mother of two children explained that, even though she tried to correct it in her second child, but she could not make it and this has an impact on children's behaviour. This was the main problem especially on first child.

5.4.2 Food and Feeding-Related Problems

5.4.2.1 Poor Appetite

Poor appetite was one of the major challenge and mothers' headache that occurs in most of children. Caregivers prepare IYC food and when their children refuse to eat, it makes them sad and worried. For instance, a 32 years old diploma holder mother said

"He does not have interest for food and it is stress for me. That is why I took him to the clinic. I do not believe he has enough eating behaviour because when I give him at the time he has to eat, he does not eat properly. Not eating food is the problem of our area"

A 30 years old home staying mother described how much difficult poor appetite of a child for caregivers as follows

"There is my niece whose weight is small and she is very thin. She is 1 year and 6 months, but she does not eat food. I swear, do you know not eating for real? She does not eat specially children's food and do not drink milk.

Her body weight is very small. She took her to the health center but she does not get a solution. People told her it is a problem caused by inadequate food intake and she will get better after the age of 5. Now she stops buying food for her and waiting until she is 5-year-old."

There were also mothers who believe child's poor appetite is the problem caused by the mothers' feeding behaviour. For example, a 32 years old degree holder mother said

"There are people who said like this but I do not believe in this. First of all, you should give him food on time and If he adapts that he will eat. I do not have a problem like this because I give him on time. But I have seen lots of people who said my baby is not eating, around 90 %"

Feeding children by destruction such as opening childrens' movie, giving their mobiles or the thing that the children loves were some of the ways used by mothers to feed a child. If they are not eating persistently, they will take them to the health facility and get treatment. Some mothers explained that there is no improvement seen even if they took them to the health facility and given some kind of vitamins. They were wishing if there is some kind of solution for this. But the main solution given by the caregivers was giving them food on time and try to make it as Varity as possible. A 38 years old mother of 5 children said

"If she refuses to eat, I will give her with force or I will give her orange if I think it is common cold or I will heat one clove garlic and give her and she will be fine. Otherwise if refuse to eat because of common cold or cramp I will give her my breast."

A 30 years old mother of two children explain how she feed her baby as follows

''Most of the time he opens his mouth to eat things like pencil. So I feed him when he opens his mouth to eat the pencil. But when they are above a year and half or 2 years, I do not struggle with them. What I did with my first baby was when she refuses to drink milk, I fill the plastic bottle with

milk and put it on the table. She will pick it and drink it by herself in a while and I did the same for food. So I left her I swear and it works."

5.4.2.2 Lack of Knowledge

Having a child for the first time is a new life for the families. In relation to this, knowing how to feed and raise a child, and what to feed were the main challenges/ problems that families face especially when they have their first child. This put both the families and the children in difficult situations; like malnutrition. For example, a 30 years old degree holder mother mentioned that meat has to be given to IYC but most mothers do not know how. There were mothers who do not even think IYC can eat food. They perceive that the food will choke them and they consider feeding IYC is a forcing action. This problem was mainly seen in mothers who have baby for the first time. The others believe that the children should be given only gruel/ Atmit like and mother relate this is with the awareness problem and the influence of their surroundings. A 30 years old mother who had 3 children said

'When I raise my first child I have everything, but not knowing things hurt me. I was in trouble for a long time because he did not eat. Even his weight was very low and reaches to unreturnable stage. So where does it come, because of lack of knowledge not lack money'

5.4.3 Recommendations from Study Participants

As financial problem (low income) and the high price of foods were the main challenges, mothers strongly recommend if the government could subsidize the price of foods for IYC. For example, a 30 years old mother who had low income put her recommendation as follows

"Our country's condition is not good to raise a child, because everything is expensive. Even though I have never go to other countries, from what I have read I know the governments make subsidies and support the children. I think our government should think about it."

Another 32 years old educated mother with low income said

"As I told you I quit my job for my children and I cannot get back to work because there is no one who take care of him. I think it will be best if the government could open a daycare with fair price. Frist the children will be safe and second I can work and get money to fulfill their needs."

5.5 Health and Food Perceptions

Mothers perceive that hygiene, avoiding leftovers, balanced food, and mother's care were the strategies that makes the children healthy.

5.5.1 Hygiene

5.5.1.1 Keep the Children's Personal Hygiene

All of the key informants agreed that that keeping children's hygiene is very important for their health and it includes giving them bath, wash their clothes, changing their diaper frequently, and wash their hands before they eat. A 30 years old degree holder mother with 7-month old child said

"if their hygiene is kept very well, if their feeding tolls and playing place is clean, your children will grow healthy. Children by their behavior put a lot of things in their mouth, the main thing is make their place clean"

Another30 years old mother who complete 10th grade explained as follows

"….. I used to use local diaper more but what I see mostly is, most mothers do not change diaper (both local and the commercial one) properly. Especially when it is local diaper (shint cherk), it smells very badly and it is disgusting. This will expose them to common cold I swear because it is urine. I think it is good to keep their hygiene and it has to be changed frequently. If it is like that, they will be clean, not smelly and not burnt."

5.5.1.2 Food Hygiene and On-Time Feeding

Handling children's food properly was the main thing to make the children healthy. They believe that their foods should be prepared safely and should be eaten immediately. If they eat by themselves, make them finish it without dropping and contaminating is very important for their health**.**

5.5.1.3 Feeding Tools Hygiene

Mothers believed that making children feeding tool clean is a very important strategy to make children healthy. Mothers prepare feeding utensils such bottles, plates, spoons, cooking pots separately for the index children. Because they have fear if it is mixed with adults or if they use adult plates or, it might not be washed properly and will cause health problem. Therefore, they prefer to do the cleaning by themselves as they do not trust their babysitters.

5.5.2 Avoid Leftovers

This issue discussed in the food preparation and storage section and most mothers do not feed their children mainly because they have fear that the leftover will make the children sick.

5.5.3 Balanced Diet

Feeding children balanced food was one of the major strategy that the mothers used to make the adapt the food and become healthy. They agreed that when it is said balanced food it does not mean that buying expensive foods, rather giving whatever available in the house. A 38 years old mother with low income (1,500) said even if she cannot afford to buy meat and egg she uses avocado and bean to substitute. In order to make the food dense and balanced they prepare foods that are mixed from different crops like porridge. For example, a 30 years old mother with good income (5,000) said

> *'…. if we give them different food which is available at home, it be useful for their adaptation, growth, and health. Especially when they are above 2 years, you may not prepare their own food as they eat family food. But it is good to give balanced diet which is available at home.'*

A 28 years old mother of three children and with high monthly income (10,000 birr) describe her view as follows

> *'…. You raise your children not only by buying canned foods or expensive things, I do not believe in this. For example, if we want to use fruit, it is cheap we can buy it. At least we prepare balanced food from 14 kinds of crop in our home and the main thing is to produce healthy citizen.'*

5.5.4 Mother's Care

Mothers believed and agreed that a mother should be with her child in order to make a child grow healthy. From the discussion in the previous section, the health problem related with raising a child by babysitter was one of the most salient problem raised by mothers. If the mother is the one who raise the child, she feeds her child properly, she follows their growth pattern and she protect them from accidents and injuries. Beside all these she gives her child love as they believe it is a very important and essential component for child health. A 30 years old mother of two children with low monthly income (2,000 birr) said

> *"When you are with your child, you breastfeed him with enough breast milk, you wash his clothes, you take care of him, and beyond all of this he gets mother's love. Because I believe even if I do not have good income and do something useful for him, getting my love by itself has a great psychologically effect for both of us."*

All mothers agreed that the importance of giving balanced and variety of food, making the food an d feeding materials clean is primarily for the children's health and growth. They were also doing this for their brain development and in order to have age appropriate weight and height. A 30 years old mother of 2 children with medium income (5,000 birr) explain her view as follows

"The first and main thing is for health, secondly for their growth and brain. Most of the time from what I see and hear, children's mental development is based on their balanced diet. When you see school performance mostly it is like that. I give balanced diet as I want him to have a good growth."

A 28 years old mother of 3 children and high income (10,000) said

'…. firstly, the time from birth up to 2 years is the time that their brain and body grow well. If you are strong enough and take care of them very well, they will be healthy citizen.

5.5.5 Bad Foods for Children

"Free listing" exercise was used to find out the foods that are available in the community but mothers do not feed their IYC because they believed it is bad for them. Pork was the food that elicited by mothers as food not appropriate for IYC because their religion forbid it and they do not want to feed their IYC. For example, a 32 years old mother of two children said

"I have never eaten pork and I do not want them eat it because my religion forbids it. May be it means nothing is if they eat it because they are kids, but I will not do the thing that I do not believe in it"

Canned food was the other food that mentioned as bad food because of its chemical in it and due to its storage and transportation inconvenience. One informant described that she does not want to give her son canned food except indomie and Cerifam. Her believe was even if these foods are canned, she does not think they have that much side effect because they are purposely prepared for the children. For example, she prefers Cerifam because it is a local product and it is a food for children.

Another 28 years old degree holder mother with high income explains her view about canned foods as follows:

"…. even though people advise me to give them canned foods, I am not interested. I think its side effect and storing condition, from the country it is

produced until it reaches to our country by itself has side effect. Moreover, it has chemical and even if it is not that much, by the small health knowledge I have, I think it causes diseases that are present currently such as cancer and heart case. Due to this I prefer that my children use natural and homemade foods."

Heavy foods (meat, spicy foods and *enjera*), fatty foods, cold foods, and alcohol were also considered by caregivers as bad foods as they are heavy for their intestine and difficult for digestion. But they agree that these foods except alcohol can be used depending on their age. For example, a 39 years old grandmother with low monthly income (700 birr) said

"Fatty food may be good for the children above 2 years of age but it is difficult for the smaller children because it affects their digestion."

A 38 years old mother who completed 10th grade explain why she does not want to provide her daughter *Enjera* as follows

"I do not think Enjera has that much value, it just makes their tummy big and increase their faeces. When I fed her Enjera, she excretes frequently and I have to change her diaper frequently, I cannot afford"

A 30 years old degree holder mother of two children said

" Their stomach will not tolerate fatty and spicy food. We used to give him chicken cooked for us before he is 1 years old but he immediately vomits it because it was heavy for him. Their own food should be separated"

A 24 years old new mother who completed 4th grade describes her idea as follows

" …. I will be happy if food is not given before 6 months because they are not strong enough and it will be difficult for their digestion. I am not educated but based on my understanding there will be an incident of vomiting and food canal blockage. And also they will be constipated, this is what my mind tells me"

Cold food was also considered as bad food and from the discussion it is understandable that cold food means food that is not fresh and stayed the whole day or night after it is cooked. A 28 years old new mom explain her view as follow

> *"I do not give her cold food because I know from my experience. One time after I gave birth, I was hungry and ate cold food and then I got sick. I went to the health facility and told them what I ate. They said it is typhoid which is caused by the cold food I ate. After that I do not eat cold food and I do not give her either"*

kale and sugary foods were also considered as bad foods due to their effect on health. For example, caregivers believe that kale cause abdominal cramp in children and if they are given sugary food, they will adapt it and they will refuse other foods because it affects their appetite. Interestingly honey was considered as medicine for common cold and as bad food for infants as it is believed it makes the mouth of IYC slow" koltafa" and expose them to allergy. A 38 years old mother of 5 children said

> *"I do not give honey for my child unless she has common cold because it has been said their mouth will be tied if they eat honey."*

5.6 Mapping Caregivers' Perception on IYC Foods

Cognitive mapping method i.e. "rating "exercise was used to explore the view of importance of the selected value dimensions. And also to examine caregiver's perception about how these values influence or affect their caregiving and feeding of IYCs. 5 value dimensions were selected from the result of phase 1 (KI interview) and other nutritional IYC studies in other places. The value dimensions were cost ('waga)', nutrient content of food (Ye megebu netre neger', mental development (ye ayemro edget), body weight (ye sewnet kibdet), and protect child health (tenama lij).

5.6.1 Caregivers' Understanding on Meaning of Value Dimensions

In this part, the cards that could represent each value dimension were prepared after the understandability of each cards were approved by key informants. Caregivers were asked how they understand each value dimensions after they have given description about each cards.

5.6.1.1 Cost

The influence of cost among caregivers widely differ. The issue of cost includes the cost of food and childcare costs. Even though all caregivers agree foods that are required for the growth of children are expensive, its influence differ among mothers. For the caregivers with high income, cost has no influence on their Childs' feeding. A 33 years old mother of 2 children with high monthly income (15,000 birr) said

> *"I have never thought about it. We do whatever is needed for the children and it has no effect on their feeding. Maybe, the cost of pampers because she uses diapers, but I do not think they are that much costly. If there is anything we missed, I will tell to my husband and he brings it. I have never seen my husband get angry or said I do not have this."*

The interesting finding of this study was caregivers who had low income mentioned that the cost has no influence on their IYC feeding as they believe children are gifts. For example, a 28 years old new mother with low income (1,400) said

> *"… when I tell my husband that our child needs this and he brings it. For your surprise, I have never thought of it, I swear. You know why we buy everything that needs to be bought. I did not think that this will create a gap or have a benefit, because there is no problem and everything is full. If she gets food for a day, if I have food to cook for her, that is what I want. We are not worried about her expense."*

To prevent the influence of cost, caregivers give priority to their IYC feeding before any other expense. All caregivers agreed that the cost of children's food which are important for child

growth such as fish and chicken are very expensive. A 29 years old working mother of 2 children with high monthly income (> 20,000) explains

> *"… sometimes the foods that you think builds their brain such as fish, meat, and chicken because it has zinc are expensive and very difficult for those who have low income. But I believe in one thing, as far as I bring them here, it is my responsibility to fulfill their need as it is known that I will not grow after this. I will do anything for them by decreasing my needs. The things you do until a child reaches five 5 years old will affect their growth and mental development. So, I prefer to restrict my needs"*

The cost of food is the main concern and challenge for mothers who have low income because they cannot afford to buy the food that they wish to feed their IYC. A 39 years old grandmother whose income was very low and lives with her 6 family members in one small room said

> *"cost has high influence on his feeding because his food is more expensive than us. For example, Cerifam and NAN are good and beneficial for him but the price of one NAN is around 200 birr and he may not use it for 15days The cost is not only for his food but also for his treatment and medication when he gets sick. It is very difficult"*

There were caregivers who can afford to buy food for their IYC, but they were unaware how much influence cost has on their IYC as they do not prepare food for their IYC.

5.6.1.2 Nutrient Content of Food

The caregivers' understanding on nutrient content of food vary depending on their educational level. Caregivers believe that the nutrient which is found in the food are important and beneficiary for IYC and they have to get a balanced diet as they will be very thin if they do not. Mothers perceive that all foods are not the same on their nutrient content and this is the main reason for giving different kinds of food. They categorized foods into those that has vitamin and those that are used just for hunger and to fill the stomach.

Mother's also describe the nutrient content of food in relation with cooking i.e. based on their understanding there are foods which should not be overcooked. Even if they understand the benefit, they overcooked the foods in order to make the children eat. They check the effect of the nutrients thorough the body strength, weight gain and mental development of IYC. However, there were mothers who do not give that much attention to the nutrient and they give food to their IYC because they have to eat. Mothers get information about nutrient content of food from health professionals (urban health extension workers), health facilities (private doctors) and from the internet based on their literacy and access. For example, a 30 years old diploma holder mother of 2 children said

> *"I will see the cover of the food when I buy. If it has something like vitamin A or D or if it gives energy for your child, you will take it. The nutrient content of food has a great effect, first of all if it does not have this you will not buy. For example, Anchor, I shifted from cow's milk towards it because it has been said it has around 30 nutrients. You are forced to buy this kind of things and feed them to get the benefit. You feed them vegetables to get the nutrients."*

A 29 years old new mother who was not educated explain her view as follows

> *"…we make her eat because it has vitamin. Most of the time, the foods that we think it has vitamin are porridge, gruel/atmit with milk, milk, egg. Foods out of this, we think that they are for hunger or to full her stomach, but has no vitamin. We used to rent milk with 300 birr per month for her, and then we stopped because she refuses to drink."*

Another 32 years old degree holder mother with high income (10,000 birr) said

> *"….. he east fish, egg, chicken, meat (like merek), drink milk and it has a very good impact on his growth. Now he is around 1 year and 9 months but he looks like some children above his age. And feeding has a great effect"*

A young mother with 2 children and good income (6.000 birr per moth) and attended secondary school said

> *" I have never thought about the nutrient content of food because I do not prepare food for him. When he cries I give him his bottle."*

5.6.1.3 Mental Development

Mental development was understood in different ways among caregivers. Caregivers believes that mental development goes with the age of IYC and it is progressive change. They expressed mental development in different categories such as physical development or movement (fastness, ability to hold things), emotional changes (smiling, playing, laughing), cognitive development (identifying people, bring things towards mouth), child's communication (point what they want, copies what others do) and so on. Almost all caregivers agreed that mental development of IYC linked with feeding and fish, cod liver oil, milk, egg, fruits, and olive oil are the foods that are perceived by caregivers as good foods for mental development. Beside food, peace in the family and caregiver's emotion (such as anger and sadness) contribute to the mental the development of the child. The feeding behaviour of caregivers regarding child's mental development is affected by their literacy and living standard. For example, a 29 years old mother who complete 12 said

> *"When it is said brain development, he will accept things easily, his brain will become clean and fast, good school performance, how can I say? Whatever it is they are cautious, kind of matured. These children are those who have a developed mind. You will say this one is retarded when you see him and it relates with his feeding. I also believe that the age that you gave birth and piece in the house has effect on this."*

Uneducated 28 years old new mother of 17 months said

> *"I do not know. Most of the time when you are illiterate, it does not make you think this. Now, my focus is on work and I am not thinking about her brain, I have no idea about the issues related with brain development and*

school performance. Last time people said to me to buy fish and make her drink its" merek", it will make her brain open and when she starts school she will become intelligent, and her brain will become clean. They also said olive oil is good, it will make her brain open and bright, buy and use it for her hair and also make her drink it. But we have never try it because I am not educated and I am not thinking about it.

As can be seen below, another 29 years old educated mother explains her view.

"….it is based on their Age. It is needed to see her intelligence that she had at 6 month improved at 7 months. You know how I see the Natania's, previously she could not hold things like but now she brings things towards her mouth from the ground. Most people relate this with body weight, but this is the smartness of their brain."

Another 24 years old new mother state her perception of mental development

"for me mental development means his mind and his thinking should be good, there should not be confusion. Their mind will be perfect if they get good care and good diet. You will see his brain development by his body strength and gain weight, he is playing and daily you will see his change. He will have a good brain if you hold him with love. I think if there is anger, he may not have a good brain and attitude."

5.6.1.4 Body Weight

IYC's body weight was the main issue that caregivers were most excited and care about. Caregivers measure the growth of IYC on their body weight. Regarding body weight caregivers had different preference. Most of them reported that they would like to have a fat child" ye fafa lij", but few prefer to have a baby with age appropriate body weight because they believe that excess body weight is not good and it will restrict their body movement. For instance, one mother said

"….I need it very much but I could not get it. Normally, you will be happy when you see a child who is fat. I do not think a child who eats very much will be fat, you will see a fat child who do not eat that much. When you see beggars, they have very beautiful children. Did they give them fresh food like us? No. But the child who eat by himself and who do not eat are not the same. If You do not feed him properly, if he does not get breast milk, if he does not eat food, you can easily identify him."

Another 32 years old degree holder mother said

"I do not want him to be fat, his body should be appropriate with his height. Now, he can gain 3kg based on his current height. He is around 90 and something (his height) and his weight is around 14 or 15kg. With his current height he can go up to 17kg"

According to caregivers, body weight and IYC feeding affect each other. The explanation is there is a time that body weight influences the feeding of IYC. For example, A 28 years old new mother explained

"Last time I took her to health center and they said her body weight is decreased and then I gave her avocado, mango and based on my economy orange sometimes. I took her back and they said now she is good. When I am busy and I give her indomie or pastini her body weight decrease. I feel it when I picked her up. Then when I give her fruit and vegetables for 3 days, she regains her weight."

Even though all caregivers agreed body weight of IYC is linked with their feeding, there were caregivers who believe it is related with children's birth weight. For example, a 24 years old mother said I do not give him food but his body weight is not decreasing as he was heavy when he was born.

5.6.1.5 Protect Child Health

During this discussion, caregivers were asked "what are the things that makes a child healthy? How does this issue relate with your child feeding?"

Caregivers universally agreed that keeping their hygiene is the primary thing that makes the IYC healthy. Hygiene includes personal hygiene and environmental hygiene such as hygiene of the house, the utensils that the children use and also the hygiene of the food. Mothers believe that children should be breastfeed as long as possible to be healthy and strong. Food also has a great influence on the health of the child. For example, a 29-year-old mother ho complete 12 grade said

> *"…… if you wash your child, if he eats, and gets enough rest he will be healthy. People get sick when they eat contaminated food. The nutrients found in the food and the way you cook has also contribution for their health. We adults get sick when we eat food that stays overnight. For example, cake is a very good, clean and very attractive when you see it, do not you get sick if you eat the one that stays overnight."*

A 32 years old educated mother of two children explain her view as follows

> *" Feeding balanced diet and cleanness is the main thing. When the child lives with his mom and dad by itself has a great effect, build his confidence. I need him to live with freedom and happiness, now Nati is very happy when I stay at home with him. This has contribution for his health."*

God's protection, getting enough rest, and family love are the things that are believed by caregivers as some major contributors for child's health beside food and hygiene. Give them food on time before they get hungry If they do not eat food, they may not get strength to prevent disease such as common cold.

A 28 years old new mother describe her belief as follows

"…… protect them from picking and eating dirt, make their clothes clean, prepare their food with hygiene are the main things for their health. But above all Gods protection is the main one, it is because of God's protection not mine."

A 29 years old educated mother with high income said

" first of all hygiene second you should give them love and time in addition. You should also know what makes them happy? what do they love? (Food, playing materials), with whom they wanted to be? (With their father? With their nan?), with whom they are happier?"

5.6.2 Rating of Value Dimensions

In this part of exercise one of cognitive mapping technique i.e. "rating "exercise was used to explore the caregivers' perception about the relative importance of the selected 5 value dimensions. Likert scale (1 to 5) was used for this exercise and the participants gave 5 for the perception or value which is very important and 1 if it is not very important. This exercise uses cards that have been created based on the results of the key informant interviews.

Table 3 Rating of Value Dimension, Addis Ababa, 2016

Value dimensions	Number of times Rating was assigned to dimension by caregivers					
	5	4	3	2	1	Mean
Cost	5	2	4	-	1	3.83
Nutrient Content	8	2	1	-	1	4.33
Mental Development	11	1	-	-	-	4.92
Body Weight	9	1	2	-	-	4.58
Protect Health	12	-	-	-	-	5

In this exercise, caregivers were asked "When it comes to what food you feed your child or what you do to take care of her/him, how important is the value for you?". It was explained to them that If they think it is very important to put it on high end 5 or if it is not very important to put it on the low end 1 or they can also place it in between. As a result, all caregivers give highest rate (5) for the value dimension protect health and this may indicate that the health of the child is very important for the caregivers. Mental development and body weight rated

highest next to protect child health. There were few mothers who rated cost as not important when it comes to child feeding.

5.6.2.1 Rating Specific Food Item in Relation to the Value Dimension

Rating was done for 23 food items that was given to IYC and each food item was evaluated for 5 value dimensions: cost, nutrient content of food, mental development, body weight and, protect child health. Likert scale was used and caregivers were give the highest score 5(if it is not very expensive and very good) and also the lowest score 1(very expensive and not very good) for each value dimension.

Table 4 Food Item Rating for Each Value Dimensions, Addis Ababa, 2016

Food Items	Cost	Nutrient Content Of Food	Mental Development	Body Weight	Protect Child Health
Banana	3.92	4.83	4.5	4.75	4.83
Orange	3.1	4.58	4.67	3.58	5
Papaya	3.75	4	4	4.33	4.67
Avocado	3.83	5	4.5	4.67	5
kinche	4	3.92	4.33	3.42	4.42
Pasta	3.83	3.67	4.25	4	4.33
Macaroni	4.17	3.75	3.42	3.58	4.17
Rice	4	3.25	3.25	2.08	3.83
Soup	3.5	4.92	4.25	4	4.75
Egg	3.08	4.5	4.83	5	4.83
Tomato	4.08	3.92	3.83	2.25	4.25
Porridge	3.42	4.42	4.17	4.42	4.67
Gruel/atmit	3.92	4.25	4.17	4.75	4.58
Meat	1.75	5	4.5	4.42	4.5
Pastnini	3.92	3.08	3.42	3.75	4.25
Garlic	2.25	4.75	4.5	3.17	4.83
cerifam	3.75	2.83	3.41	3.83	3.92
Milk	2.42	5	5	4.42	5
Honey	1.92	4.83	4.67	3.58	4.92
Fish	1.08	5	5	4.17	5
Bulla	3.75	4.5	4.5	4.08	4.42
Breast milk	2.67	5	5	4.5	5

In this exercise, caregivers were asked how much value do they give for each food in terms of 5 value dimensions. They give 5 if the food is not very expensive, very nutritious, very good

for mental development, very good for body weight, and very good in protecting child health. They give 1 if the food is very expensive, less nutritious, not good for mental development, not useful for body weight, and not protecting child health. The mean rate of 12 caregiver respondents was calculated. There was variation of rating for each food items and value dimensions. From food items fruits (banana, papaya, and avocado), gruel/atmit, and bulla are relatively rated high in all value dimensions. Others rated highest in some value dimensions and rated very low in others. For example, fish and honey rated highest for nutrient content, mental development, body weight and protect child heath but rated very low for cost. This indicate that these foods are considered and believed as foods that are very important for the above values but it is very expensive. The same is true for meat.

The interesting finding was the rate of Breast milk and it was rated highest for nutrient content, mental development, body weight and protect child heath but rated low for cost. There was two different perception regarding breast milk in terms of cost. More than half caregivers (7 out of 12) give breastfeeding the lowest score 1 because they perceive that breast milk is priceless and very expensive. An interesting explanation given by the caregivers for its expensiveness was they believe that it is unreplaceable. If the mother does not have breast milk the only choice she has is to give her child either formula milk or cow's milk. Additionally, in order to produce breast milk, the mother should take a lot of foods and drinks and it is expensive. Others give breast milk highest score 5 which means it is not expensive because they are not paying for it and they have excess breast milk.

The other interesting explanations were given for Cerifam as it rated the lowest for the value of nutrient content, mental development, and protect child health. They describe that Cerifam has no that much nutrient, but they use it because it is good for hunger and to make a child's stomach full.

6 Discussion

Knowing the foods given to IYC, food preparation and storage condition, challenges caregivers face when they raise their children and their coping mechanisms and caregivers' perception on IYC foods and values are crucial to design effective nutritional intervention.

In this study, gruel, cow's milk, potato and carrot, Cerifam, meat, fruits (banana, orange, papaya, avocado), and rice were the most common infant foods from cultural perspective. For young children above one-year-old, family food and macaroni were the common one. From behavioural perspective *enjera* with *shiro*, Indomie, Cerifam, porridge, and cow's milk were the most common IYC foods. As a result, Cerifam and cow's milk were the core IYC foods given to IYC in both cultural and behavioral perspectives. In rural part of Ethiopia most of IYC diet was dominantly cereal based moreover porridge and egg were the core IYC foods in both perspectives (20). In Ghana, Cereal-based foods in the form of instant cereals (particularly CERELAC) and porridge were the most dominant IYC foods and these foods was given as first meal of the day (28).

Caregivers widely used commercial infant foods such as Cerifam, Mothers choice, CERELAC, and RIRI for IYC. The number of times these foods given to the children ranges from once to three times per day. The overconsumption of commercial foods by IYC can contribute to malnutrition, non-communicable diseases, and adult obesity (46).

In this study, caregivers introduce cow's milk for their infant as they believe it is more nutritious than that of formula milk. They used either whole cow's milk or pasteurized milk (MAMA'S or SHOLA). In line with this study, 51 percent of Brazilian mothers give whole cow's milk before the child reaches 6 months of age and 87 percent of mothers gives after 6 months(3). The content of iron, zinc, niacin, vitamin C and vitamin E is low in cow's milk and the low level of iron may lead to anemia particularly iron deficiency anemia (46). The high level of casein in whole cow's milk makes the digestion difficult for by the IYC. Early exposure to cow's milk proteins increases the risk of developing allergy to milk proteins and risk for type 1 diabetes mellitus (DM) for those who have a family history of type 1 DM. (47). For the above mentioned reasons, researchers recommend the delayed introduction of whole cow's milk until the child gets to one year of age (47).

In this study, there were infants given less amount of meals than recommendation either given only cow's milk (no meal) or fed once in a day because of caregivers' perception and lack of knowledge. WHO recommends IYC should have a minimum of two or three meals with two snacks per day depending on their age and breastfeeding status (non-breastfed infant

and young children should have 1-2 cup of milk and extra meal). IYC should also take a minimum of the four food groups in their diet out of seven per day; grains, roots and tubers, legumes and nuts, dairy products (milk, yogurt, cheese), flesh foods (meat, fish, poultry and liver/organ meats), eggs, vitamin-A rich fruits and vegetables, and other fruits and vegetables (48)

In this study different food sources were used depending on the type of food item; shops, *Guilits*, vegetable stores and, mill houses and big markets in the city (Shola, Merkato etc.) were used by caregivers. The main difference between these markets was cost, food quality and the distance from caregivers' house. In line with these study, cleanliness of food (safety), accuracy of measurement, nutrient quality, cost and mothers' choice are the difference between food sources in Dessie Zuria (20).

In this study, caregivers purchase and prepare special foods for their children especially for the infants 6-8 months of age. Starting from 9 months, IYC were given family foods to make them adapt the food. After one year, they were given family food which is modified in a way the IYC could eat. Breast milk, cow's milk, milk cream, butter, and fish were added in IYC foods such as porridge, bulla, soup, and pastini or rice. From the study in eastern part of Ethiopia more than fifty percent of women prepare special type of food for their child and usually milk and milk products used to prepare complementary food such as porridge and soup (34). Mothers were the one mainly responsible for food preparation and feeding though the male participation was low. The same study in Dessie Zuria indicates older daughters, grandmothers, neighbours rarely husbands will help the mother when she is not around (20). In Bangladesh, caregivers prepare special foods for their children and modified family foods given in addition to special foods. (29)

But few caregivers do not prepare foods for their children because of their perception and unwillingness. Egyptian mothers do not prepare any special foods for children instead they buy sweet foods (cakes and sugary biscuits) as they believe these foods are easy, nutritious and easily digestible (30). In Afghanistan special IYC food is not prepared families are not willing to buy food that cannot be eaten by the whole family (37.)

In the present study Most caregivers prepare fresh food for each meal time. They do not give their children leftover because they believe the food will be contaminated and cause health problems. Nonetheless there were mothers who fed leftover as they do not think it has bad effect. Most of the time they gave leftover when the food is not perishable (meat or egg), and when they do not have food to prepare. In contrast with this study, caregivers in Dessie zuria do not feed their children leftover because they believe something will breath on it and it is not good for children (20). In Bangladesh caregivers do not provide leftover since the children do not eat the food they already ate and the food is wasted (29). Providing cooked and moist leftover foods which stored at room temperature for more than 8 hours could cause diarrheal disease in children (49).

In this study, caregivers gave foods such as peanut and roasted grain (*kolo*) through pre-mastication as the children are excited to try these foods. Mothers were the ones who used pre-mastication to feed their children but fathers involve sometimes. Studies showed pre-mastication is significantly related with increased bacterial load of weaning foods and could cause infectious disease. Maternal IgA is added to the food pre-masticated by mother and this decrease the bacterial load for infectious disease. Pre-mastication may also increase the digestibility of many foods (mainly starches) through the enzymatic action of amylase in the parents' saliva (50).

For caregivers, all foods are not equally healthy and important. In this study, caregivers perceive that foods such as orange, honey, garlic, and papaya are very important to protect child's health and to treat diseases such as common cold and parasitic infections. Papaya is one of the most important fruit as it is a rich source of antioxidant nutrients (e.g., carotenes and vitamin C), vitamin B (e.g., folate and pantothenic acid), minerals (e.g., potassium and magnesium), and fiber. Papaya has also anti-plasmodia, anti-cancer antiseptic, anti-parasitic, anti-inflammatory, antidiabetic effect and good for the treatment of digestion disorders (51). A randomized control trial indicates participants from garlic supplementation group showed less episode of common cold than the placebo groups but the duration of the common cold was the same in both group. (52)

Honey has been used in many countries as food and traditional medicine for wound healing, diarrhea, burn and so on. Natural honey is a good source of carbohydrate as it contains mainly sugar. It also contains around 200 substances, including amino acids, vitamins, minerals and enzymes. Some of the benefit of honey; it has antimicrobial, antiviral, antioxidant, anti-inflammatory effect, good for GI infections and wound healing and so on.(53) Despite all the above mentioned benefits, honey is not safe for the infants as it contains clostridium botulinum organisms which cause Infant botulism; a disease that affect their gastrointestinal tract (54).

In this study, caregivers believe that fatty foods for example meat and butter are heavy and damage their intestine as they are difficult for their digestion. They also believe that *Enjera* is heavy, makes children tummy big and increase their feces; kale cause abdominal cramp; and honey make the children's' moth slow and cause allergy. *Enjera* a traditional food made of *Teff* and *Teff* is a grain which has a high content of iron, calcium, phosphorus, copper, aluminum, barium, thiamine. unlike other grains *Teff* is gluten free (55)

In the present study, financial problem (low income), raising a child by babysitters, poor appetite and lack of knowledge were the major challenges parents face while they raise their children. Child priority was the main and widely used coping strategy. In line with this study, financial problem or shortage of money is the major concern for caregivers in rural Ethiopia and Ghana. (20, 28).

There were mothers who fed their children with force when their children refuse to eat. But IYC specially infants express their food need by crying or turning their head away from the food or by closing their mouth or by spitting or vomiting. Therefore, responsive feeding i.e. understanding children's hunger and satiety cues and avoiding force feeding is crucial to develop healthy eating behavior and to prevent malnutrition in children (56).

When it comes to IYC food, different determinants influence mothers' food choice depending on the value they give to the determinants. In this study food cost, nutrient content of food, mental development, body weight and child health were the influential. But above all, the healthiness of food was the main value dimension that influences their food choice as all of

the caregivers gave it the highest score 5. The same as this study, healthiness of food is the factor that influences mothers' decision about IYC foods in Dessie and Ghana (20, 28)

7 Strengths and Limitations

The limitation of the study was as it is focused ethnographic study, the sample was not representative of the caregivers in Addis Ababa. Conducting the study by principal investigator and using tested household protocols to collect the data was the strength of the study. Collecting data by using different tools and addressing different issues was also another main strength. Despite the limitation, the study provide information rich data that will be used for the nutritional interventions.

8 Conclusion

Currently infants and young children routinely receive cereal based foods in the form of commercial instant cereal (cerifam) and porridge. Families purchase and prepare special foods for their IYC and male participation in food preparation and feeding is low. Breast milk, cow's milk, butter and sometimes milk cream added to IYC foods depending on the type of food and availability. Inappropriate feeding practice such as feeding below recommendation and feeding pre-masticated foods were identified. Feeding Leftover foods was also widely practiced and this may expose the children to infections such as diarrheal disease. Cold or stored foods widely considered as bad for IYC

For caregivers, all the IYC food sources are not the same as they have cost and food quality difference. Financial problem specifically low income coupled with high-priced IYC foods is the major challenge parents' face while they raise their children. From mothers' perspective, the health benefit of the food they feed their IYC is crucial and is the main value that influence their decision on IYC food. They believe all foods are not equally healthy and foods essential for child health are very expensive and caregivers are emotional disturbed when they cannot afford to buy these foods.

9 Recommendations

Health education about what, how, and when to feed IYC should be given to caregivers when they come to the health facilities for ANC, immunization or under 5 clinics to improve caregivers' perceptions and IYCF Practices. As urban health extension workers have direct contact with the community, the health education can be given by them. Preparing brochures and flyers about IYC foods and food preparation may help the mothers improve their knowledge on IYCF practice.

The government should consider alternative childcare options for working mothers so that they keep working and improve their income as well as they keep their children's health. As caregivers recommend, it might be a good idea to consider food cost subsidies. BCC (behavioral change communication) interventions should also be considered. More quantitative researches should be done to evaluate IYCF practice and its relation with their nutritional status in urban setting.

10 References

1. WHO. Infant and Young Child Feeding: WHO; 2015 [updated July 2015. Available from: http://www.who.int/mediacentre/factsheets/fs342/en/.

2. Exclusive Breastfeeding: WHO; 2015 [updated July 30, 2015 Available from: http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/.

3. Caetano MC, Ortiz TTO, Silva SGLd, Souza FISd, Sarni ROS. Complementary Feeding: Inappropriate Practices in Infants. Journal de pediatria. 2010;86(3).

4. Guiding Principles for Complementary Feeding of the Breastfed Child. Washington: Pan American Health Organization; World Health Organization; 2001.

5. Infant Nutrition and Feeding Washington: U.S. Department of Agriculture Food and Nutrition Service; 2009.

6. National Strategy for Infant and Young Child Feeding in Bangladesh. Mohakhali: UNICEF; 2007.

7. Indicators for Assessing Infant and Young Child Feeding Practices. Indicators for assessing infant and young child feeding practices. Indicators for assessing infant and young child feeding practices : conclusions of a consensus meeting held 6–8 November 2007 in Washington D.C., USA. ed: WHO; 2008.

8. The State Of The World's Children 1998 Focus On Nutrition: UNICEF; 1998 [

9. National Nutrition Programme. Addis Ababa, Ethiopia: Government of the Federal Democratic Republic of Ethiopia; June 2013

10. Health Sector Transformation Plan (HSTP). Addis Ababa, Ethiopia: The Federal Democratic Republic of Ethiopia Ministry of Health; 2015. p. 182.

11. Situation Analysis of the Nutrition Sector in Ethiopia: 2000-2015. Addis Ababa, Ethiopia Ethiopian Federal Ministry of Health, UNICEF, and European Commission Delegation, 2016.

12. UNICEF, WHO, BANK W. UNICEF-WHO-The World Bank Joint Child Malnutrition Estimates. UNICEF, New York; WHO, Geneva; The World Bank, Washington, DC, 2012.

13. Global Strategy for Infant and Young Child Feeding: WHO; 2015 [Available from: http://www.who.int/nutrition/topics/global_strategy/en/.

14. Ethiopia Demographic and Health Survey 2011. Addis Ababa: Central Statistical Agency, 2012.

15. Das JK, Salam RA, Imdad A, Bhutta ZA. Infant and Young Child Growth. In: Black RE, Laxminarayan R, Temmerman M, Walker N, editors. Reproductive, Maternal, Newborn, and Child Health: Disease Control Priorities. 2. Third ed. Washington (DC): The International Bank for Reconstruction and Development/ The World Bank; 2016.

16. Nutrition country profiles: Ethiopia summary. Food And Agriculture Organization Of The United Nations, 2008.

17. Faber M, Benadé AS. Perceptions of infant cereals and dietary intakes of children aged 4–24 months in a rural South African community. International Journal of Food Sciences and Nutrition. 2009;52(4):359-65.

18. Tessema M, Belachew T, Ersino G. Feeding Patterns and Stunting During Early Childhood in Rural Communities of Sidama, South Ethiopia. Pan African Medical Journal. 2013;14(75):22.

19. Fekadu Y, Mesfin A, Haile D, Stoecker BJ. Factors Associated with Nutritional Status of Infant and Young Children in Somali Region,Ethiopia: A Cross-Sectional Study. BMC Public Health. 2015;15(1):1-7.

20. Hagos S, Mengiste Y, Jones S, Birhanu D, Pelto GH. Feeding Infants and Young Children in Dessie Zuria District, Northen Ethiopia: Report to GAIN on the Result of the Focused Ethnographic Study Global Alliance for Improved Nutrition (GAIN) August 21, 2014

21. Facts for Life. Fourth Edition ed. New York: UNICEF, WHO, UNESCO, UNFPA, UNDP, UNAIDS, WFP and the World Bank.; 2010.

22. Lutter CK, Daelmans BMEG, Onis Md, Kothari MT, Ruel MT, Arimond M, et al. Undernutrition, Poor Feeding Practices, and Low Coverage of Key Nutrition Interventions. Pediatrics. 2011;128(6):e1418-e27.

23. Agedew E, Demissie M, Misker D, Haftu D. Early Initiation of Complementary Feeding and Associated Factors among 6 Months to 2 Years Young Children, in Kamba Woreda, South West Ethiopia: A Community –Based Cross - Sectional Study. Nutrition and Food Sciences. 2014;4(6):1-6.

24. Nankumbi J, Muliira JK. Barriers to Infant and Child-Feeding Practices: A Qualitative Study of Primary Caregivers in Rural Uganda. Journal of Health, Population and Nutrition. 2015;33(1):106-16.

25. Ashwini S, Katti SM, Mallapur MD. Comparison of Complementary Feeding Practices Among Urban and Rural Mothers – A Cross Sectional Study. Al Ameen Journal of Medical Sciences. 2014;7(4):257-64.

26. Mekbib E, Shumey A, Ferede S, Haile F. Magnitude and Factors Associated with Appropriate Complementary Feeding among Mothers Having Children 6-23 Months-of-Age in

Northern Ethiopia; A Community-Based Cross-Sectional Study. Journal of Food and Nutrition Sciences. 2014;2(2):36-42.

27. Saleh F, Ara F, Hoque MA, Alam MS. Complementary Feeding Practice among Mothers in Selected Slums of Dhaka City: A Descripitive Study. Journal of Health, Population and Nutrition. 2014;32(1):89-96.

28. Pelto GH, Armar-Klemesu M. Balancing Nurturance, Cost and Time: Complementary Feeding in Accra, Ghana. Maternal and Child Nutrition. 2011;7(3):66-81.

29. Pelto G, Lee J, Akhter S, Porqueddu T, Hoang CT-C, Anwar I, et al. Summary Report: Infant And Young Child Feeding And Home Fortification In Rural Bangladesh – Perspectives From A Focused Ethnographic Study. GAIN, 2015.

30. Kavle JA, Mehanna S, Saleh G, Fouad MA, Ramzy M, Hamed D, et al. Exploring Why Junk Foods are 'Essential' Foods and How Culturally Tailored Recommendations Improved Feeding in Egyptian Children. Maternal and Child Nutrition. 2014.

31. Souza FISd, Caetano MC, Ortiz TT, Silva SGLd, Sarni ROS. Complementary Feeding of Infants in Their First Year of Life: Focus on the Main Pureed Baby Foods. Revista da Associação Médica Brasileira. 2014;60(3).

32. Saldiva SRDM, Venacio SI, Santana ACd, Castro ALdS, Escuder MML, Giugliani ERJ. The Consumption of Unhealthy Foods by Brazilian Children is Influenced by Their Mother's Education Level. Nutrition journal. 2014;13(33):1-7.

33. Huffman SL, Piwoz EG, Vosti SA, Dewey KG. Babies, Soft Drinks and Snacks: A Concern in Low- and Middle-Income Countries? Maternal and Child Nutrition. 2014;10(4):562-74.

34. Agumaise S, Gezahegn T, Alemayehu B. Complementary Feeding Practice of Mothers and Associated Factors in Hiwot Fana Specialized Hospital,Eastern Ethiopia. Pan African Medical Journal. 2014;18(143):1-18.

35. Hoare A, Virgo-Milton M, Boak R, Gold L, Waters E, Gussy M, et al. A Qualitative Study of Factors that Influence Mothers When Choosing Drinks for thier Young Childern. BMC Research Note. 2014;7(430).

36. Focusing on Improving Complementary Feeding in Ethiopia. Washington: USAID, 2011.

37. Pelto GH, Armar-Klemesu M, Siekmann J, Schofield D. The Focused Ethnographic Study 'Assessing the Behavioral and Local Market Environment for Improving the Diets of Infants and Young Children 6 To 23 Months Old' and its Use in Three Countries. Maternal and Child Nutrition. 2013;9:35-46.

38. Aemro M, Mesele M, Birhanu Z, Atnafu A. Dietary Diversity and Meal Frequency Practice among Infant and Young Children Aged 6-23 Months in Ethiopia: A Secondary Analysis of Ethiopian Demographic and Health Survey 2011. Journal of Nutrition and Metabolism. 2013;2013:8.

39. Hadley C, Lindstrom D, Belachew T, Tessema F. Ethiopia Adolescents' Attitudes and Expectations Deviate from Current Infant and Young Child Feeding Recommendations. Journal of Adolescent Health. 2008;43(3):253-9.

40. Woldie H, Kebede Y, Tariku A. Factors Associated with Anemia among Children Aged 6–23 Months Attending Growth Monitoring at Tsitsika Health Center, Wag-Himra Zone, Northeast Ethiopia. Journal of Nutrition and Metabolism. 2015;2015:9

41. Alemayehu M, Tinsae F, Haileslassie K, Seid O, G/egziabher G, Yebyo H. Nutritional Status and Associated Factors among Under-Five Children ,Tigray,Northen Ethiopia. International Journal of Nutrition and Food Sciences. 2014;3(6):579-86.

42. Nguyen PH, Menon P, Ruel M, Hajeebhoy N. A Situational Review of Infant and Young Child Feeding Practices and Interventions in Viet Nam. Asia Pacific Journal of Clinical Nutrition. 2011;20(3):359-74.

43. Njeri KA. Assessment Of Mothers‟ Compliance With National Infant And Young Child Feeding Recomendations Amongst Children Aged 0-24 Months In Nakuru Municipality, Kenya: Kenyatta University; October 2013.

44. Pelto GH, Gove S. Developing a Focused Ethnographic Study for the Who Acute Respiratory Infection (ARI) Control Programme. In: Scrimshaw NS, Gleason GR, editors. RAP, Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes. Boston: International Nutrition Foundation for Developing Countries (INFDC); 1992. p. 528.

45. Kuhnlein HV, Pelto GH. Culture, Environment, and Food to Prevent Vitamin A Deficiency: International Nutrition Foundation for Developing Countries (INFDC); 1997.

46. Pries AM, Huffman SL, Mengkheang K, Koreun H, Champeny M, Roberts M, et al. High use of commercial food products among infant and young children and promotion of these products in Cambodia. Maternal and Child Nutrition. 2016;12(S 2):52-63.

47. Leung AK, Sauv RS. Whole Cow's Milk in Infancy. Pediatric and Child Health. 2003;8(7):419-21.

48. WHO. Indicators for assessing infant and young child feeding practices :Part 3 Country Profiles. 2010.

49. Sheth M, Obrah M. Diarrhea Prevention Through Food Safety Education. Indian Journal of Pediatrics. 2004;71:879-82].

50. Zhang Y. The Role of Pre-mastication in the Evolution of Complementary Feeding Strategis: a Bio-cultural Analysis [Partial Fulfillment of the Requirments for the Research Honors Program]: Cornell University May 2007

51. Karunamoorthi K, Kim H-M, Jegajeevanram K, Xavier J, Vijayalakshmi J. Papaya: A gifted nutraceutical plant - a critical review of recent human health research TANG HUMANITAS Traditional Medicine. 2014;4(1):1-54.

52. Lissiman E, Bhasale AL, Cohen M. Garlic for the Common Cold. Cochrane Library 2014.

53. Eteraf-Oskouei T, Najafi M. Traditional and Modern Uses of Natural Honey in Human Diseases: A Review. Iran Journal of Basic Medcinal Science. 2013;16(6):731–42.

54. Paul IM, Beiler J, McMonagle A, Shaffer ML, Duda L, Jr CMB. Effect of Honey, Dextromethorphan, and No Treatment on Nocturnal Cough and Sleep Quality for Coughing Children and Their Parents. JAMA Pediatrics. 2007;161(12):1140-6.

55. Gamboa DPA, Ekris Lv. TEFF "Survey on the nutritional and health aspects of teff (Eragrostis Tef)"2008.

56. J H, S B, B N, CE D. Responsive Feeding Establishing Healthy Eating Behavior Early on in Life. S Afr J Clin Nut. 2013;26(3):141-9.

11 Annexes

Food Lists from “Free Listing” Exercise and 24-Hour Dietary Recall

Annex of food lists.docx

Cards Used for Rating Exercise

Appendix E
Double Click

Information Sheet and Consent Form

Appendix F
Double Click

Key Informant Interview Guide (English Version)

Appendix A
Double Click

Key Informant Interview Guide (Amharic Version)

Appendix B
Double Click

Caregiver Respondents Guide (English Version)

Appendix C
Double Click

Caregiver Respondents Guide (Amharic Version)

Appendix D
Double Click

Food Lists from “Free Listing” Exercise and 24-Hour Dietary Recall

Frequency of Infant and Young Child Foods Given to 6-8 months, Addis Ababa,2016

No	Food item	No key informants
1	Cerifam	4
2	Cow’s milk	4
3	Gruel (Atmit)	4
4	Potato and Carrot(mashed)	4
5	Bulla porridge	3
6	Porridge	3
7	Corn porridge	2
8	Formula milk	2
9	Pastini	2
10	Soup	2
11	White kale (Kosta)	2
12	Avocado juice	1
13	Breast milk	1
14	Butter	1
15	Cérélac	1
16	Egg	1
17	Flax seed	1
18	Maccaroni	1
19	Milk cream	1
20	Mother choice	1
21	Oats	1
22	Orange juice	1
23	*Shiro*	1
24	*Shiro* with bread	1
25	*Shiro* with *Enjera*	1

No	Food item	No key informants
26	Thin pasta (tiny spaghetti)	1
27	Zucchini	1

Description of Infant and Young Child Foods Mentioned by Key Informants for 6-8 month, Addis Ababa, 2016

Food item	Description
Cerifam, mother choice, and Cérélac	Commercial infant cereal which is made of wheat or rice with different fruit and vegetable flavours.
Cow's milk	Sometimes used to cook porridge, gruel and added in some foods like pastini
Gruel(Atmit)	Made of different crops like barley, bean, pea, chickpea, red teff, sorghum, and so on. Mostly it is cooked with milk and salt is added
Potato and carrot	Boiled and sometimes milk cream is added to make it thin while it is mashed
Bulla porridge	A traditional porridge made of bulla. It is cooked with milk and butter or milk cream is added
Porridge	Traditional porridge made of the same flour used for gruel. It is cooked with water, milk or cream milk and when it is cooked butter is added
Corn porridge	It is a commercial food which contain corn powder and is used as porridge
Soup	Lentil, zucchini, carrot, macaroni, and tomato cooked together and oil or butter will be added
Shiro	Cooked with garlic, onion and butter is added. Can be eaten either with enjera or bread
Thin pasta	It is like pasta but it is very small and very thin. It is produced specifically for children.
Oats	A commercial food which has ready to use oats

Frequency of Infant and Young Child Foods for 9-11 moths, Addis Ababa, 2016

No	Food item	No key informants
1	Avocado	3
2	Banana	3
3	Cow's milk	3
4	Gruel	3
5	Meat	3
6	Orange	3
7	Papaya	3
8	Rice	3
9	Bread with tea	2
10	Enjera with shiro	2
11	Meat merek Fitfit	2
12	Pasta	2
13	Pastini	2
14	Porridge	2
15	Shiro	2
16	Soup	2
17	vegetables	2
18	Beets	1
19	Breast milk	1
20	Bulla porridge	1
21	Butter	1
22	Cerifam	1
23	Cerifam with banana	1
24	Cheese	1
25	Chicken	1
26	Corn porridge	1
27	Egg	1
28	Enjera with lentil stew	1

No	Food item	No key informants
29	Enjera with potato stew	1
30	Firfir	1
31	Formula milk	1
32	Honey	1
33	Macaroni	1
34	Mango juice	1
35	Oats	1
36	Potato and carrot	1
37	Potato stew	1
38	Powder milk	1
39	RIRI	1
40	Shiro with bread	1
41	Thin pasta	1
42	Tomato	1
43	White kale	1
44	Kale	1
45	Family food	1

Description of Infant and Young Child Foods Mentioned by Key Informants for the Age Group of 9-11 month, Addis Ababa, 2016

Food item	Description
RIRI	Commercial food which is produced from rice or wheat and sometimes with fruit or vegetable flavours
Bread with tea	Bread bought from the shop and sometimes homemade
Meat *Merek Fitfit*	Made of meat and cooked with onion, carrot and potato, oil or sometimes with butter
Shiro	Made of pea and chickpea. It is cooked with onion and oil sometimes butter is added
Potato and carrot	Cooked with onion, chopped carrot and potato. salt is added

Food item	Description
Gruel(Atmit)	Made of different crops like barley, oats, corn, wool, peanut, sorghum, and so on. It is cooked with water, sugar and sometimes honey is added
Porridge	Traditional porridge made of barley, oats, corn, red wheat('bonde sende') cooked with water and salt is added
Corn porridge	It is a commercial food which contain corn powder and is used as porridge
Soup	Made of Lentil, tomato, carrot, potato, green pepper, and pastini or macaroni is added
Cerifam with banana	Banana is blended and mixed with Cerifam
Family food	Foods prepared for the family but modified for the children

Frequency of Infant and Young Child Foods for 12-17 months of age, Addis Ababa, 2016

No	Food item	No key informants
1	Family food	4
2	Macaroni	4
3	Banana	3
4	*Kinche*	3
5	Pastini	3
6	Porridge	3
7	Rice	3
8	Banana	2
9	Cow's milk	2
10	Egg	2
11	*Enjera*	2
12	Firfir	2
13	Fish	2
14	Gruel	2
15	Indomie	2
16	meat	2

No	Food item	No key informants
17	Meat stew	2
18	Pasta	2
19	Rice	2
20	Soup	2
21	Avocado	1
22	*Besso*	1
23	Boiled egg	1
24	Bread	1
25	Bread *firfir*	1
26	Bread with vegetable	1
27	Bulla	1
28	Butter	1
29	Carrot	1
30	Cerifam	1
31	*Chechebsa*	1
32	Chicken	1
33	*Enjera Fitfit*	1
34	*Enjera* with meat	1
35	*Enjera* with *shiro*	1
36	Juice	1
37	Cuscus	1
38	Lentil stew	1
39	Mango	1
40	Meat *merek*	1
42	Oats	1
43	Orange	1
44	Papaya	1
45	Pineapple	1
46	Pork	1
47	Potato and carrot	1

No	Food item	No key informants
48	Potato stew with red pepper	1
49	*Shiro*	1
50	*Shiro* with egg	1

Description of foods mentioned by Key Informants for the age group of 12-17 month, Addis Ababa, 2016

Food item	Description
Kinche	Traditional food made of wheat or oats cooked with water and salt. Sometimes it is cooked with onion, oil and butter is added.
Oats	Commercial food cooked with cow's milk, sugar and salt will be added
Egg	Scrambled egg with butter and salt. Sometimes oil is used
Enjera	A traditional flat and thin food that is made of Teff and it is eaten with stew which can be made of Shiro, meat or anything else.
Besso	Made of barley which is roasted and blended. It is eaten in the form of firfir with oil or butter or in the form of juice mixed with water. sugar is added
Firfir	Made of sauce which has onion, oil, with or without red pepper and the injera will be chopped into smaller parts and mixed with the sauce
Indomie	Commercial food (noodles) which is like pasta
Kuskus	A commercial food which is like rice but it is very small
Chechebsa	Traditional food which is made of wheat or teff. It is chopped in smaller parts and mixed with red pepper, salt and butter
Bread firfir	It is like chechebsa but it is made of bread
Meat merek Fitfit	Made of meat and cooked with onion, carrot and potato, oil or sometimes with butter
Shiro	Made of pea and chickpea .cooked with onion and oil sometimes butter is added
Potato and carrot	Cooked with onion, chopped carrot and potato. salt is added

Food item	Description
Gruel(Atmit)	Made of different crops like barley, oats, corn, bean, pea, soybean, fenugreek, lentil and others. It is cooked with water and sugar is added
Porridge	Traditional porridge made of same flour used for gruel. It is cooked with water or cow's milk and butter and red pepper added
Soup	Made of fish, carrot, macaroni or potato and salt will be added
Family food	Any foods prepared for the family but modified for the children

Frequency of Infant and Young Child Foods for 18-23 months of age, Addis Ababa, 2016

No	Food item	No key informants
1	Family food	4
2	Macaroni	4
3	Meat	3
4	Pasta	3
5	Rice	3
6	Soup	3
7	Banana	2
8	Egg	2
9	Enjera	2
10	Fish	2
11	Juice	2
12	Porridge	2
13	Avocado	1
14	Besso	1
15	Bread with tea	1
16	Butter	1
17	Cerifam	1
18	Corn	1
19	Cow's milk	1

No	Food item	No key informants
20	Enjera with lentil	1
21	Firfir	1
22	Gruel	1
23	Indomie	1
24	Kinche	1
25	Meat stew	1
26	Mirinda	1
27	Orange	1
28	Pastini	1

Description of IYC Foods for the age group of 18-23 month, Addis Ababa, 2016

Food item	Description
Bread with tea	Bread made at home with wheat flour and sometimes bought from the shop. It is eaten with tea
Gruel(Atmit)	Made of different crops like oats, corn, soybean, red teff, bean, and lentil. It is cooked with water; sugar is added
Porridge	Traditional porridge made of the same flour used for gruel. It is cooked with water, oil or butter and salt is added
Soup	Made of Lentil, tomato, carrot, potato, green pepper, and pastini or macaroni is added
Enjera with lentil	Enjera with lentil which is made of lentil
Family food	Foods prepared for the family but modified for the children

Food Items Named by Key Informants Across All Age Groups, Addis Ababa, 2016

Name of food	6-8 month	9-11 month	12-17 month	18-23 month
Cow's milk	xxxx	xxx	xx	xx
Cerifam	xxxx	x	x	-
Gruel	xxxx	xxx	x	x
Potato and carrot	xxxx	x	x	x
Macaroni	x	x	xxxx	xxxx

Name of food	6-8 month	9-11 month	12-17 month	18-23 month
Family food	-	x	xxxx	xxxx
Bulla porridge	xxx	x	x	x
porridge	xxx	xx	xxx	xx
Pastini	xx	xxx	xx	xx
Soup	xx	xx	xx	xxx
Orange	x	xxx	x	x
Banana	-	xxx	x	x
Papaya	-	xxx	x	-
Avocado	-	xxx	x	-
Meat	-	xx	xxx	xxx
Rice	-	xxx	xxx	xxx
Kinche	-	-	xxx	xx
Formula milk	xx	x	-	-
Shiro	x	xx	x	x
Egg	x	x	xx	xx
Corn porridge	xx	x	-	-
Enjera with *shiro*	x	xx	x	x
Vegetables	-	xx	-	-
Bread with tea	-	xx	-	x
Enjera	-	-	xx	xx
Meat stew	-	-	xx	xx
Firfir	-	x	xx	x
Fish	-	-	xx	xx
Indomie	-	-	xx	x

(the number of ‘x’s indicate the number of key informants that mention the food item)

Food List in the previous 24-hours, Addis Ababa,2016

Age (mn)	BF	Feed 1	Feed 2	Feed 3	Feed 4	Feed 5	Feed 6	Feed 7	Feed 8
6mn	Yes	RIRI with milk+ NAN	Bulla with milk+ NAN	*Enjera* with *shiro* +Water	RIRI made of wheat with milk	orange	RIRI (rice+apple) +milk		
7 mn	yes	Avocado+mango juice + milk	Mother choice	Egg + potato (minced)	Cerifam				
7mn	yes	Indomie +milk (Mama)	Cerifam	Potato (minced)					
8mn	yes	Cerifam	Indomie						
9mn	no	Pasta Al Forno (baked pasta)	Cow's milk	Cow's milk	Cow's milk				
10 mn	yes	Porridge(balanced) + milk	Banana +water	Oats +milk (mama)	*Enjera +shiro*	Avocado + lemon	Pasta	Pastini + vegetable	Enjera +shiro +milk
11mn	Yes	Cerifam + milk	Corn flex (fruit flavour) +milk +water	*Enjera +Shiro* +water	Corn flex + water	FAFA Porridge + milk	Indomie +milk		

Age (mn)	BF	Feed 1	Feed 2	Feed 3	Feed 4	Feed 5	Feed 6	Feed 7	Feed 8
11mn	yes	Porridge made of corn	Cerifam	*Enjera +Shiro*					
15mn	No	Egg	Formula milk	Pastini	Avocado juice +cake	Minced meat + bread	Cow's milk		
16 mn	yes	FAFA Porridge + milk	Enjera + shiro	Pastini with tomato sauce	Banana	Cow's milk	Cow's milk	Indomie	
17 mn	yes	Scrambled egg	Indomie+ coffee (4/5 teaspoon)	*Besso* +water	*Kinche*				
20mn	No	Egg + milk	Rice +vegetable and fish +milk	Pastini + fish	orange	Enjera +potato stew +milk	Cow's milk +garlic +honey		

Description of Food Preparation

The preparation of foods that was mentioned by most of key informants described as follows:

1.Cow's milk

KIs get cow's milk from their surrounding by renting (means monthly they pay to the person who give them milk). But some mothers use powder milk because cow's milk is expensive. They use cow's milk to cook foods like porridge, bulla porridge and to make the food thin like Cerifam, juice so on. When it is for drinking, it will be given to the IYC after it is boiled and filtered. All of KI give milk to their IYC without sugar because they believe it affects their appetite. However, there are also mothers who give cow's milk by making it thin when the infants are less than 6 months of age. But majority of mothers do not give cow's milk before 6 months of age. Their main reason is if the cow milk is given as it is (without diluting) it will be heavy for their digestion and hurt their intestine because it has too much fat. It has to be given it should be diluted and when it is diluted it becomes only urine no other use. That is why mothers do not give it at that age. Nonetheless they agree that cow's milk has more benefit than formula milk and powder milk. may disturb them.

2. Potato and carrot

Potato and carrot is one of the most common and traditional food given to IYC aged 6-8 month and considered as first baby food. It is prepared by washing and peeling both potato and carrot. After it is cleaned and chopped in smaller size, it will be boiled and mashed by using its own water or milk. Sometimes they use milk cream as a thinner. The reason for reusing its water is not to lose the nutrient content of the food. A small amount of salt is added for taste.

3. Gruel/Atmit

Gruel/*Atmit* is the food that is listed as one of the main food for IYC especially for those who are in the group of 6-8 month. According to KI, they prepare this gruel especially and specifically for IYC from different crops like cereals (oats, corn, wheat, barley, millet, sorghum), legumes (beans, pea, chickpea, lentil), oily seeds (sunflower seed, peanut), and fenugreek. They believe that the gruel/atmit will become denser when it is prepared from

different kind of crops as well as the children will get benefit from the nutrients of each crop. At the beginning they make the crops clean and clean i.e. they pick dirt, stones and other unwanted things from the crops and wash the one that needs to be washed and make it dry in the sun. After it is dry, they put in the heat to make it roasted slightly. Then it will be taken to the blending house and blended. They bring it to their house, filter it, and store it in a container. When they want to cook, they cook it with water or milk and sugar is added. There is a time that honey is added in it if the children have common cold. Most of the time the gruel is prepared thin, but some of the informants explained that there is a time they make it thick and feed their children with spoon. There is a difference in perception of benefit of gruel among mothers. Some of them perceive that gruel is useless because it is thin and it will become urine. But others believe it is good for children to gain more weight.

4. Porridge

Mothers use the same flour that they use for gruel/atmit. It is cooked either with water or milk until it become thick and well cooked. When it is done salt and butter is added. However, if the IYC is beyond one year they will give them by adding a mixture of butter and red pepper in it. But there is a time they give porridge with oil, as it is expensive and mostly not available in their house.

5.Macaroni

Marconi is the most common IYC food that is named by all of the kIs at the age group 12-23 months. For infants it is cooked as soup, mixed with vegetables like carrot, tomato, and potato. When the children get older, it is cooked with tomato sauce and sometimes with vegetables. The preparation of pasta, macaroni, and rice is almost similar. Salt and green pepper are added for the taste. They do not flush the water that it is cooked away in order to not to lose the nutrient that is found in the food.

6. Bulla porridge

Bulla is a white powder that is harvested from enset plant. When it is cooked it is mixed with water, boil milk, add the bulla in the boiling milk and cook it. Salt, butter, and sometimes milk cream is added to make it dense and tasty. Mostly they do not use butter for children less

than 8 months because they believe it is heavy for them. Red pepper will be added for teste when the children are above one year.

7. Soup

Soup is a food which is liquid and made of mixtures of vegetables (zucchini, carrot, potato, tomato), macaroni or pastini, and sometimes fish depending on the availability. Oil or butter and salt is added. It is given to the children either blended or given only the watery part of the soup because they cannot chew and it will be difficult then to swallow. But it is given as it is for the children above one years old.

Expensive

Cheap

Kaziuko_muge

www.delcampe.net

Lots of nutrients

Child with good mental development

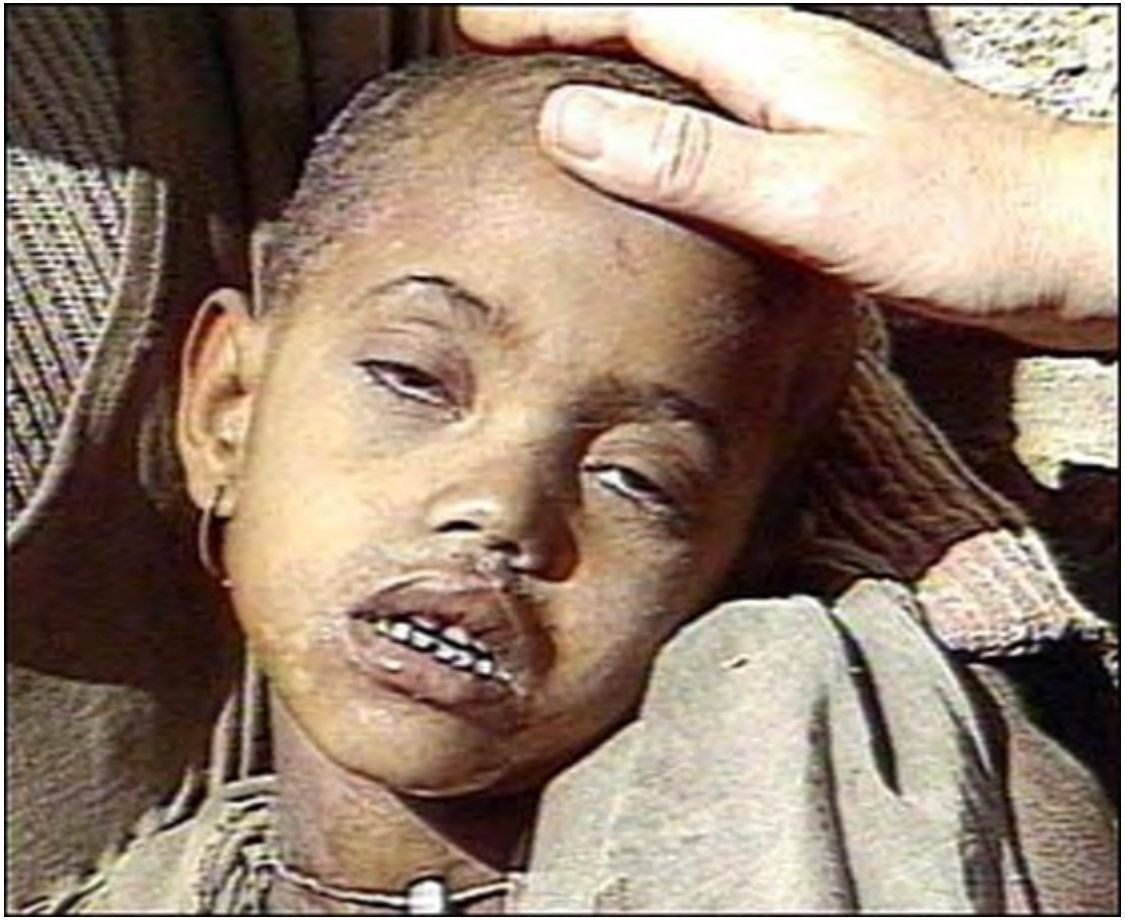
Child with poor mental development

Good body weight

Bad body weight

Healthy

Unhealthy



Gruel/Atmit

Porridge

Banana

Avocado

Orange

Papaya


ሴሪፋም
Cérifam
Wheat
ስንዴ
200 ግ


Cérifam
سيريفام
Wheat & Vegetables
6
6

Meat

Macaroni

Spaghetti / Pasta

Kinche

Rice

Pastini

Soup

Milk

Fish

Egg

Tomato

Garlic

Honey

Breastfeading

የመረጃ መስጫ ቅፅ

ጤና ይስጥልኝ!

ስሜ ቤተልሔም ታዬ ይባላል፡፡ የመጣሁትም ከአዲስ አበባ ዩኒቨርሲቲ ሲሆን፣ በጨቅላና ታዳጊ ህጻናት ምግብና ተዛማች ችግሮች ላይ ጥናት እያካሄደን እንገኛለን፡፡

የዚህ ጥናት ዋና አላማ በጨቅላና ታዳጊ ህጻናት ስነምግብና አመጋገብ ላይ ያሎትን ተሞክሮ ለመረዳት ይሆናል፡፡የጥናቱም ውጤት የእናቶችና፣ ጨቅላና ታዳጊ ህጻናት ስነምግብና ጤና ለማሻሻል ይውላል፡፡

በዚህም ጥናት ስለ ታዳጊ ህጻናት ስነምግብና አመጋገብ ፣ ያለዉን የጤና ችግር እንዲሁም ተያያዥ ሀሳቦች ላይ በሰፊዉ እንወያያለን፡፡ ይህም ዉይይት በአማካኝ ሁ አንድ ሰዐት ይወስዳል፡፡ ሁሉንም የሚነግሩኝ ነጥቦች ለመያዝ ይረዳኝ ዘንድ፤ ዉይይታችንን በዚህ መቅረዐ ድምዕ አስቀራለሁኝ፡፡

በዚህ ጥናት በመሳተፍዎ ይህ ነው የሚባል አሳሳቢ ችግር አይኖርም፡፡ ለጥናቱ የሚሰጡን መረጃ በሚስጥር ይያዛል፡፡በዚህ መረጃ ዘገባም ሆነ በጥናቱ ውጤት ሕትመቶች ላይ ስምዎ አይጠቀስም፡፡

በማንኛውም ጊዜ በጥናቱ ያለመሳተፍ ወይም የማቋረጥ መብትዎ የተጠበቀ ነው፡፡

ጥያቄ አለዎት? _____

_____

_____

በጥናቱ ላይ ለመሳተፍ ፈቃደኛ ነዎት?

1. አዎን ፈቃደኛ ነኝ ☐
2. ፈቃደኛ አይደለሁም ☐

የስምምነት ማረጋገጫ ቅፅ

የዚህ ጥናት አላማ፣ ጥቅምና ምቾትን ሊያጓድሉ የሚችሉ ሁኔታዎችን ተነግሮኛል። በተጨማሪም በማንኛውም ጊዜ በጥናቱ ያለመሳተፍ ወይም የማቋረጥ መብቴ የተጠበቀ እንደሆነ፣ ይህም ውሳኔዬ የጤና አገልግሎትን እንዳላገኝ ምንም አይነት ተፅዕኖ እንደማያስከትልብኝ ተነግሮኛል። ጥያቄም ለመጠየቅ እድልም ተሰጥቶኛል።

ከላይ በተሰጠኝ መረጃ መሰረት በጥናቱ ለመሳተፍ ተስማምቻለሁ።

የመረጃ ሰብሳቢው ስም _____

የመረጃ ሰብሳቢው ፊርማ _____

ቀን: _____

የእማኝ ስም _____

ፊርማ _____

ቀን: _____

Key Informants Interview Guide

Socio- demographic profile

Interviewers Name: _____ District: _____

Woreda: _____ Gote: _____

Type of Household head:

1. Female headed 2. Male headed

Father

Name of the father _____

Education

1. Illiterate 2. Read and write 3. Primary (1-8)

4. Secondary (9-12) 5.College /University

Occupation

1 Farmer 2. Formal employed 3. Self-employed

4. Casual Laborer 5. Unemployed,

Mother

Name of the mother: _____

Education

1. Illiterate 2. Read and write 3. Primary (1-8)

4. Secondary (9-12) 5.College /University

Occupation

1. Housewife 2. Formal employed 3. Self-employed

4. Casual Laborer 5. Unemployed 6. Other

Household

Total number of household _____

Total number of children _____

Number of under-five children _____

Household monthly income _____

Child

Name of the index child _____

Gender of the child _____

Age of the child _____

Is the child still breastfeeding

1. Yes 2. No

Module 1: Foods for Infants and Young Children

Free –listing questions for Infant and young children

a) <u>For infants 6-8 months</u>

Q *I would like to know about the kinds of foods that babies (of about 6-8 months) are given when they are first starting to eat something in addition to breast milk. As you think about that you could start by listing the foods that you give your own baby.*

Q *Anything else?*

Q *Are there any foods you do not give your child for cultural, religious, or other reasons, but some people give to their babies when they are first starting to eat?*

Q *Anything else?*

***b)* <u>For infants 9-11 months</u>**

Q *When you think about children of a similar age as this one of yours, who are about 9-11 months of age, what kinds of foods are they given to eat?*

Q *Anything else?*

Q *Are there any foods you do not give your child, but some people give to their babies when they are the same age as this child (9-11 months)?*

c) <u>For infants 12-17 months</u>

Q *What kinds of foods are given to children 12-17 months of age? As you think about that you could start by listing the foods you give (gave) your own child.*

Q *Anything else?*

Q *Are there any foods you do not give your child, but some people give their children when they are the same age as this child (12-17 months)?*

Q *Apart from the foods you have listed, are there other foods that you used to give the child when he/she was younger?*

d) <u>For children 18-23 months</u>

Q *Please tell me about the kinds of foods that are given to young children over a year and a half, and up to two years of age. I would just like to know about any foods that are made especially for young children or family foods that are prepared differently before they are fed to young children. Do you think of any foods like that? You could start by thinking about how you feed your own child.*

Q *Anything else?*

Q *Are there any foods you do not give or prepare for your child, but some people give their children when they are 18-23 months?*

Foods for Infants _____Months (Fill in age of IYC)

Foods (free listing)	**Comment**

Module 2: Food Preparation, Feeding Practice and Food Storage

Infants _____months
Purpose of the module: - to generate a picture of caregiver behaviors in relation to food preparation and food storage.
This module uses "open-ended questions" with guided discussion method.

Food Item: _____

Q *I would like to learn more about the foods that you have mentioned. I would like to ask you about (first food): Who prepares* (the food item)?

_____

Q *Does anyone else ever prepare it?*

_____

Q *How is it usually prepared*?
(Probe for Cooking fuel, cooking time, and type of water (boiled water).

_____

Q *Is a single portion prepared (or purchased), which is fed to the infant immediately or is extra made and stored to be given later?*

_____

Q If *stored: In what kind of container is it kept? Where is it kept? For how long is it kept?*

_____

Q *How is the food given to the baby? (e.g. spoon, bottle, mother's hand, pre-chewed by mother, given to child to hold by himself/herself)*

_____

Q *Who feeds the baby this item? (What happens when the mother is away?)*

_____

Q *Does anyone else in the family eat this food or is it made (or purchased) just for the child?*

_____

Q *If for the family, is it modified for the infant (e.g. thinned out, less spicy)?*

_____

Q *What about portion size? Is there any difference between the index child and his elders in terms of portion size?*

Module 3: Sources of Food Acquisition

Infants' _____months
Purpose of the module: - to obtain data on how households acquire foods
This module uses "open-ended questions" with guided discussion method.
Instruction: - use the foods in the free listing form to guide the discussion. Start with the first item and continue through the list.

Q *I would like to learn more about where families get the foods that they feed their infants and young children.Let us start with the first food you mentioned (from free listing form)*

Name of food _____

Q *Where do people get food (first food)* _____*?*
(If there is more than one source and if there are any differences between source 1 and source 2, and if one is preferred over the other ask why?)

_____

Q *Where do people usually go to buy* _____*?*

_____

Q *Is there anywhere else they go to buy it?*

_____

Module 5: Types of child care-giving problems faced by parents of infants and young children

Purpose of the module: - to generate a list of problems that caregivers face.

This module uses free listing method

Q *"Now, I would like to ask you about the problems that families face when they have an infant or young child. Can you list for me the kinds of problems that mothers often have when they have an infant or young child?"*

Q "*Is there anything else?*"

(If there is no food or feeding-related problem, ask specifically about whether families have any problems around food and feeding. Clearly indicate that these were probed answers)

Types of care-giving problems faced by parents of IYC

Free listing of problems parents face	**Comments**
1	
2	
3	

Module 6: Food and feeding-related problems of Infants and Young Children

Purpose of the module: - to explore the nature of the food and feeding- related problems the key informant identified in module 5.
This module uses "open-ended questions" with guided discussion method

Q *We have just talked about the different kinds of problems families have when they have a baby or a young child. I would like to ask you more about these foods and feeding problems.*

Let's start with (first checked item). You said: "_____" How do you deal with the problem?

Q *what type of social support do you get to deal with the problems?*

Q *Ask if the coasts of dealing with the problem?*

Food and Feeding Problems of Infants and young children

Types of Food and Feeding Problems	**Discussion/comments**
1.	
2	
3.	

Module 7: Health and Food Perceptions

Purpose of the module: - to understand women's views about food relates to keeping children healthy.
This module uses free listing and guided discussion method

Part 1. Free listing about keeping children healthy

Q *You've told me a lot about the kinds of problems that families with young children have, especially problems related to food and to feeding them. Now I'd like to ask you a little about generally keeping children healthy. Can you tell me about all the things that families can do to keep their children in good health?*

Q *If she doesn't mention about foods and feeding "You haven't mentioned anything about foods or feeding. Are there some things that mothers should do or can do to keep their children healthy that have to do with foods or nutrition?"*

Free listing about keeping children healthy

Strategies families use to keep children healthy	**Spontaneous comments**
1.	
2	

3.	

Part 2. Guided discussion about the food and feeding items on the free list

Q *You've mentioned a number of different things that can be done to help children to be healthy. I'd like to ask you more about some of these. Let's start with* _____ (The first item on the free listing related to food.) *Can you tell me more about why* _____ _____*is important?"*

Food and feeding strategies used to keep children healthy

Food and feeding strategy used to keep children healthy	**Comments on why this strategy is important for keeping children healthy (include additional comments)**
1.	
2.	
3.	

Part 4. Free Listing and Guided Discussion about foods that are not good for children

Q *"We've talked a lot about foods that are good for children. Are there any foods or drinks that are not good for infants and young children? Please list them for me."*

Q *"Why is it (food) bad for IYC?"*

Q *Anything else?*

Foods that are not good for children

Item(food)	**Reason**
1.	
2.	
3.	

ከቁልፍ ተጠያቂዎች ጋር የሚደረግ ቃለ መጠየቅ

የማህበራዊ እና ስነ ህዝብ መረጃ

የቃለ መጠይቅ አቅራቢ ስም _____ ክፍለ ከተማ _____

ወረዳ _____ ጎጥ _____

የቤተሰብ ሀላፊ

1 እናት 2 አባት

አባት

የአባት ስም : _____

የትምህርት ደረጃ

1. ያልተማረ 2. ማንበብና መጻፍ 3. 1ኛ ደረጃ ትምህርት (1-8)

4. ሁለተኛ ደረጃ ትምህርት (9-12) 5. ኮሌጅ/ዩኒቨርሲቲ

የስራ ሁኔታ

1 ግብርና 2. ቋሚ ሰራተኛ 3. የግል ስራ

4. ጊዜያዊ ስራ 5. ስራ አጥ

እናት

የእናት ስም _____

የትምህርት ደረጃ

1. ያልተማረች 2. ማንበብና መጻፍ 3. 1ኛ ደረጃ ትምህርት (1-8)

4. ሁለተኛ ደረጃ ትምህርት (9-12) 5. ኮሌጅ/ዩኒቨርሲቲ

የስራ ሁኔታ

1. የቤት እመቤት 2. ቋሚ ሰራተኛ 3. የግል ስራ

4. ጊዜያዊ ስራ 5. ስራ አጥ 6. ሌላ ካለ

የቤተሰብ ሁኔታ

አጠቃላይ የቤተሰብ ብዛት _____

የልጆች ብዛት _____

እድሜያቸው ከአምስት አመት በታች የሆኑ ህጻናት ብዛት _____

የቤተሰብ የወር ገቢ መጠን _____

በጥናቱ ውስጥ የተካተተው ህጻን ሁኔታ

የህጻኑ ስም _____

ጾታ _____

እድሜ _____

ህጻኑ በአሁኑ ወቅት ጡት ይጠባል?

1. አዎ 2. አይደለም

ሞዱል 1፡ የጨቅላ እና ታዳጊ ህጻናት ምግብ

የጨቅላ እና ታዳጊ ህፃናትን የምግብ ዝርዝር ለማወቅ እና ለመረዳት የሚያስችል "free-listing"

ሀ) **እድሜያቸው ከ 6-8 ወር ላሉ ህጻናት**

ጥ እድሜአቸው (ከ6 ወር አካባቢ ጀምሮ እስከ 8 ወር ያሉ) ህጻናት ከእናት ጡት ወተት በተጓዳኝ ተጨማሪ ምግብ መውሰድ ሲጀምሩ እንደመጀመሪያ ተጨማሪ ምግብ የሚሰጣቸው ምንድን ነው ? ይሄን ጥያቄ እያሰላሰሉ ለእርስዎ ልጅ እንደመጀመሪያ ተጨማሪ ምግብ የሰጡትን ነገር አስቀድመው ቢገልጹልኝ?

ጥ ሌላ ተጨማሪ ነገር ሰጥተውት ነበር? ሌላ ተጨማሪ ነገር በዚህ እድሜ ላሉ ህጻናት ይሰጣል?

ጥ ልጅዎ ምግብ በጀመረበት ወቅት እርስዎ ከባህል ወይም ከሀይማኖት ወይም ከሌሎች ምክንያቶች የተነሳ በፍፁም ለጨቅላ ህጻንዎት የማይሰጡት ነገር ግን ሌሎች ወላጆች ምግብ ለሚጀምሩ ህጻናት ልጆቻቸው የሚሰጧቸው የምግብ አይነቶች አሉ?

ጥ ሌላስ ተጨማሪ ነገር አለን?

ለ) **እድሜአቸው ከ9-11 ወር ላሉ ህጻናት**

ጥ በእርስዎ ልጅ እድሜ አካባቢ ያሉ ህጻናት (ከ9-11 ወር) በአብዛኛው እንዲመገቡ የሚደረገው ምን አይነት ምግብ ነው?

- ሌላ ተጨማሪ ነገር አለን?

- እርስዎ ለልጅዎ የማይሰጡት ነገር ግን ሌሎች ወላጆች በእርስዎ ልጅ እድሜ ክልል (ከ9-11 ወር) ላሉ ልጆቻቸው የሚሰጧቸው የምግብ አይነቶች አሉ?

ሐ) እድሜአቸው ከ12 - 17 ወር ላሉ ህጻናት

- እስኪ አሁን ደግሞ እድሜአቸው ከ12-17 ወር ስላሉ ህጻናት እናውራ - በዚህ እድሜ ክልል ውስጥ ላሉ ህጻናት የሚሰጡ የምግብ አይነቶች ምን ምን ናቸው? ይሄንን ጥያቄ እያሰላሰሉ እርስዎ በዚህ እድሜ ክልል ለሚገኘው ልጅዎ ምን ምን እንደሚመግቡ (እንደመገቡ) ይግለፁልኝ?

- ሌላ የሚጨምሩት ሀሳብ አለ?

- እርስዎ ለልጅዎ የማይሰጡት ነገር ግን ሌሎች ወላጆች በዚህ የእድሜ ክልል (ከ12-18 ወር) ውስጥ ለሚገኙ ልጆቻቸው የሚሰጧቸው የምግብ አይነቶች አሉ?

- አሁን ከዘረዘሩልኝ/ከጠቀሱልኝ የምግብ አይነቶች ውጪ ልጅዎት ህጻን እያለ (ከተጠቀሰው ከ12-17) ወር እድሜ በታች እያለ) እርስዎ የመገቡት ሌሎች የምግብ አይነቶች ነበሩ?

መ) እድሜአቸው ከ 18-23 ወር ላሉ ህጻናት

- እድሜአቸው ከአንድ አመት ተኩል ጀምሮ እስከ ሁለት አመት ድረስ ያሉ ህጻናት የሚመገቧቸውን ምግቦች እባክዎን ይንገሩኝ? ለቤተሰብ አባላት የሚዘጋጁ ምግቦችን ሳይሆን በዚህ እድሜ ክልል ላሉ (ከ18-23 ወር) ህጻናት በተለየ ሁኔታ ስለሚዘጋጁ ምግቦች እባክዎን ለይተው ይንገሩኝ?

- ምግቦቹ ለቤተሰቡ አባላት ባጠቃላይ ተሰርተው ለእነዚህ ህጻናት ሲባል ግን በተለየ መልኩ የሚዘጋጁም ሊሆን ይችላል በተለየ መንገድ የሚዘጋጁ እንደዚህ አይነት ምግቦች ያሉ ይመስልዎታል ? የራስዎን ልጅ እንዴት ይመግቡ እንደነበር በመግለጽ መጀመር ይችላሉ::

- ሌላ ተጨማሪ ሀሳብ አለዎት?

- እርስዎ ለህጻን ልጅዎ የማያዘጋጁት ወይም የማይመግቡት ነገር ግን ሌሎች ወላጆች ከ 18 -23 ወር ላሉ ልጆቻቸው የሚመግቧቸው ምግቦች አሉ?

የጨቅላ ህጻናት ምግብ _____ወር (የህጻኑን እድሜ ይሞላ)

የምግብ አይነት	አስተያየት

ሞዱል 2፡ የምግብ ዝግጅት እና አያያዝ

የምግብ አዘገጃጀት፣ የአመጋገብ ልምድ እና የምግብ አያያዝ እድሜያቸው _____ወር ለሆኑ ህጻናት

የምግብ ስም _____

ጥ ይህን የምግብ አይነት _____(የምግቡ ስም) የሚያዘጋጀው ማን ነው?

_____

ጥ ሌላ ሰው ይሄንን የምግብ አይነት አዘጋጅቶ ያውቃል?

_____

ጥ ይህ የምግብ አይነት በአብዛኛው የሚበስለው በምን አይነት መንገድ ነው? (ማገዶ፣ **ምን ህል ጊዜ** ይወስዳል፣ ይሄን የምግብ አይነት ለማዘጋጀት የፈላ ውሀ ይጠቀማሉ? (በምግቡ ውስጥ ምን ምን እንደሚጨመር ወይም ደግሞ ይህ የምግብ አይነት ከምን ከምን እንደሚሰራ ማወቅ ስለሚጠቅም ይሄን ሀሳብ በደንብ አውጣጣ)

_____

ጥ ለአንድ ጊዜ ብቻ የሚበላ መጠን ነው የሚዘጋጀው (የሚገዛው) ወይስ በዛ ተደርጎ ነው የሚዘጋጀው ከዛም ይቀመጥ እና በሁዋላ ተቀንሶ ለምግብነት ይቀርባል?

_____

ጥ ይሄ የምግብ አይነት የሚቀመጥ ከሆነ በምን አይነት እቃ ውስጥ ይቀመጣል? የት ይቀመጣል? ለምን ያህል ጊዜስ ይቀመጣል?

_____

ጥ ይህ የምግብ አይነት ለህጻኑ በምን አይነት መልኩ ይሰጣል? (ለምሳሌ በማንኪያ፣ በጡጦ፣፣ አስቀድሞ በእናት አፍ ውስጥ ደቆ፣ ለህጻኑ በራሱ እጅ እንዲበላ ይሰጠዋል)

_____

ጥ ይህን ምግብ በአብዛኛው ህጻኑን የሚመግበው ማን ነው?እናት በአቅራቢው በማትኖርበት ጊዜ ህጻኑን ህጻኑን የሚመግበው ማን ነው?

_____

ጥ ይህን የምግብ አይነት ከህጻኑ ሌላ የሚመገብ የቤተሰብ አባል አለ ወይስ ምግቡ የሚዘጋጀው (የሚገዛው) ለህጻኑ ብቻ ነው?

_____

ጥ ይህ የምግብ አይነት ለሌሎች የቤተሰብ አባላት ጭምር የሚዘጋጅ ከሆነ በእንዴት ያለ ሁኔታ ነው ለህጻኑ የሚሰጠው? (ቀጠን ብሎ፣ ቅመም ሳይጨመር ወይም ትንሽ ቅመም ብቻ ኖሮት፣ ደቀቅ ተደርጎ ወዘተ) ለህጻኑ የሚሰጠው መጠንስ? ከመጠን ጋር በተያያዘ ለህጻኑ የሚጠሰዉ እና ከፍ ላሉት ታላላቆቹ የሚሰጠዉ የምግብ መጠን እኩል ነዉ?_____

ሞዱል 3፡ የምግብ መገኛ ምንጮች

የህጻኑ እድሜ _____**(በወራት ይሞላ)**

ክፍል ፡ የምግብ መገኛ ምንጮች

የምግቡ ስም _____

ጥ በእዚህ አካባቢ ያለ ቤተሰቦች ጨቅላ እና ታዳጊ ህጻናቶችን የሚመግቧቸውን የምግብ አይነቶች ከየት እንደሚያገኙ እባክዎን ይንገሩኝ? የትኞቹን የምግብ አይነቶች ያመርታሉ? የትኞቹን ከሌላ ቤተሰቦች ይገዛሉ? የትኞቹን በአካባቢው ካለ ገበያ ይገዛሉ? የትኞቹን ከሱቅ ወይም ከኪዮስክ ይገዛሉ? የትኞቹን ከጤና ጣቢያ ወይም ከሌሎች ፕሮግራሞች (ሩቅ ስፍራ ያሉ ሊሆኑ ይችላሉ) ያገኛሉ?የምግብ መገኛዎች (ምንጮች)

_____

ጥ ተጠያቂዋ ከአንድ በላይ ምንጮች ከጠቀሰች የሁለቱ የምግብ መገኛ ምንጮች ልዩነት ምንድነው? አንዱ የምግብ መገኛ ምንጭ ከሌላው የምግብ መገኛ ምንጭ የሚመረጥበት ምክንያት ምንድነው?

_____

ጥ ይሄን የምግብ አይነት በአብዛኛው ከየት ታገኛላችሁ (ትገዛላችሁ)? ይሄ የምግብ አይነት አሁን ከጠቀሱልኝ ቦታ በተጨማሪ የሚገኝበት ወይም የሚገዛበት ሁኔታ አለ?

_____

ሞዱል 5፡ ከህጻናት እንክብካቤ ጋር የጨቅላ እና ታዳጊ ህጻናት ወላጆች/ተንከባካቢዎች የሚያጋጥማቸው ችግሮች

ጥ አብዛኛዉ ቤተሰብ ልጅ ሲያገኝ ደስታዉ ወደር የለዉም፡፡ ነገር ግን ልጆች እንክብካቤ ይፈልጋሉ፡፡ አንድ ቤተሰብ ልጅ ሲኖረዉ የሚያጋጥሙት ችግሮች ምን ምን ናቸዉ?

ጥ ሌላስ ?

(ዝርዘሩን በመመልከት ከምግብና አመጋገብ ጋር የተያያዙ ችግሮች ካልተጠቀሱ ከህጻናት ምግብና አመጋገብ ጋር የተያያዙ ጋር በተያያዘ ወላጆች የሚያጋጥሟቸው ችግሮች ጠይቂ)

ከህጻናት እንክብካቤ ጋር በተያያዘ ወላጆች የሚያጋጥሟቸው ችግሮች

ወላጆች የሚያጋጥሟቸው ችግሮች ዝርዝር	አስተያየት
1.	
2.	
3.	
4.	

ሞዱል 6፡ በጨቅላ እና ታዳጊ ህጻናት ምግብ እና አመጋገብ ዙሪያ ያሉ ችግሮች

- በጨቅላ እና ታዳጊ ህጻናት ከሚያጋጥማቸው ችግሮች ዉስጥ በተለይ ከአመጋገብ ላይ የሚያጋጥማቸው ችግሮች ላይ ትኩረት አድርገን እንወያያለን፡፡ አንድ ቤተሰብ ----------(በአመጋገብ ላይ የሚያጋጥማቸው ችግሮች) ሲኖረዉ ምን ምን ያደርጋሉ?

- ችግሩን ለመፍታት ማን ይረድዎታል?

ከምግብ እና አመጋገብ ጋር በተያያዘ ጨቅላ እና ታዳጊ ህጻናት የሚገጥሚቸው ችግሮች

ከምግብ እና አመጋገብ ጋር የተያያዙ ችግሮች	ውይይቶች/ አስተያየቶች
1	
2	
3.	
4	

ሞዱል 7: ከጤና እና ከምግብ ጋር የተያያዙ አመለካከቶች

ክፍል 1፡ የህጻናትን ጤንነት ለመጠበቅ የሚያስችሉ መንገዶች ዝርዝር

- *ከዚህ ቀደም ብሎ ስለልጆች የአመጋገብ ችግር ተወያይተናል፡፡ ከዚህም በመቀጠል ቤተሰብ የህጻናትንን ጤንነት ለመጠበቅ የሚደረጉ ነገሮችን ቢነግሩኝ?*

- በውይይቱ ወቅት ስነምግብ ካልተጠቀሰ *“ስለ ምግብ አልጠቀሱልኝም፡፡ቤተሰብ ህጻናትንን በጤንነት ለመጠበቅ ከምግብ ጋር የተያዘ የሚደረግ ነገር ይኖራል?”*

ወላጆች የህጻናት ልጆቻቸውን ጤና ለመጠበቅ የሚያከናውኗቸው ተግባራት	ቅጽበታዊ አስተያየቶች
1.	
2.	
3.	
4.	

ክፍል 2፡ ከልጆች ምግብ እና አመጋገብ ጋር በተያያዘ የልጆቻቸውን ጤና ለመጠበቅ በወላጆች የተወሰዱ እርምጃዎች

- ከስነምግብ ጋር በተያያዙ የተጠቀሱትን እርምጃዎች አንድ በአንድ በመጥቀስ ለምን አስፈላጊ እንደነበሩ በዝርዝር ጠይቂ፡፡

ከምግብ እና አመጋገብ ጋር በተያያዘ ልጆችን ጤናማ ለማድረግ የተወሰዱ እርምጃዎች	እነኚህ እርምጃዎች የልጆችን ጤናማነት ለማስጠበቅ ለምን እንደ አስፈላጊ እርምጃ እንደተወሰዱ የሚያስረዳ አስተያየት (ተጨማሪ አስተያየቶች ካሉ ይጠቀሱ)
1.	
2.	
3.	
4.	

ክፍል አራት፡ ለልጆች ተገቢ (ጥሩ) ያልሆኑ ምግቦችን መዘርዘር እና መወያየት

ጥ በዚህ ክፍል በአካባቢዉ ወይም በማህበረሰቡ የሚገኙ ነገር ግነ ለልጆች ተገቢ (ጥሩ) ያልሆኑ ምግቦችን መዘርዘር እና መወያየት ይሁናል፡፡ለልጆች ተገቢ (ጥሩ) ያልሆኑ ምግቦችን ቢነግሩኝ?

የምግቡ አይነት	ለልጆች ተገቢ ያልሆነበት ምክንያት
1.	
2.	
3.	
4.	

አስተያየት መግለጫ፡ ቁልፍ ተጠያቂዎች በተጨማሪ የሚሰጡት አስተያየት ካለ ይገለፅ፡

Caregiver Respondents Interview Guide

Module 1: Demographic and Socio-economic characteristic

Region: _____ Sub-city: _____

Woreda: _____ Kebele: _____Gote _____

Category in months: 6-8: ☐ 9-11: ☐ 12-17: ☐ 18-23: ☐

Part A 1: Household composition and characteristics

Interviewer's name: _____

Caregiver name: _____ID. No.: _____

Telephone of caregiver: _____

Caregiver marital status: _____

Information about index child

Index child's name: _____ Date of birth: _____

Age in months: _____ Sex: _____

Household size: _____

Household* characteristics

Name	Age	Sex 1.Male 2. Female	Relationship to respondent	Education	Main Occupation	Work hours per week (excluding house work)

*Household= Members living together and sharing the same pot.

**Record age in months for the <5 years and complete years for persons >5years old.

Relationship to respondent: 1. Self, 2. Husband, 3. Child, 4. Relatives, 5. House help, 6. Father, 7. Mother

Part A 2: Additional information on respondent's work and child care arrangements

(If the respondent works away from home, ask about alternate care arrangements)

Q *Who takes care of the IYC?*

_____

Q *Where is the IYC taken care of?*

_____

Q *Approximate number of hours per day the IYC is in this care.*

_____

Q *What are the specific arrangements for the feeding of the IYC?*

_____

Part B: Household Wealth ranking

1. **Income sources**

_____

2. **Income level**

Please indicate the level of income earned by the household in last one month.

a. 100-199= ☐
b. 200-299= ☐
c. 300-399= ☐
d. More than 400= ☐

3. **Materials used to make the house:**

A) Wall:

1. Mud 2.Wood 3.Stones

4. Iron sheets 5.Wood off cuts 6. Sticks

7. Other specify _____

B) Roof:

1. Iron sheets 2.Grass 3.Concrete

4. Tiles 5.Sticks 6. Other _____

C) Floor:

1. Mud 2. Wood 3.Concrete

4. Tiles 5.Other _____

4. **What is your main source of drinking water?**

1. Tap/Piped Water 2. Rain Water 3. Borehole/hand pump

4. Protected Shallow Well 5. Unprotected Shallow Well 6. River

7.Others (specify) _____

5. **Do you have a toilet/latrine in your home or property?** 1. Yes ☐ 2. No ☐

If yes, specify

1. Traditional/ Pit latrine 2. VIP toilet 3.Compost Latrine

6. **Please indicate your main source of fuel**

1. Firewood 2. Cow dung 3. Charcoal

4. Kerosene 5. Dry leaves/dry grasses/crops residue

6.Other (specify) _____

7. **Please indicate your main source of light**

1. Torch 2. Firewood 3. Kerosene tin lamp

4. Kerosene hurricane lamp 5. Electricity 6. Solar

7. None 8. Other (Specify) _____

Module 2: IYC 24 recall (yesterday day and night) and Additions to food and Water

Purpose of the module:- to generate a picture of index child food intake pattern

This module uses "open-ended questions" with guided discussion method

Part 1: 24 hour recall (yesterday day and night)

Q *"As I already told you, this study is concerned with infants and young children. But we also want to know something about food and eating in the family. Let us begin by talking about the foods_____ (index child) eats,*

Q *"I'd like to start by asking what foods your child _____ (name) ate yesterday. Was yesterday a usual day?"*

Q *Can you tell me why yesterday was not a usual day?"*

Q *If yesterday was not the usual day, was the day before that a usual day?"*

Q *'Was the child sick yesterday?'(If he/she was sick get the recall for the day before. If he/she was not sick proceed with the questions for yesterday day and night).*

Q *About what time _____ (name) the child waked up?*

Q *What was the first food he/she ate?*

Q *About what time was it when (name) ate (first item)?*

Q *Does he/she eat at the same/different time with other family members? When is the meal time?*

Q *Who fed him/her this food?*

Q *Did anyone else in the household also eat this food? Who else ate this food?*

Q *How do you give his/her meal (the same plate, different plate)?*

Q *Did (name) have any drink after eating this food? What did he/she drink? Did anyone else have this drink?*

Q *What was the last thing he/she ate before going to sleep*

Recording Form for 24 hour recall of foods and drinks consume

Caregiver ID No: _____

Food/ Dish Name/Drink	Time of Day	Description of food/Dish	Who fed the child this food	Who else ate it

Additional Questions to ask:

Q *Did the child breastfeed in the past 24 hours? 1. Yes 2. No*

- *If yes, number of times breastfed:* _____

Q *Supplement given (cod liver oil, Vitamin): 1. Yes ☐ 2. No ☐*

Q *Name or description of supplement:*

_____

Q *'When you prepare tea for your child? How strong do you make it?'*

_____

Q *'When feeding your baby foods that are a little hard to chew do you ever help out by chewing them a little bit first?'*

_____

Q *Does the baby eat all the food he/she is served at a time? If no, what happens to the leftover food the baby does not eat?*

_____

Record any comment the mother makes about foods.

Module 3: Types of childcare-giving problems faced by parents of infants and young children

Purpose of the module: - to generate a list of problems that caregivers face

This module uses free listing method

Q *"Most people are very happy when they have a new child. Even if children bring so many blessings into our lives, they need a lot of care. I would like to ask you now about problems that families face when they have an infant or young child. Can you list for me the kinds of problems that you have experienced with your child?"*

Q *"Is there anything else?"*

(If there is no food or feeding-related problems, ask specifically whether families have any problems around food and feeding. (Clearly indicate these were probed answers))

Types of care-giving problems faced by parents of IYC

Free listing of problems parents face	Comments

Module 4: Food and feeding-related problems/challenges experienced by the caregiver

Purpose of the module: - to obtain information about the personal experiences of caregiver respondents concerning food and feeding-related problems
-to explore how they deals with other non-food related problems

This module uses "open-ended questions" with guided discussion method

Part 1: Recording Form for Food and Feeding Related Challenges

Caregiver name _____ Caregiver ID _____

Q *We have talked a lot about foods that are good for children and help them to be healthy. Are there any foods that you feel are bad for _____ (index child)?*

_____

Q *Are these foods bad for all babies and young children or only for your child? If only for the specific child, ask "Why is _____ (food) bad for your child*

Q *Many mothers have some challenges when it comes to food and feeding. Have you had any problems or worries about this?"*

Issue 1:

Issue 2

Issue 3

Part 2: Recording Form: How caregivers deal with non-food and feeding problems

Q *'You have just told me about what you do when you face feeding and food problems with your child, now I would like to know more about how you deal with the other problems you told me about earlier. Let's start with (first problem)'.*

Q *'Is there anything you do to help this problem?*

Q *Is there anyone who can help you with this type of problem?*

Q *Is there anywhere that you can go to get help?'*

Probe around health issues like contact with health facilities and health seeking behavior (e.g. do they go to the health center for help, when, why/why not etc.). Record the discussion below.

Problem 1:

Problem 2:

Problem 3:

Module 5: Caregiver perceptions of characteristics of IYC foods

Purpose of the module:- to understand how caregivers view specific IYC foods in relation to their basic cultural values

This module uses "open-ended questions" with guided discussion method

To prepare the questionnaire five value dimensions are selected from the previous studies. However, it will be modified based on the result of key informant interview.

Part 1 Recording Form. Identifying the Meaning of Value Dimensions

Caregiver name _____ ID Number _____

Cost:

Q *'I would like to understand how you see cost in relation to what you feed your child or what you do to take care of him/her. '*

_____

Availability

Q *'How do you see availability in relation to what you feed your child or what you do to take care of him/her?' What is its influence on how you feed and care for your child?'*

_____

Mental Development

Q *'What do you understand by mental development of the child? How does this relate to what you feed your child or what you do to take care of him/her?'*

_____

Active Child

Q *'When someone says a certain child is active, what do you understand by that? How does this relate to what you feed your child or what you do to take care of him/her?'*

_____

Protects Child Health

Q *'What kind of things come to your mind when you think of protecting a child's health? How does this idea relate to what you feed your child or what you do to take care of him/her?'*

_____

Part 2: Factors that influence what you feed your IYC

Cost

Q *"How important is cost when it comes to what you feed your child or what you do to take care of him/her? If you think it is very important put it here (high end 5) or if it isn't very important put it here (low end 1). You can also place it in between"*

Nutrient content of food

Q *"How important is the nutrient content of food when it comes to what you feed your child or what you do to take care of him/her? If you think it is very important put it here (high end 5) or if it isn't very important put it here (low end 1). You can also place it in between"*

Mental Development

Q *"When it comes to what you feed your child or what you do to take care of him/her, how important is it for you that the food or action help the child's mental development? If you think it is very important put it here (high end 5) or if it isn't very important put it here (low end 1). You can also place it in between,"*

Body weight

Q *"When it comes to what you feed your child or what you do to take care of her/him, how important is it for you that the food help the child to gain body weight? If you think it is very important put it here (high end 5) or if it isn't very important put it here (low end 1). You can also place it in between",*

Protects Child Health

Q *"When it comes to what food you feed your child or what you do to take care of her/him, how important is it for you that the food or action protects the child's health? If you think it is very important put it here (high end 5) or if it isn't very important put it here (low end 1). You can also place it in between"*

Recording form: Factors influencing what IYC is fed –Rating of dimensions

Rating	Dimensions	Comments
1.		
2		
3		

Part 3: Rating specific foods and items/actions in relation to the value dimensions

Rating of foods _____ Name of caregiver: _____ ID No._____

Please this table for all 5 value dimensions

Food ID	Name	Rating					Comments
		5	4	3	2	1	

Dimension: Cost

Q *"If you think this is a very costly food for babies, put it here.", indicating the slot at the negative end of the board. "If you think it is not costly, put it here," indicating the far positive side. "If you think it is somewhere in between, put it in one of the other slots.*

Dimension: Nutrient content of food

Q *"If you think this food is nutritious, put it here.", indicating the slot at the positive end of the board. "If you think it is not nutritious, put it here," indicating the far negative side. "If you think it is somewhere in between, put it in one of the other slots.*

Dimension: Mental Development

Q *""If you think this food is very good for mental development of babies, put it here." indicating the slot at the positive end of the board. "If you think it is not very good for mental development of babies, put it here," indicating the far negative side. "If you think it is somewhere in between, put it in one of the other slots.*

Dimension: Body weight

Q *""If you think this food is very good child's body weight, put it here.", indicating the slot at the positive end of the board. "If you think it is not good, put it here," indicating the far negative side. "If you think it is somewhere in between, put it in one of the other slots.*

Dimension: Protects Child Health

Q *"If you think this food protects child health, put it here." indicating the slot at the positive end of the board. "If you think it does not protect child health, put it here," indicating the far negative side. "If you think it is somewhere in between, put it in one of the other slots.*

ከወላጆች/ተንከባካቢዎች ጋር በጥልቀት የሚደረግ ቃለ መጠየቅ

ሞዱል ፤ የማህበራዊና ስነ-ህዝብ መረጃ

ክልል _____ክፍለ ከተማ_____

ወረዳ _____ቀበሌ _____ ጎጥ _____

የህጻኑ የእድሜ ክልል (በወራት): 6-8: ☐ 9-11: ☐ 12-17: ☐ 18-23: ☐

ክፍል ሀ ፤ የቤተሰብ አወቃቀር እና ልዩ ገጽታ

የቃለ መጠይቅ አቅራቢ ስም _____

የወላጅ /ተንከባካቢ/ ስም_____መለያ ቁጥር _____

የወላጅ /ተንከባካቢ/ ስልክ ቁጥር (ተገቢ ከሆነ) _____

የእናት/ተንከባካቢ የጋብቻ ሁኔታ _____

በጥናቱ ውስጥ የተካተተው ህጻን ሁኔታ

የተጠያቂ ህጻን ስም _____ የትውልድ ቀን _____

እድሜ (በወራት) _____ ጾታ _____

አጠቃላይ የቤተሰብ ብዛት _____

የቤተሰብ ሁኔታን መመዝገቢያ ቅጽ

የቤተሰብ አባል ስም	እድሜ	ጾታ 1 ወንድ 2 ሴት	ከተጠያቂ ጋር ያለ ዝምድና/ ግንኙነት	የትምህርት ደረጃ	የስራ ሁኔታ	በሳምንት ውስጥ በስራ ላይ የሚያሳልፉት ሰአት (የቤት ውስጥ ስራን አያካትትም)

***የቤተሰብ አባላት = በቤት ውስጥ አብረው የሚኖሩ እና ከአንድ ገበታ የሚመገቡትን የቤተሰብ አባላት ያጠቃልላል፡፡**
***እድሜያቸው ከ 5 አመት በታች ያሉ የቤተሰብ አባላት እድሜ በወራት ከ 5 አመት በላይ ያሉትን በሙሉ ዓመት ይመዝግቡ፡፡**

*ከተጠያቂ ጋር ያለ ዝምድና 1. ተጠያቂ 2. ባል 3. ልጅ 4. ዘመድ
5. በቤት ውስጥ ያለ ሠራተኛ 6. አባት 7. እናት

ክፍል ሀ 2 ፡ ተጠያቂዋ የስራ ሁኔታዋን እና የህጻን ልጇን እንክብካቤ በእንዴት አይነት ሁኔታ እንደምታጣጥም ለማዎቅ ተጨማሪ መረጃ

(ተጠያቂዋ እናት ስራዋን ለማከናወን ከቤቷ ውጪ የምትሄድ ከሆነ የሚከተሉትን ጥያቄዎች ጠይቂ፡-)

1. አንቺ ወደ ስራ በምትሄጂበት ወቅት ህጻኑን ማን ይንከባከበዋል?

_____

2. ለህጻኑ እንክብካቤ የሚደረግለት የት ነው?

_____

3. በቀን ውስጥ በአማካኝ ህጻኑ ለምን ያህል ሰዓት በዚህ እንክብካቤ ውስጥ ይቆያል?

_____

4. የህጻኑን አመጋገብ በተመለከተ በተለየ መልኩ የሚደረጉ ነገሮች ምን ምንድን ናቸዉ?

_____

ክፍል ለ ፡ የቤተሰብ የገቢ ሁኔታ መለኪያ

1. የገቢ ምንጮች

ይህ ቤተሰብ በምንድነው የሚተዳደረው?

2. የገቢ መጠን

የቤተሰቡ ጠቅላላ የወር ገቢ መጠን ስንት ነው?_____

3. የመኖሪያ ቤታቸው የተሰራባቸው ቁሳቁሶች

እባክዎን የመኖሪያ ቤትዎ በዋናነት ከምን ከምን እንደተሰራ ይንገሩን?

ሀ.ግድግዳ

1 ከጭቃ 2 ከእንጨት 3 ከድንጋይ

4 ከቆርቆሮ 5 ከእንጨት ስብርባሪ 6 ከጭራሮ

7 ሌላ ካለ ይገለጽ _____

ለ. ጣሪያ (የቤት ክዳን)

1 ቆርቆሮ 2 ሳር 3 አርማታ

4 የቤት ክዳን ንጣፍ 5 ጭራሮ 6 ሌላ ካለ ይገለጽ _____

ሐ.ወለል

1 ጭቃ 2 እንጨት (ሳንቃ) 3 አርማታ

4 የወለል ንጣፍ 5 ሌላ ካለ ይገለጽ _____

4. ለመጠጥ የምትጠቀሙበትን ውሃ የምታገኙት ከየት ነው?

1 ቤት ድረስ ከሚመጣ ቧንቧ 2 የዝናብ ዉሃ 3 የጉድጓድ ዉሃ

4 የተከለለ ምንጭ 5 ያልተከለለ ምንጭ 6 ከወንዝ

7 ሌላ ካለ ይገለጽ _____

5. **በቤትዎ (በቅጥር ጊቢዎ) ውስጥ የመጸዳጃ ቤት አለ?** 1 አዎ ☐ 2 አይደለም ☐

ሀ. መልሱ አዎነ ከሆነ

1 ባህላዊ/ የጉድጓድ መጸዳጃ ቤት 2 የተሻሻለ መጸዳጃ ቤት 3 የኮምፖስት መጸዳጃ ቤት

6. እባክዎን ማገዶ በዋናነት የሚያገኙበትን ምንጭ ይንገሩን ወይም ማገዶን በዋናነት ከየት ያገኛሉ?

1 እንጨት 2 የከብቶች ኩበት 3 ከሰል

4 ነጭ ጋዝ 5 ደረቅ ቅጠል/ደረቅ ሳር/አገዳ 6 ሌላ ካለ ይገለጽ _____

7. ለቤት ውስጥ የሚሆን ብርሀንን በዋነኝነት ከየት ያገኛሉ?

1 የእጅ ባትሪ 2 የማገዶ እንጨት 3 በጋዝ የሚሰራ ኩራዘ

4 በጋዝ የሚሰራ ፋኖስ 5 የኤሌክትሪክ ሀይል 6 የጸሀይ ጨረር

7 ምንም 8 ሌላ ካለ ይገለጽ _____

ሞዱል 2: የጨቅላ እና ታዳጊ ህጻናት የአመጋገብ ሁኔታ ባለፉት 24 ሰዓታት ዉስጥ (ትላንት ቀንና ማታ)

ክፍል ፣ ፡የጨቅላ እና ታዳጊ ህጻናት የአመጋገብ ሁኔታ ትላንት ቀን እና ማታ

- እባክዎን ህጻን ልጅዎ ትላንት ቀን እና ማታ ምን ምን እንደተመገበ ይግለጹልኝ?በመጀመሪያ ግን ትላንት የተለየ ቀን ነበር?
    - *የተለየ ቀን ነበር ካሉ ያ ቀን የተለየ የሆነበትን ምክንያት ይጠይቁ እና ከዛ በፊት ስላለው ቀን ያጣሩ*
    - *የተለየ ቀን ካልነበረ ወደሚቀጥሉት ጥያቄዎች ይሂዱ*
- ህጻኑ በትላንትናዉ ቀን ታሞ ነበር?

(*ህጻኑ በትላንትናዉ ቀን ታሞ ከነበር ከዛ በፊት ስላለው ቀን ያጣሩ ካልሆነ ግን ወደሚቀጠለዉ ጥያቄ ይለፉ)*

- በትላንትናው ቀን ልጅዎ _____ ምን ምን ተመገበ?
- ለመጀመር ህጻን _____(የህጻኑ ስም) ትላንት ከእንቅልፉ የተነሳው በስንት ሰዓት ነበር?
- ህጻኑ ከእንቅልፉ ከተነሳ በኋላ በመጀመሪያ የተመገበው ምን ነበር?
- በስንት ሰአት ላይ ነበር የተመገበው?
- ህጻኑ የሚመገበዉ የተቀረዉ የቤተሰብ አባል በሚመገብበት ተመሳሳይ ሰዓት ነዉ ዎይስ በተለየ ሰዓት ነዉ?
- በአብዛኛዉ ህጻኑ የሚመገብበት ሰዓት የትኛዉ ሰዓት ነዉ?
- ማን ነበር ህጻኑን የመገበው?
- ህጻን _____ (የህጻኑ ስም) የተመገበውን ይህን የምግብ አይነት የተመገበ ሌላ የቤተሰብ አባል ነበር? ሌላስ ማን ነበር?
- ምግቡ ለህጻኑ የሚሰጠዉ እንዴት ነዉ? (ለህጻኑ በተለየ ሳህን፣ ከተቀረዉ የቤተሰብ አባል ጋር በአንድነት ወዘተ)

(የምግቡን አይነት በሚገባ ይጠየቅ። ለምሳሌ ወጥ ነው የሚል ምላሽ ቢያገኙ ወጡ ከምን ከምን እንደተሰራ መጠየቅ ፡ ህጻኑ የተመገበው ምግብ ከገበያ የተገዛ ከሆነም አይነቱን መጠየቅ)

- ህጻን _____(ስም) ከተመገበ በኑዋላ የጠጣው (ፈሳሽ) ነገር ነበር?
- ህጻኑ ከጠጣ የጠጣው ፈሳሽ ምን ነበር? ይህን የሚጠጣ ነገር_____(የመጠጡ ስም) የጠጣ ሌላ የቤተሰብ አባል ነበር?
- የበለጠ መረጃ ለማግኘት "ህጻኑ ከመተኛቱ በፊትስ የተመገበው ምግብ ይህው ብቻ ነበር?" በማለት ይጠይቁ

(**ማስታወሻ፡** መተኛት እዚህ ጋር የሚያመለክተው እስከሚቀጥለው ማለዳ ድረስ ያለውን እንቅልፍ ነው)

ባለፈዉ ቀን እና ማታ ህጻኑ የወሰዳቸዉን ምግብ እና የሚጠጡ ነገሮች *መመዝገቢያ ቅጽ*

የምግቡ/የመጠጡ ስም	ምግቡ/መጠጡ የተወሰደበት ሰዓት	የምግቡ አይነት/መግለጫ	ይህን ምግብ ህጻኑን የመገበዉ ማን ነበር?	ይህን ምግብ ከህጻኑ ሌላ ማን ተመገበ?
1)				
2)				
3)				
4)				
5				

ጥ ህጻኑ ባለፉት 24 ሰዓታት ውስጥ የእናት ጡት ወተት ጠብቶ ነበር? 1 አዎ 2 አይደለም

- መልሱ አዎን ከሆነ ምን ይህል ጊዜ ጠባ? _____

ጥ ሌላስ ለህጻኑ የተሰጠው ተጨማሪ ነገር ነበር? (የአሳ ዘይት፣ ቫይታሚን ወይም ምግብ ላይ የሚነሰነሱ ነጥረ ነገሮች)

1 አዎ ☐ 2 አይደለም ☐

---

*ካልተጠቀሰ ፡-

ጥ ለህጻኑ ሻይ ይሰጥ እንደሆነ ይጠይቁ (ሻዩ ከምን ጋር እንደሚሰጥ፣ ምን ያህል ሻይ ቅጠል እንደሚገባበት ፣ወተት ይጨመርበት እንደሆነ፣ ሌላ ተጨማሪ ነገር ይገባበት እንደሆነ ፣ ለህጻኑ የሚዘጋጀዉ ሻይ ለሌላዉ የቤተሰብ አባላት/ለትልልቅ ሰዎች ከሚዘጋጀዉ የተለየ መሆን እና አለመሆኑን በሚገባ ይዉጣጣ) ::

ጥ ህጻን ልጅዎን በሚመግቡበት ጊዜ ለማላመጥ/ለማኘክ የሚያስቸግሩ ወይም የሚከብዱ የምግብ አይነቶችን አስቀድመዉ በእርስዎ አፍ ዉስጥ አድቅቀዉ ወይም አላምጠዉ የሰጡበት ሁኔታ አለ?

ጥ ህጻኑ ለአንድ ጊዜ ምግብነት የሚዘጋጀውን ምግብ ጨርሶ ይመገባል? መልሱ አይደለም ከሆነ :- ከህጻኑ የሚተርፈዉ ምግብ ምን ይደረጋል?

ጥ የተረፈዉን ምግብ ለህጻኑ ተመልሶ የማይሰጥበትን ምክንያት በሚገባ አጣሪ (ከምግብ መበከል ጋር የተያያዘ ነዉ? ከምግቡ መቀዝቀዝ ጋር የተያያዘ ነዉ? ከጀርም ወይም ሌሎች ነገሮች ጋር የተያያዘ ነዉ? ከዚህ ሃሳብ ጀርባ ያለዉን ምክያት በሚገባ ይዉጣጣ)

አስተያየት ማስፈሪያ ቅጽ

ተጠያቂዋ ከምትዘረዝራቸዉ የምግብ አይነቶች ጋር የምታነሳቸዉን ሃሳቦች ለማስፈር ይጠቀሙ::

ሞዱል 3 ፡ ከህጻናት እንክብካቤ ጋር በተያያዘ የጨቅላ እና ታዳጊ ህጻናት ወላጆች/ተንከባካቢዎች የሚያጋጥሟቸው ችግሮች

- “ቤተሰቦች ህጻናት ልጆች ሲወለዱላቸው ደስታቸዉ ወደር የለውም ምክንቱም ህጻናት በረከትን ወደ ህይወታችን የሚያመጡ ፍጥረታት ስለሆኑ ነዉ፡፡ ነገር ግን ወላጆች/አሳዳጊዎች ህጻናትን ለማሳደግ እና ለመንከባከብ ብዙ ኃላፊነቶችን ይሸከማሉ፡፡ ቤተሰቦች ህጻናት ልጆችን ሲያሳድጉ ስለሚያጋጥሟቸዉ ችግሮች እባክዎን ይንገሩኝ? እርስዎ ህጻን ልጅዎን ሲያሳድጉ የገጠመዎት ልምድ/ ችግሮች እባክዎን ያካፍሉኝ?”
- “ሌሎች ችግሮችንም እባክዎ ይዘርዝሩልኝ?”
- ከምግብ እና አመጋገብ ጋር በተያያዘ ወላጆች/ አሳዳጊዎች ምን ምን አይነት ችግሮች ሊገጥሟቸው ይችላሉ?

(.ተጠያቂዋ ከዚህ በፊት ከዘረዘራቸው ዝርዝሮች ውስጥ ከምግብ እና ከአመጋገብ ጋር የተያያዙ ችግሮች ካልተጠቀሱ)(በዚህ ጥያቄ የተገኙ ምላሾች ከተጠያቂዋ በቀጥታ የተገኙ (Spontaneous) ምላሾች ያለመሆናቸው መጻፍ አለበት)

ከህጻናት እንክብካቤ ጋር በተያያዘ ወላጆች የሚያጋጥሟቸው ችግሮች ዝርዝር (Free listing)

ወላጆች የሚያጋጥሟቸው ችግሮች ዝርዝር	አስተያየት

ሞዱል 4፡ በጨቅላ እና ታዳጊ ህጻናት ምግብ እና አመጋገብ ዙሪያ ወላጆች/ተንከባካቢዎች የሚያጋጥሟቸው ችግሮች

ከምግብ እና አመጋገብ ጋር የተያያዙ ችግሮች መመዝገቢያ ቅጽ

- ቀደም ብሎ ለህጻናት ጥሩ ስለሆኑ እና ጤናቸውን ለመጠበቅ ስለሚጠቅሙ የምግብ አይነቶች ተወያይተናል፡፡ ለልጅዎ ---------- (የህጻኑን ስም ይጥቀሱ) መጥፎ ናቸው ብለው የሚያስገቧቸው ምግቦች አሉ?

_____

- እነዚህ የምግብ ዓይነቶች መጥፎ የሆኑት ለሁሉም ጨቅላ እና ታዳጊ ህጻናት ነው ወይስ ለእርስዎ ልጅ ብቻ?

_____

- ምግቦቹ መጥፎ የሆኑት ለእሳቸው ልጅ ብቻ ከሆነ ይህ ምግብ ለእርስዎ ልጅ ለምን መጥፎ ሆነ?

_____

- ከምግብ እና አመጋገብ ጋር በተያያዘ እናቶች ብዙ ጊዜ የሚገጥሟቸዉ መሰናክሎች/እግሮች አሉ፡፡ እርስዎ ከዚህ ጋር የተያያዙ ችግሮች/የሚያስጨንቁ ነገሮች ገጥምዎት ያዉቃል?

_____

ችግር 1

_____

ችግር 2

_____

ችግር 3

_____

ክፍል 2፡

- ቀደም ሲል የህጻኑን ምግብ ከመግዛት ጋር በተያያዘ ችግሮች ለመፍታት ምን አይነት ዘዴዎችን እንደተጠቀሙ ነግረውኛል፡፡ አሁን ደግሞ የህጻኑን ከምግብ ጋር ያልተያያዙ ችግሮች እንደሚያጋጥምዎት ነግረውኛል ስለዚህ ጉዳይ ተጨማሪ ነገር ቢነግሩኝ?

_____

- እነዚህን ችግሮችስ ለመፍታት ምን አይነት ዘዴዎችን ተጠቀሙ?

_____

- እነዚህን ችግሮች ለመፍታት የረዳዎት (ያገዘዎት) ሰው ነበር?

(እነዚህን ችግሮችስ ለመፍታት ጤና ተቐም ጋር ያለዉን አስተዋዕኦ፣ጤና ተቐምን የመጠቀም ባህሪ ወዘተ ጠይቂ)

ችግር 1

_____

ችግር 2

_____

ችግር 3

ሞዱል 5፡ ወላጆች/ተንከባካቢዎች ስለ ህጻናት ምግብ ባህሪ ያላቸው አመለካከት

ይህን ቃለ መጠይቅ ለማዘጋጀት ከዚህ በፊት የተሰሩ ጥናቶች የተጠቀሙባቸውን የእሴት መመዘኛ የወሰድን ሲሆን ከቁልፍ ተጠያቂዎች በተገኘ ውጠት መሰረት ማሻሻያ የሚደረግ ይሆናል::

ክፍል 1 ፡ የእሴት *መመዘኛዎችን* ትርጉም መለየት/መረዳት *መመዝገቢያ* ቅጽ

ጥ ቀደም ብለን እርስዎ ለህጻን ልጅዎ ስለሚሰጡት የምግብ ዓይነቶች ተወያይተናል፡፡ አሁን ደግሞ ለህጻን ልጅዎ ምግብ ለመመገብ ሲያስቡ ግምት ዉስጥ ስለሚከቱዋቸዉ ጉዳዮች እንወያይ ::

(እነዚህን የእሴት መመዘኛ ካርዶች በተጠያቂ ፊት ለፊት ዘርጓቸው)

ዋጋ/ወጪ

ጥ በመጀመሪያ ህጻን ልጅዎን _____ (የህጻኑ ስም) ከመገብ ወይም ከመንከባከብ ጋር የተያያዙ ወጪዎችን እንዴት እንደሚያዩት/ እንደሚገነዘቡት ሊያብራሩልኝ ይችላሉ? ይህ ሁኔታ ምን ዓይነት ትርጉም እንደሚሰጥዎት መረዳት ስለምንፈልግ እባክዎን እዚህ ላይ ሀሳብዎን ይንገሩኝ?

_____

የምግቡ የንጥረ ነገር ይዘት

ጥ ከህጻን ልጅዎ አመጋገብ ወይም እንክብካቤ ጋር በተያያዘ የምግቦችን የንጥረ ነገር ይዘት እንዴት ያዩታል? ይህ ሁኔታ በህጻን ልጅዎ አመጋገብ ወይም እንክብካቤ ላይ ምን ያህል ተዕእኖ እንዳለዉ ይንገሩኝ?

_____

የአእምሮ እድገት/ብሩህነት

ጥ የአእምሮ እድገት/ብሩህነት ሲባል እርስዎ ምን ይረዳሉ?የአእምሮ እድገት/ብሩህነት ከህጻናት አመጋገብ ወይም እንክብካቤ ጋር እንዴት ይያያዛል?

_____

ለሰውነት ክብደት

ጥ ከህጻናት አመጋገብ ወይም እንክብካቤ ጋር የህጻናት የሰውነት ክብደት እንዴት ይያያዛል? ይህ ሁኔታ በህጻን ልጅዎ አመጋገብ ወይም እንክብካቤ ላይ ምን ያህል ተዕእኖ እንዳለዉ ይንገሩኝ?

_____

ጤናን መጠበቅ

ጥ በእርስዎ አመለካከት የአንድን ህጻን ጤንነት የሚጠብቁ ነገሮች ምን ምን ናቸው? ወይም የህጻናትን ጤና መጠበቅ ሲባል ወደ እርስዎ አእምሮ የሚመጡ ነገሮች ምን ምን ናቸዉ? ይሄስ ሃሳብ ከህጻናት አመጋገብ ወይም እንክብካቤ ጋር እንዴት ይያያዛል?

ክፍል 2፡ ጨቅላ እና ታዳጊ ህጻናትን ከመመገብ አንጻር ተፅእኖ የሚያደርጉ ነገሮች

ዋጋ/ወጪ

ጥ ከ_____ (የህጻኑ ስም) አመጋገብ ወይም እንክብካቤ አኳያ የምግቡን ወይም የእንክብካቤ ዋጋ/ወጪዉን ምን ያህል ግምት ዉስጥ ታስገቢያለሽ? በጣም ግምት ዉስጥ የምታስገቢ ከሆነ በቦርዱ አዎንታዊ ጫፍ ላይ (5 ቁጥር) ጠቁሚ ፣ ግምት ዉስጥ የማታስገቢ ከሆነ ደግሞ በቦርዱ አሉታዊ ጫፍ ላይ (1 ቁጥር) ጠቁሚ፡፡ በአንድና አምስት ቁጥር መካከልም ማስቀመጥ ይቻላል፡፡

የምግቡ የንጥረ ነገር ይዘት

ከ_____ (የህጻኑ ስም) አመጋገብ ወይም እንክብካቤ አኳያ የምግቡን የንጥረ ነገር ይዘት ምን ያህል ግምት ዉስጥ ታስገቢያለሽ? በጣም ግምት ዉስጥ የምታስገቢ ከሆነ በቦርዱ አዎንታዊ ጫፍ ላይ (5 ቁጥር) ጠቁሚ ፣ ግምት ዉስጥ የማታስገቢ ከሆነ ደግሞ በቦርዱ አሉታዊ ጫፍ ላይ (1 ቁጥር) ጠቁሚ፡፡ በአንድና አምስት ቁጥር መካከልም ማስቀመጥ ይቻላል፡፡

የአእምሮ እድገት/ብሩህነት

ጥ ከ_____ (የህጻኑ ስም) አመጋገብ ወይም እንክብካቤ አኳያ ምግቡ ወይም እንክብካቤዉ ለልጅዎ የአእምሮ እድገት/ብሩህነት ይረዳል ብለሽ ምን ያህል ግምት ዉስጥ ታስገቢያለሽ? በጣም ግምት ዉስጥ የምታስገቢ ከሆነ በቦርዱ አዎንታዊ ጫፍ ላይ (5 ቁጥር) ጠቁሚ ፣ ግምት ዉስጥ የማታስገቢ ከሆነ ደግሞ በቦርዱ አሉታዊ ጫፍ ላይ (1 ቁጥር) ጠቁሚ፡፡ በአንድና አምስት ቁጥር መካከልም ማስቀመጥ ይቻላል፡፡

ለሰውነት ከብደት

ከ_____ (የህጻኑ ስም) አመጋገብ ወይም እንክብካቤ አኳያ ምግቡ ወይም እንክብካቤዉ ለልጅዎ ለሰውነት ከብደት ይረዳል ብለሽ ምን ያህል ግምት ዉስጥ ታስገቢያለሽ? በጣም ግምት ዉስጥ የምታስገቢ ከሆነ በቦርዱ አዎንታዊ ጫፍ ላይ (5 ቁጥር) ጠቁሚ ፣ ግምት ዉስጥ የማታስገቢ ከሆነ ደግሞ በቦርዱ አሉታዊ ጫፍ ላይ (1 ቁጥር) ጠቁሚ፡፡ በአንድና አምስት ቁጥር መካከልም ማስቀመጥ ይቻላል፡፡

ጤናን መጠበቅ

ጥ ከ_____ (የህጻኑ ስም) አመጋገብ ወይም እንክብካቤ አኳያ ምግቡ ወይም እንክብካቤዉ ለልጅዎ ጤና ይረዳል ብለሽ ምን ያህል ግምት ዉስጥ ታስገቢያለሽ? በጣም ግምት ዉስጥ የምታስገቢ ከሆነ በቦርዱ አዎንታዊ ጫፍ ላይ (5 ቁጥር) ጠቁሚ ፣ ግምት ዉስጥ የማታስገቢ ከሆነ ደግሞ በቦርዱ አሉታዊ ጫፍ ላይ (1 ቁጥር) ጠቁሚ። በአንድና አምስት ቁጥር መካከልም ማስቀመጥ ይቻላል።

በጨቅላ እና ታዳጊ ህጻናት አመጋገብ ላይ ተጽዕኖ የሚያደርጉ ነገሮችን ማወዳደሪያ ቅጽ

ማወዳደሪያ ነጥብ	ተጽዕኖ ፈጣሪ መለኪያዎች	አስተያየት
5		
4		
3		
2		
1		

ክፍል 3፡ የምግብ አይነቶችን ከእሴት መመዘኛዎች አንጻር ማወዳደር

እባክዎ ይህንን ሰንጠረዥ ለሁሉም ተጽኖ ፈጣሪ መለኪያዎች ይጠቀሙ

የምግቡ መለያ ቁጥር	የምግቡ ስም	የማወዳደሪያ ነጥብ					አስተያየት
		5	4	3	2	1	

መለኪያ - የምግብ ዋጋ

ጥ ይህ ምግብ ዉድ ነዉ ብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት (ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ 1 ቁጥር ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)።ይህ ምግብ ወይም ድርጊት ዉድ ነዉ ብለዉ የማያስቡ ከሆነ እዚህ ጋር ያስቀምጡት(ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ ጫፍ ላይ የሚገኘዉን በቦርዱ 5 ቁጥር ላይ ሰንጠረዥ ጠቁሚ)። የተጠያቂ ምላሽ መካከለኛ ወይም የተለየ ከሆነ በሌሎች ሳጥኖች ዉስጥ እንዲያስቀምጡ መንገር ይቻላል።

መለኪያ - የምግቡ የንጥረ ነገር ይዘት

ጥ ይህ ምግብ የንጥረ ነገር ይዞታው ጥሩ ነዉብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት (ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አዎንታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)። ይህ ምግብ የንጥረ ነገር ይዞታው ጥሩ ነዉብለዉ የማያስቡ ከሆነ እዚህ ጋር ያስቀምጡት(ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አሉታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)።የተጠያቂ ምላሽ መካከለኛ ወይም የተለየ ከሆነ በሌሎች ሳጥኖች ዉስጥ እንዲያስቀምጡ መንገር ይቻላል።

መለኪያ - የአእምሮ እድገ/ብሩህነት

ጥ ይህ ምግብ ለአእምሮ እድገት/ብሩህነት በጣም ጠቃሚ ነዉ ብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት (ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አዎንታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)። ይህ ምግብ ወይም ድርጊት ለአእምሮ እድገ/ብሩህነት በጣም ጠቃሚ ነዉ ብለዉ የማያስቡ ከሆነ እዚህ ጋር ያስቀምጡት(ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አሉታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)።የተጠያቂ ምላሽ መካከለኛ ወይም የተለየ ከሆነ በሌሎች ሳጥኖች ዉስጥ እንዲያስቀምጡ መንገር ይቻላል።

መለኪያ - የሰውነት ክብደት

ይህ ምግብ ለልጁ የሰውነት ክብደት በጣም ጠቃሚ ነዉ ብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት (ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አዎንታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)። ይህ ምግብ ወይም ድርጊት ለልጁ የሰውነት ክብደት ብዙም ጠቃሚ ነዉ ብለዉ የማያስቡ ከሆነ እዚህ ጋር ያስቀምጡት(ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አሉታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)።የተጠያቂ ምላሽ መካከለኛ ወይም የተለየ ከሆነ በሌሎች ሳጥኖች ዉስጥ እንዲያስቀምጡ መንገር ይቻላል።

መለኪያ - ጤናን መጠበቅ

ጥ ይህ ምግብ ወይም ድርጊት የልጁን ጤና ይጠብቃል ብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት (ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ አዎንታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)። ይህ ምግብ ወይም ድርጊት የልጁን ጤናን ቀይብቅም አይጠብቅም ብለዉ የሚያስቡ ከሆነ እዚህ ጋር ያስቀምጡት(ለጠያቂ ፡- ለተጠያቂ እናት በቦርዱ

አሉታዊ ጫፍ ላይ የሚገኘዉን ሰንጠረዥ ጠቁሚ)።የተጠያቂ ምላሽ መካከለኛ ወይም የተለየ ከሆነ በሌሎች ሳጥኖች ዉስጥ እንዲያስቀምጡ መንገር ይቻላል።

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Advisors: Mr. Seifu Hagos (MPH, PHDc)
Dr. Bilal Shikur (MD, MPH)

June 2016
Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Thesis Paper Submitted to School of Graduate Studies of Addis Ababa University, College of Health Science, School of Public Health as a Partial Fulfillment of the Requirement for the Degree of Master of Science in Public Health

Advisors: Mr. Seifu Hagos (MPH, PHDc)
Dr. Bilal Shikur (MD, MPH)

June 2016
Addis Ababa, Ethiopia

ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Caregivers Perception, Values and Challenges on Infant and Young Child Feeding in Addis Ababa

BY

BETELHEM TAYE

Approved by Examining Board

_____	_____	_____
Name	Signature	Date

Chairperson, Department of Graduate Committee

_____	_____	_____
Name	Signature	Date

Advisor

Mr. Seifu Hagos___	_____	_____
Dr. Bilal Shikur___	_____	_____

Examiner

Dr. Mulugeta Betre_	_____	_____

Acknowledgment

First and foremost, I would like to thank the Almighty God for providing me with all my necessities and made me and my family healthy. The intercession of Saint Mary, all Angels and Saints have also helped me throughout my entire life, for which I am so grateful.

I would like to express my heart-felt gratitude to my advisors Mr. Seifu Hagos and Dr. Bilal Shikur for all their support and enriching comments throughout the study period. I would also like to acknowledge the valuable time and fruitful advice of Dr. Eshetu Girma.

My sincerely thanks extend to Addis Ababa University for the financial support of this thesis project. My appreciation and deepest gratitude also goes to the study participants for their precious time and for sharing their priceless experiences.

My special thanks also goes to my dearest husband, my parents, and my brothers for their continuous encouragement and support by taking care of my children throughout my academic lifetime.

Finally yet importantly, I would like to thank Yeka Sub City and Bole Sub City Health Office staffs and urban health extension workers for helping me identify the study participants.

Table of Contents

List of Tables

Table of Figures

Acronyms

Acronyms	Description
EBF	Exclusive Breastfeeding
FES	Focused Ethnographic Study
GAIN	Global Alliance for Improved Nutrition
IYCF	Infant and Young Child Feeding
MNP	Micronutrient Powder
NGO	Non-governmental organization
ORS	Oral Rehydration Solution
WHO	World Health Organization

Abstract

The nutritional status of children under two years of age is directly affected by infant and young child feeding (IYCF) practices. To enhance nutrition, health, and development of children aged 6-23 months, the improvement of IYCF practices is crucial. In Ethiopia breastfeeding is not adequate, complementary foods Introduced not on time, and the consumption of animal source food and vitamin A rich food is very low. And inappropriate IYCF practice has negative impact on their growth. The aim of the study was to explore mothers or caregivers' perception on characteristics of IYC foods and to identify the cultural, behavioral, and psychological aspects of IYCF practice in Addis Ababa, Ethiopia.

The study employed Focused Ethnographic Study (FES) and it was conducted in Bole and Yeka Sub-Cities. A priory sampling technique was used to recruit study participants and data was collected in two phases by using in-depth interview and cognitive mapping techniques. A total of 16 participants were involved and thematic analysis was performed for qualitative data.

Cerifam and porridge were the core IYC foods in both behavioral and cultural perspectives. Cold/stored foods /left overs are widely considered bad for IYC. Low income coupled with high-priced IYC foods, raising a child by babysitters, and poor appetite of a child were the major challenges that parents faced while raising their IYC. From mothers' perspective, the health benefit of the food they feed their IYC is crucial and is the main value that influence their decision on IYC food. Caregivers report valuing foods for their contribution to mental development and that improves child's weight. They believe all foods are not equally healthy and foods essential for child health are very expensive.

Currently infants and young children routinely receive cereal based foods. Inappropriate feeding practice: feeding below recommendation, feeding leftovers, pre-mastication was identified. Financial problem was the major challenge and the health benefit of food is the main value that influence caregivers' food choice. Health education and BCC (behavioral change communication) intervention is needed to improve caregivers' perception and feeding behavior. The government should consider alternative child care. Additional researches needed to evaluate the effect of IYCF practice on IYC nutritional status in urban settings.

1 Introduction

1.1 Background

Initiating breastfeeding within one hour after birth protects the new born from getting infection and from mortality (1). The World Health Organization (WHO) recommends, exclusive breastfeeding for 6 months is the optimal way of feeding infants (2). Exclusive breastfeeding (EBF) is defined by WHO as the Infant fed only breast milk without any liquids or solids except ORS, vitamin and mineral drops or syrups and medicines (3). For infant and young children (IYC) aged 6-23 months, breast milk is a good source of energy and nutrients (1). In addition to breastfeeding, infants should be given complementary foods from 6 months up to 24 months or more (4). Complementary foods are foods such as liquids, semisolids, and solids other than breast milk that are introduced to an infant to provide nutrients (5).During the transition period, the complementary foods should be timely, adequate, and safe to meet the nutritional needs of the infants (6).

The nutritional status of children under two years of age is directly affected by the infant and young child feeding (IYCF) practices, and eventually, impact child survival. To enhance nutrition, health, and development of children aged 6-23 months, the improvement of IYCF practices is crucial. WHO developed 15 IYCF indicators (8 core and 7 optional indicators) to monitor IYCF practices. Core indicators evaluate breastfeeding initiation, Exclusive breastfeeding, continued breastfeeding, introduction of complementary feeding, dietary diversity, meal frequency, acceptable diet, and consumption of iron-rich and iron-fortified foods of IYC. Optional indicators also evaluate breastfeeding, duration of breastfeeding, bottle feeding of infants and milk feeding frequency for non-breastfed children (7). Good complementary feeding practices are crucial to protect infants and children from malnutrition; both under nutrition and over nutrition (6). Malnutrition is a problem immediately caused by inadequate dietary intake and disease (infection). Insufficient access to food, inadequate maternal and childcare practice, poor water and sanitation and inadequate health services are the underlying cause at household level. (8). The achieved millennium developmental goal and the current sustainable developmental goals are launched to combat malnutrition worldwide. Ethiopian Government approved National Nutrition Strategy (NNS) and Health sector transformational plan (HSTP) to reduce the magnitude of malnutrition in Ethiopia, especially

amongst children under the age of five(9, 10). The Ethiopian government also commit to end child under-nutrition by launching 'Seqota Declaration' (11).

1.2 Statement of the Problem

Globally, 26 percent children under-five years of age are stunted in 2011 and high prevalence of stunting was in Africa - 36 percent (12). World-wide, about 30% of children under the age of five are stunted because of poor feeding and repeated infections (13). In Ethiopia 44 percent of children under age five are stunted, and 21 percent of children are severely stunted, 10 percent wasted and 29 percent underweight in 2011. In Addis Ababa, 22 percent children under-five years of age are stunted, 6.4 percent underweight, and 5.7 percent are overweight (14). Malnutrition cause increased mortality, poor health, impaired motor, cognitive and behavioral development, slow physical growth, diminished immunity reduced learning capacity, inferior performance, and long term consequence, ultimately lower adult work performance and economic productivity and non-communicable diseases(15)

Inappropriate practices such as short duration of EBF and inadequate complementary feeding practice combined with poverty and food insecurity are major determinants of high prevalence of malnutrition among young children (16). Only a small proportion (4%) of children age 6-23 months are fed appropriately based on the recommended IYCF practices. Among children age 6-23 months, the consumption of foods made from grains are more common than foods from any other food group. Even though animal source foods such as meat, fish, poultry, and eggs are very important for health and mental growth, the introduction of these foods in the diet is late, and very few children consume them (14, 17, 18). Low dietary diversity (taking less than the recommended 4 food group) is a significant predictor of stunting. (19). IYCF practice is more appropriate in older children and children in urban areas than younger and rural resident (14). In Ethiopia, harmful traditional practices like food taboos contribute to the poor nutritional status of majority of IYC (9).

Although, some studies show IYCF practice and associated factors, these studies do not reflect how mothers choose specific IYC foods, caregivers' experience concerning food and food related problems, the core values (dimensions) as well as how caregivers view specific foods in relation to their basic cultural values, in Ethiopian context, especially in urban setting. There

is one study done in rural Ethiopia (Desse zuria) that describes the above issues (20). As knowing caregiver's experience regarding food and childcare related problems in urban area is crucial, we would like to conduct the study in Addis Ababa.

1.3 Rationale of the Study

The research question of this study was what kind of foods given to IYC in urban setting? How do mothers perceive IYC foods in perspective of value dimensions? What are the challenges caregivers face to raise their children? Complementary feeding is not only about providing food to a child, but also involves feeding behaviors of mothers. Understanding these behaviors and their influential factors is very important to prevent malnutrition during the period of 6-23 months. The aim of this study is to explore caregiver's perception on characteristics of IYC foods and cultural and psychological aspect of IYCF behavior. The result of this study may yield rich data that will help the mothers or caregivers of IYC to advance their understanding on IYCF and improve their feeding practices. The result will be used by urban health extension workers, pediatricians, or other health professionals in ANC, immunization, and under 5 clinics. Other researchers could also use this data for further studies. The result of this study will also contribute to the policy makers and programmers to plan, design, and development of nutritional interventions such as micronutrient powder (MNP) supplementation or other public health measures such as behavior change communication (BCC) interventions.

2 Literature Review

2.1 Malnutrition

After six months of a child's age to twenty four months, the prevalence of malnutrition in many countries rises because of an increase in infection, poor feeding practices, and micronutrient deficiencies that interfere with optimal growth manifests in this period (14). A child's physical growth, mental growth, and development will be slow, if the child is malnourished during the first two years of life (21). More than one third of child deaths every year around the world are attributed to under nutrition, which is one form of malnutrition that weakens the body's resistance to illness (8).

Globally, the prevalence of stunting, underweight, and wasting in children younger than 5 years in 2010 were estimated 27%, 16%, and 9% respectively with higher prevalence in Africa than in Asia (22). In Ethiopia, poor nutritional status of children has been a serious problem for many years. The estimated national prevalence of stunting, underweight, and wasting among children was 44.4%, 28.7%, and 9.7% respectively (14). Breastfeeding was found to be protective for underweight and wasting whereas bottle feeding, initiation of complementary feeding at inappropriate age, and low dietary diversity was significant predictors for stunting (19).

2.2 Complementary Feeding Practice

"Complementary feeding is defined as the process starting when breast milk alone is no longer
sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids
are needed, along with breast milk"(4). Mothers feeding their infants with foods immediately after birth and the prevalence of early initiation of complementary feeding before 6 months of age was high in urban than rural. The major reasons were perception of mothers towards breast milk insufficiency to satisfy the water demand and nutritional need of the infant, working outside home, and lack of information about the real time of initiation of complementary feeding (23-25).

Appropriate Complementary Feeding Practices; introduction of complementary feeding on recommended time, providing diversified food on recommended frequency among mothers of children aged less than two years were very low in many countries (3, 18, 26, 27). Non-EBF mothers do not wash their hands after defecation and do not properly clean utensils before feeding than EBF mothers (27).

2.3 Foods and drinks given for IYC

In most developing instant cereals such as CERELAC, sweetened cookies, and traditional porridges and grain, roots and tubers were most common food items given to IYC aged 6-23 months (18, 24, 26, 28, 29). Porridge was the most common first food for infants in urban areas, mothers also give a combination of various foods for their 6-8 months of age, and the number increases as the age increases, i.e. from 9 months to 12 months (25). IYC were also given sweet foods (cream-filled sponge cakes, sugary biscuits or cookies) because mothers believe that these foods are 'nutritive and easy to digest' and convenient 'first' food that satisfy a child's hunger The intake of manufactured food, soft drinks and artificial juices were also high and more prevalent among children aged 9-12 and more used by mothers with no formal education than the educated one (3, 30-32).

In low and middle income countries the consumption of sugary snacks by IYC were increasing and higher rate was seen among children aged 12-23 months, who were living in urban and wealthier families than infants and from rural and poor families (33). Studies showed that the usage of nutritious foods like egg, fruits, vegetables, meat, fish, and poultry is very low (18, 33, 34). The consumption of Vitamin A rich foods and flesh foods were high in IYC 18-23 months of age (26).

The main beverage given to infants was water, as mothers perceive it is good for health. Mothers also choose to provide their children fruit juices and flavored milk, as provide vitamins and calcium, which are essential for child growth. Factors that influence mothers' choice of beverage were child preference and nature, parenting style, mothers' experience and family influence, i.e. grandparents (35).

2.4 Food Preparation for IYC

Mothers prepare special foods for their children, i.e. different foods from the family diet (20, 34, 36). However, in some countries there was no homemade specially prepared complementary food for IYC. This is because families were unwilling to buy foods that cannot be eaten by everyone in the household (30, 37).

2.5 Dietary Diversity and Meal frequency

In developing countries the prevalence of adequate dietary diversity was very low (18, 26, 37, 38). Minimum dietary diversity and minimum meal frequency rate was high in urban areas than in rural areas (25). Children aged 18-23 months were more likely to practice adequate dietary diversity than 6-11 and 12-17 months. Children who were born third and from illiterate mothers had a risk to be feed inappropriately (18, 26, 38). The frequency of complementary feeding of exclusive breastfed children was low at the age of 6-8 months and high at the age of 12-23 months than non-exclusive breastfed children (27).

2.6 Mother's Perception on IYC foods

Adolescent girls from semi-urban and rural areas of Ethiopia believed that infants should be given water and butter immediately after birth. Fewer girls agreed on the provision of fruit, vegetables, and animal source foods at 6 months of age (39). Some mothers discontinue breastfeeding as they perceive that breast milk is 'poisonous' or 'harmful' and that 'breastfeeding too long will affect the child's intelligence (30). Some Mothers give junk foods for their IYC because they believe these foods are soft and suitable to meet child's nutritional need (24). From caregivers perspective the primary importance of IYC food was its "healthiness "and they believed that all foods are not equally healthy (28). Some caregivers believed the foods that they gave to their IYC are low on 'healthiness' (37).

2.7 Barriers Affecting Complementary Feeding

Numerous socioeconomic and cultural factors influence patterns of feeding children and the nutritional status of children (14). The major factors associated with appropriate complementary feeding practice were child's age, 18-23 months, mothers who had postnatal care, and mother's literacy (26). The main barriers for appropriate child feeding practices were

caregiver's knowledge about breastfeeding and complementary feeding; influence of cultural custodians on the caregivers; and patterns and burden of other responsibilities the caregivers have in the household (24, 40). Mothers are influenced by highly respected peoples in the community and in family such as health care providers, elderly peoples, and grandmothers. These respected people influence the mothers to give prelacteal liquids (herbal drinks) after birth in the first days of life and to start complementary foods before 6 months of age as they perceive these drinks and foods are part of healthy growth and make them strong (24, 30). Both rural and urban mothers, delayed initiation of complementary foods because of inability to afford commercial foods and unaware of low cost home prepared weaning foods (25).

Poverty and lack of financial resources were the critical and primary concern of caregivers to buy nutritious foods and to give good childcare. Time shortage due to caregivers' multiple responsibilities was one of the other concerns (20, 28). Access to food, perception of food, and the power of male partners, as they procure the household foods, were the major factors that affect the selection of IYC foods (28, 37). The power to use money (decision on male hand) in the household and type of food given at the time of weaning (milk) were significantly associated with underweight. (41).

2.8 Conceptual Framework

IYCF behaviors are influenced by caregiver's decisions and it is based on their knowledge, perception, education level, socioeconomic status, and occupation. Family norms and cultural beliefs also have influence on the mother's choice and IYCF practice(42, 43).

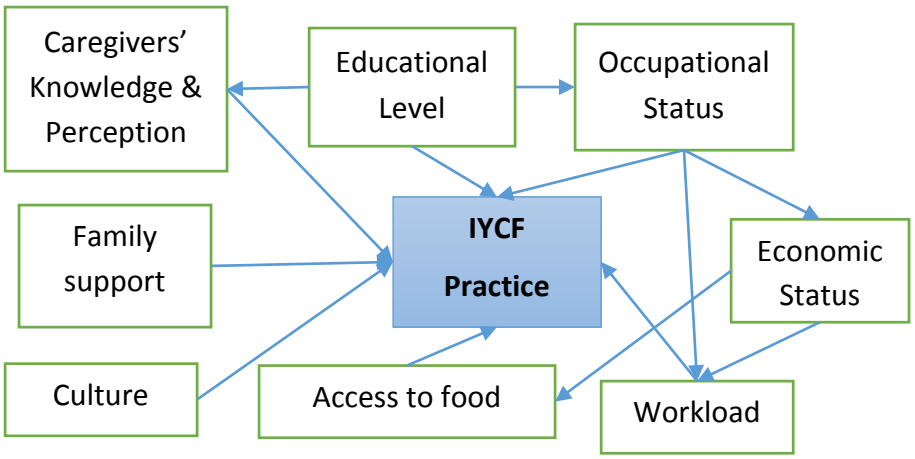


Figure 1 Conceptual framework for IYCF practice

3 Objective

3.1 General Objective

The general objective of this study is to explore mothers or caregivers' perception on characteristics of IYC foods and to map the cultural, behavioral, and psychological aspects of IYCF practice in Addis Ababa, Ethiopia.

3.2 Specific Objectives

1. To explore the type of foods that are given to IYC in Addis Ababa
2. To identify the sources of IYC and family food acquisition, preparation, and storage in Addis Ababa
3. Examine the challenges experienced by caregivers and coping mechanism in Addis Ababa
4. To understand mothers' perception on characteristics of IYC foods and value dimensions in Addis Ababa

4 Methods

4.1 Study Area and Study Period

The study was conducted Addis Ababa. Addis Ababa is a Capital city of Ethiopia and it is the largest city in Ethiopia with a population of 3.385 million people. From the 10 Sub-Cities, Yeka Sub-City and Bole Sub-City were selected to meet mothers who have low living standard and high living standard. Urban health extension program is one of the program that has been used to improve the health status of Addis Ababa residents. Based on the urban health extension workers' recommendation, 2 Woredas from each Sub- Cities were selected. The study was conducted from December 2015 to April 2016

4.2 Study Design

Focused Ethnographic Study (FES) was employ. FES is a methodology used to answer a set of specific questions that are required by policymakers and agencies for making decisions about nutrition or public health interventions (37). FES has been conducted in different countries such as Bangladesh, Ghana, Afghanistan, South Africa, and others for different intervention projects such as acute respiratory infection, vitamin A, IYCF and others by WHO and GAIN (28, 29, 37, 44, 45).

The main goal of FES is to obtain information on situations and behaviors in a population that are important for several decision-making activities. An important feature of an FES is its modular construction. Structuring data collection into short modules makes it possible to modify the number of respondents for any given issue, to modify the flow of interviews and easily modify specific focal issues so that data collection can be modified to find the differences within a population and across populations. Conducting field research in phases is another feature of FES methodology (37).

FES design has two phases. In phase one, key informants are interviewed and the aim is to identify the culturally significant 'core' IYC foods and to obtain information about issues related to IYCF and childcare. In phase two, caregiver respondents or mothers are interviewed and the aim is mainly to explore caregiver perceptions on characteristics of IYC foods from the perspective of basic value dimensions and to identify types of child-care problems faced by

parents of IYC. Cognitive mapping techniques such as “free listing”, “rating” and “pile sorting” exercises are used to collect data.

4.3 Study Population

The study populations are mothers or caregivers who have infant and young children 6-23 months of age. The study target was households and those who are residents in the Yeka and Bole Sub-Cities.

4.4 Sample Size and Sampling Procedure

A priori sampling technique was used to recruit study participants who have specific experience of IYCF. The participants were recruited based on the predefined sub-group of the 6-23 months’ age range and effort was made to include all socio-economic sub-groups in both phases

In phase one, key informants were recruited by using the following criteria, by the help of local urban health extension workers

1. Mothers who have infant and young child from 6-23 month of age
2. Mothers who Live in Bole and Yeka Sub-Cities for 1 year
3. Mothers who know IYCF practice very well in the community/study area

As the biological and behavioral variability across 18 months (6-23 months) is large, dividing the age range into small groups was crucial. Based on the results of previous studies, key informants were categorized into four groups i.e. 6-8 months, 9-11 months, 12-17 months, and 18-23 months (28). Four key informants i.e. one key informant from each age group was interviewed in this phase.

In phase two, recruitment of caregiver respondents was performed by the following criteria by the help of local urban health extension workers

1. Mothers who have infant and young child from 6-23 month of age
2. Mothers who Live in Bole and Yeka Sub-Cities
3. Mothers who can express their beliefs and ideas freely

However, the categorization of caregiver respondents by age group were redefined in to three age group based on the result of phase one. Twelve-caregiver respondents i.e. four from each age group was recruited and the sample size was determined by data saturation level.

4.5 Data Collection Procedures

Data collection was conducted by using face-to-face in-depth interview and it was performed by adapted protocol from FES studies done in different countries such as Ghana (28). The FES is structured into several protocols such as those protocols used to assess household behavior and market behavior. We used two household behavior protocols (key informant and caregiver respondents protocol) which contain several modules that are used to obtain information on specific topics related to IYC feeding**.**

Key informant interview was employed to identify the culturally significant 'core' IYC foods and to obtain a general picture of IYC feeding and care issues. It has seven modules including socio-demographic profile and each module used to address specific issue. Module 4 was not used as the study was in urban setting. In this phase, "free-listing"; open-ended question and guided discussion was used to collect the data. "Free- listing" is an exercise used to generate the lists of IYC foods and caregiving problems faced by parents.

Caregiver respondent interview was employed to obtain a general picture of mothers and caregivers perception towards IYCF and cultural values. It has seven modules and the same as the first phase. Household characteristics and household wealth index;24-hour dietary recall; open-ended question with guided discussion; 'rating' of value dimensions and 'rating' of specific food in relation to the value was used to collect data. "Rating" is an exercise that is used to find out the caregivers' views about the relative importance of the different value dimensions. Likert scale (1 to 5) was used for this exercise and the participants give 5 for the perception i.e. very important and 1 if it is not very important. This exercise used cards that have been created based on the results of the key informant interviews (phase one). The participants were asked to rate all 5 value dimensions and then asked to rate all the food items and action for each value dimensions.

Data collection was carried out mainly by the principal investigator and urban health extension workers involve in recording the interviews. The interviews were conducted in study participants' houses and took on average 1 hour for phase one and 30 minutes for phase two.

The protocols were translated into Amharic for conducting the interview. All interviews were recorded (tape-recorded) into audio-files for transcription in Amharic and then translated into English. Data recording formats that accompany each of the modules was used to capture the information during interview and to note down key things.

4.6 Operational Definitions

Caregiver:	Mother, father or grandmother of index child
Dietary diversity:	The number of different foods or food groups consumed by IYC in the previous 24 hours
Infant:	A child whose age ranges from 0-12 month
Infant and Young Child:	A child whose age is 6-23 month
Key informant:	Mothers who have infant and young children aged 6-23 months and firsthand knowledge about IYCF and child raising challenges in their community.
Meal frequency:	The number of times that the child is fed complementary foods in 24 hours.
Nutrient:	A substance that provides nourishment essential for the maintenance of IYC growth and development.

4.7 Data Analysis Procedure

Verbatim transcription was performed in Amharic from the recorded interviews and then translated into English. Open code software was used for coding and narrative interview data was analyses thematically. Modular analysis was also performed. Demographic and dietary data (both food lists from 'free listing 'exercise and 24-hours dietary recall) were tabularized and frequency was calculated. Mean and frequency was also calculated for cultural domain data which was collected through 'rating' exercise. Microsoft Office Products were used to summarize, transcribe, write up, calculate mean, and frequency.

4.8 Data Quality Management

The study was conducted mainly by the principal investigator. Data collection instruments were prepared from the protocol that used to assess household behavior (28). All interviews were tape recorded and verbatim transcription was performed carefully. Amharic transcripts were read repeatedly and the principal investigator went back to key informants to answer some questions that need clarification. In the way, the transcripts were given to the key informants for checking and they gave positive feedback. Translators were involved in translation of Amharic transcripts. After transcription the document changed into plain text and import to Open Code software for coding and thematic analysis The transcripts and reports were communicated with advisors and other experts in qualitative study.

4.9 Ethical Consideration

Ethical approval was obtained from Addis Ababa University School of Public Health Ethical and Research Review Committee. Permission letter was obtained from Addis Ababa Health Bureau and Yeka and Bole Sub-City Health Offices. Informed consent was taken from all study participant after proper explanation about the purpose of the study, confidentiality and all procedures that was used for the study. All the study participants were reassured that their names and / or any personal identifiers will not be recorded and the recorded documents will be used only for this study and will not be shared. The interview was conducted in private with participants to minimize the risk of participant's argument with family members and other respected people in the community. The participants compensated for spending their time for the interview.

4.10 Result Dissemination

Findings of the study will be presented and submitted to Addis Ababa University School of Public Health and will be communicated to all concerned bodies. These findings will be presented on annual professional conference and the research paper will be sent for possible publication on relevant scientific journals.

5 Result

5.1 Sociodemographic Characteristics of Study Participants

From the table 1, study participants (both key informants and caregiver respondents) represent a wide range of age, educational level and child raising experience (starting from new mothers to mothers with 5 or more children). All study participants were biological mothers except one who was grandmother of the index child. All of them were married and the age of the mother's range from lowest 24 up to 39. Regarding their educational status, almost all of them attended formal education except one who was illiterate. Around (12 out of 16) of caregivers were housewives and all of them except one had to quit their job to raise their children. Most of the households included in the study were headed by fathers (11 out of 16).

Table 1 Sociodemographic Characteristics of Study Participants, Addis Ababa,2016

Age of index child (months)	
6-8	5
9-11	5
12-23	6
Sex of index child	
Female	8
male	8
Participant's age (years)	
19-24	3
25-29	4
30-39	5
Participant's marital status	
Married	16
Maternal Education	
Illiterate	1
Primary (1-8)	3
Secondary (9-12)	6
Diploma	4
Degree	2
Maternal Occupation	
Housewife	12
House cleaner	1
Private business	2
NGO	1

Total house hold size	
3-4	8
5-6	4
7-8	2
9-10	1
Number of children of participants	
1	4
2-3	10
4-5	2
Number of under 5 children	
1	6
2	8
3	2
Head of the house	
Father	11
Mother	1
Both	4
Source of household income	
Monthly salary	9
Business	6
Monthly income and business	1
Household income level	
500-1,000	2
1,000-4,000	6
5,000-10,000	4
≥10,000	4

5.1.1 Material Conditions and Access of Study Participants

From the table 2, Electric stove (11 out of 16) was the most common sources of fuel use in participant's house. Majority of mothers (12 out of 16) get water from piped water which is available either inside the house or in their compound. Around (7 out of 16) of participants used shared toilet (a toilet which used by people who live in the surrounding) Regarding the materials of households, the roof of majority of caregiver's house was made of iron sheet (14 out of 16) and few from concrete (2 out of 16).

The materials used for construction of wall was iron sheet (4 out of 16), mud (8 out of 16,) blocket (2 out of 16), and *compersato* (1 out of 16). Concrete (5 out of 16), tiles (3 out of 16), cement (7 out of 16) and soil (1 out of 16) are the materials that were used for floor respectively.

Table 2 Material Condition and Access of Study Participants, Addis Ababa, 2016

Amenities	Number of participants
Fuel source	
Electric stove	11
Charcoal	5
Firewood	3
Cylinder gas	2
Cow dung	1
Water source	
Piped water(private/shared)	12
Communal tap water (*bono*)	2
Mineral water	3
Toilet facility	
Indoor	8
Shared	7
Field	1

5.2 Infant and Young Child Feeding Practices

5.2.1 Foods for Infants and Young Children

One of the cognitive mapping technique 'free- listing' exercise was used in phase one to generate the lists of foods that are given to IYC from 6-23 months. Based on previous researches on complementary feeding, the age range of IYC was divided into four different age groups: 6-8 months; 9-11 months; 12-17 months; and 18-23 months. First the key informants were asked about the foods that she feeds her own child and then asked what other mothers with children who are the same age as her own IYC do.

Gruel, cow's milk, Cerifam, and potato and carrot were the most common and culturally dominate foods for the children aged 6-8 months. These foods were the foods perceived by caregivers as first baby foods. Key informants mentioned that these foods are light and easily digestible foods for children at this age. They describe that they use these commercial food (especially Cerifam) as first food because they promoted widely, they are easy to digest and their taste is good. Bulla porridge and porridge are foods that were mentioned by most KI after Cerifam, gruel and cow's milk.

For the children aged 9-11 month, gruel, meat, fruits (banana, orange, papaya, avocado), cow's milk, and rice were the most common foods mentioned by majority of key informants. This may indicate that animal products and fruits are the most important foods for this age group. Fruits were given either in the form of juice or mashed. Foods such as *Shiro*, porridge, soup, pasta, *pastini*, bread with tea, *Enjera* with *shiro*, are the foods that were listed more after the above foods.

Family food (food that prepared for the whole family) and macaroni were the most common and salient foods for the age group from 12-17 months. This indicates that when children turn one year, they start to be given family food. The key informants mentioned that at this age, families do not worry to prepare special foods for the children because they perceive that the children at this age can eat family foods. The other reason was related to their income since they cannot afford to prepare special IYC food. They give attention to the foods that are given between meals, that means after the children ate with the family they prepare foods like porridge, *pastini*, fruits, and so on at the snack time. But when they prepare family food they make it soft and less spicy so that the children can eat. *Kinche*, banana, *pastini*, rice, and porridge are foods that were elicited by most of key informants next to family food and macaroni.

The same as age group 12-17 months, family food and macaroni were the most common foods for the age group 18-23 months. In this age group, mothers tried to bring the children towards the family feeding system by feeding them whatever is cooked for the family in the house. Meat, pasta, rice and soup are foods that are called by majority of key informants following family food and macaroni.

5.2.2 Foods Consumed in the Previous 24 Hour

Qualitative 24-hour dietary recall was used to obtain the list of foods that the index child has eaten. Open ended question was used during discussion and caregivers was asked to list the foods that their child has eaten in the previous day after confirming the previous day was the usual day. This enable us to see the experience as well as the behavior of caregivers on IYCF practices. Table 13 describe the results of 12 IYC 6-23 months of age.

5.2.2.1 Breastfeeding

Majority of the mothers (12/16) were currently breastfeeding though few of them were not since they face a problem of decreased breast milk production at early stage starting from 45 days up to 3 months. Some of the mothers had difficulty of remembering the number of times they breastfed their IYC during the interview. However, the breastfeeding frequency ranges from 4 – 8 times per day and the frequency increases depending on the age of the child (those 6-8 month old), the demand of the child, and the availability of the mothers. An interesting finding of this study was mothers use breast milk to thin foods such as juice to make as they perceive it makes the food more nutritious. A 29 years old breastfeeding mother with 7-month old baby said

> *"When we prepare juice, we use either my breast milk or formula milk. I do not want to give her cow's milk because I believe that cow's milk is for cows not for us"*

5.2.2.2 Meal Frequency

The number of meal given to IYCs widely varies among caregivers. For infants aged 6-8 months the number of meal given was ranges from 2 - 6 times in the previous 24 hours. Commercial foods (RIRI, mother choice and Cerifam) were widely used and the number of times that the children ate these foods vary from once a day to three times a day. And these commercial foods were given to infants as a first meal of a day. A 24 years old new mother with 8-month old baby said that her infant had esophageal surgery 7 months ago and now she is afraid of feeding him more than twice in 24 hours.

For the age group of 9-11 months the meal frequency ranges from 1- 8 times per 24 hours. The mother in the lowest frequency does not prepare food for her infant and feed him even though she can afford to buy the required food items. It is because she believes cow's milk is enough for him as he is not on breastfeeding. She indicated that her child is sometimes fed when he is with his grandmother (her mother). This has been confirmed by her during the 24-hour dietary recall as she has mentioned that her mom took the child and feed him Pasta Al

Forno (baked pasta) when she was eating. At the end of the discussion the grandmother mentioned that her daughter (the mother of the index child) does not prepare food for her child because of her laziness.

For the age group of 12-23 months the feeding frequency ranges from 4-7 times in the previous 24 hours. Young children were given mostly egg as a first food of a day unlike infants who fed commercial foods.

5.2.2.3 Dietary Composition

Majority of mothers used commercial foods such as Cerifam (infant cereal produced by Faffa food company), mother's choice and RIRI especially for younger infants (6-8 months). Majority of IYCs received *enjera* with *shiro*, Indomie, Cerifam, porridge and cow's milk. Few of them took egg and very few received meat and fish. But most mothers add milk in most of their IYC foods to make the food more nutrient dense. However, there were caregivers who reported feeding their child after pre- mastication. They feed them peanut and roasted grain and their main reason is their children are eager to taste these foods and they pre- masticate it because it is difficult for them to chew. Another mother mentioned that even though she does not want to feed her daughter by pre- mastication, her husband feed her child when he eats roast. Few infants received cod liver oil, vitamin and coffee in the previous day and night.

Most caregivers prepare food for their IYCs at each meal time. The main reason is they believe that if they give them leftover, their children may get sick. The other reason given by caregivers was they children do not want to eat the food that they already eat. But some caregivers reuse left overs because they cannot afford to prepare frequently and some of them (10/16) does not have concern in relation to using leftover (they think that it will not cause any problem). All the food items listed in 24-hour dietary record was mentioned in the free listing of foods and the same as mentioned by key informants in the free listing, IYC were fed family food starting from the age 9 month.

5.3 Food Preparation and Storage

Mothers prepare food themselves for their children as they do not want their babysitters to prepare it. This is because they believe that babysitters are not as careful as mothers regarding food handling and hygiene. If they have to go out, they tell their babysitters to feed them the food that does not need preparation such as Cerifam. A 30-year-old KI mentioned that it is because if she tells them to prepare food when she is not around, they may not do it as clean as her and her children may have an accident like falling on fire. There were mothers who had job and business and prepare food with their babysitters, but they trained and supervise the babysitters. Male participation in food preparation is not mentioned by caregivers and this may indicate their involvement is very low. A 38-year-old mother with 5 children and low income explain as follows:

> *"When I hire maid I show them how I cook carefully and instruct them to observe. I will taste the food before giving it to my daughter. I taste the food to check if it is well prepared. This is because I know it by the taste"*

Electric stove was mainly used to cook food and in the absence of electricity they use charcoal. Tap water was used for drinking and cooking food, but they tried to keep it safe as much as possible by putting it in different containers and plastic bottles or in a water filter. A 32-year-old educated mother with low income explained how she store the water she used as follows:

> *"I use tap water for cooking and drinking. But in order to not make it dirt I put it in different container which has cover. For drinking I will put it in the plastic bottles (highland) or in a jar."*

Another 30-*year-old* mother with good monthly income (5,000 birr) said

> *"I use tap water for cooking, but if it is for food that does not need to be cooked for example for juice, I put it in the filter and use it."*

Most mothers (10/16) prepare food that the children can eat immediately and if left they do not feed them because of fear of contamination and health problem. The children also refuse

to eat and vomit when they are given the food that they already eat. Sometimes the children hate and they will never eat the food that they are given repeatedly. For example, a 27-year-old new mother with good income (6,000 birr per month) said

"There is a time that he finishes his food but if it is left I flush it away, because he will hate the food and refuse to eat it tomorrow. Secondly there is no need to give him back as there are other foods he does not eat."

Another 30-year-old degree holder mother with high monthly income (10,000) said

"…. we give her different food for each meal because when it kept the power that the food can produce bacteria will be wide. Secondly, as it is prepared by our hands, there is a high chance of contamination."

There were also caregivers who gave their IYC leftover. Some of them believe that using leftover has no that much effect on children and others use leftover because they cannot afford to prepare food in terms of money. For example, a 24-year-old new mother with low monthly income (500 birr) said

"For example, I cook indomie and if she does not finish, I will feed her twice or three times. But I will not feed her if it stays overnight because it will cause disease."

However, caregivers feed their children leftovers depending on the type of food and storing condition. If the food is one that can be easily spoilt such as meat and egg, they discard it or give it to the person who can eat because they perceive that it might be contaminated by bacteria and cause health problem. Unlike meat and egg, mothers believe that dry foods like *Beso* and soup can be given to IYC.

As the storing condition of food was different among mothers, some of them stored it in the fridge if they own one, otherwise they leave it in the same iron pot it was used for cooking. A 32-year-old mother described that when she stores food, she covered the iron pot that the food was cooked by clean cloth to prevent contamination of food by dirt, flies and other

bacteria. Interestingly, there were mothers who have a fridge, but they do not use it to store IYC food because they believe that the temperature of the fridge damages the food. A 38 years old educated mother said

> *"when the food is left, I will leave it in the same pot it was cooked. I do not give them food from the fridge because I think the temperature (coldness) of the fridge damage the food and Kill the cell even if it is reheated. I do not believe it is useful and good for their health."*

To feed IYC Mothers use spoon, mother's hand, and bottle depending on the type of food. For example, foods such as *firfir*, egg, and *enjera* are fed with the mother's hand; milk and gruel with bottle; oats, *pastini*, rice, potato, and carrot with spoon; porridge can be fed with both mother's hand and spoon. Mothers mentioned that young children eat foods such as *enjera* and bread by their own hand, under supervision. Very few mothers (3/16) use pre-mastication to feed their IYC. For example, a 30 years old high school complete mother said

> *"He is very excited to eat "kolo" when he sees me eating. What I do is I chew it and feed him. And he likes it."*

Unless mothers have jobs they were mostly responsible for feeding their children, otherwise their babysitters take care of their IYC. Few mothers mentioned that the participation of their husbands on feeding their children and this may indicate that male participation in feeding children is low. A 38 years old mother replied for the question who feed the baby as follows:

> *"Mostly I feed my daughter. However, my babysitter feeds her when I am not around. Sometimes my husband feeds her well when he is at home after I prepare the food."*

Mothers acquire foods from local shops, vegetable store, *Gulit* (a small local market which people could buy things depending on the amount of money they have), vegetable stores (a store for only vegetable and fruits), and millhouses (a building that houses milling machinery especially for flour) depending on the type of food item. *Shola (a* big market in Addis Ababa*)*, *Merkato (*the largest open-air market place in Addis Ababa*),* vegetable market (is a

big fruit and vegetable market in the city), supermarket, and milk houses were used as alternatives. Mostly mothers buy foods such as pasta, macaroni, bread and the likes from shop, fruits and vegetables from *Gulit* and vegetable market or from vegetable store. They also get crops and cereals either from *Gulit* or from millhouses. Key informants universally agree that the difference between these food sources was cost. Besides that, there was a difference of availability and quality of food items. A 28 years old mother with a high monthly income (10,000 birr) explained as

> *"……. sometimes you do not find some vegetables like egg plant in gulit and you need to go to Piyassa (vegetable market) t. Nonetheless, because it is far from our house, we buy it from supermarket. Most people thought supermarket is expensive but it I prefer to buy from there because they bring fruit and vegetables from their own farm and it is always fresh. For example, if I have no money I can buy 2 or 3 pieces of fruits or vegetable but if I go to gulit, I should buy the one that the seller plan to sell ("medeb")"*

A 30 years old mother with medium income (5,000 birr) described the quality and cost difference between food sources as follows

> *"I may buy papaya and banana from vegetable market, but when you buy mango and avocado from there, most of the time it is spoiled. Beside that there is price difference, very much. we buy I kg papaya 15 or 16 birr from here, it is 10 birr there."*

Most families purchase and prepare foods for their IYC especially when they are less than one year. When there is more than one child at home, there will be sharing of food. They prepare food for all small children in the house and the amount given was depending on their age. Mostly they know how much food their child needs from their experience. If the children eat family food, it will be modified and prepared based on their age. One informant said that she adds egg on a *Shiro* for her child from the one that she prepared for the family. Another 28 years old mother with 3 children and high monthly income (10,000 birr) said

"……It could be psychological, but for your surprise there are foods that we think it is for a child. For example, we do not eat pastini, thin pasta, and orange even though they are available at home.

5.3.1 Foods Perceived by Key Informants as Medicine

According to key Informants, there were food items that they consider as a medicine; orange, papaya, garlic and honey. They believe that these foods are useful for preventing diseases, treating intestinal parasites, and also for boosting immunity of IYC. Mothers give a great value for garlic and tomato mainly because they have lots of benefit and they are good to make the food tasty. The other interesting finding was mothers use their breast milk as a treatment for the diseases such as common cold and abdominal cramp. A 38 years old educated mother explain her perception as follows:

'Most of the time I do not use these medicines. For example, I give her papaya instead of Mebendazole to treat parasite. I give her orange more because common cold is prevalent in our surrounding. I believe that orange has vitamin C and it will protect her from common cold and sometimes I give her honey.''

Another 29 years old diploma holder mother explained her view as follows

'We add garlic in most of her foods as she does not breastfeed and her immunity is low. I think garlic is good to make her immunity strong'

5.4 Caregiving Problems Faced by Parents of IYC and Coping Mechanisms

5.4.1 Caregiving Problems

During the discussion caregivers explained that the biggest challenge starts when they have baby for the first time as it is new life and needs knowledge. Majority of caregivers (9/16) mentioned they are not facing problem to raise their IYC and it was because some of them were financially capable to take care their IYC. But the other interesting perspective was even though they have low income, they are happy because they believe that children are gifts and

good opportunity to get things. And also they are not worried about tomorrow, if they get what is needed for their child today, that is enough for them. The experience of caregivers on their first child also help the them to raise their index IYC without difficulty. A 28-year-old new mother with low monthly income (1,400 birr) said

> *"… nothing. We have no problem; in fact, we have income after she was born. Before her birth, we did not have buffet, television. …. Her father used to be sick but after her birth he is healthy. She is full of luck and I do not think there is something that is missed."*

Another 28-year-old mother who had 2 children and high monthly income (10,000 birr) explained her experience as follows:

> *"When I raise my first baby I did not know how the child grow, what he needs and how to feed him. I have learnt in my profession but feeding him was very difficult for me and raise him with lots of difficulties as I was not aware of child raising. But for the others (second and index child) it was very easy because I learn from him"*

5.4.1.1 Economical Problem/Low Income

Majority of mothers (9/16) used to have work but they had to quit their job in order to raise their IYC. And this was a very big decision for them because it has impact on their life both psychologically and economically.

5.4.1.1.1 Unable to Buy Food and Other Necessities

When it comes to the issue of raising a child, financial problem or low income was a very challenging and night mare for the caregivers. As IYC need more and different kind of foods for their growth and development, they cannot afford to do so. They believe that the foods that are very important for IYC such as milk, fish, chicken, and fruits like apple are very expensive and it is not in line with their economy. The expense is not only for food, also for health and hygiene (cost of diaper). This economic constraint exposes the caregivers to the

emotional disturbance and sadness. A 38 years old mother who had 5 children and low monthly income (1,500 birr) said

> *"The biggest problem is the economic condition; it is beyond your capacity. You cannot feed your children what you want to feed because our coin lost its value. Raising a child is very very difficult for those who have low income. Your children will be exposed to unwanted thinness because you cannot buy and do nothing. That is why I give 2 of my children to my mom."*

A 39 years old grandmother who was currently raising her grandson (the index child) and lived by her son's monthly salary (700 birr) with her husband and her 5 children said

> *"…. raising a child at this time is very difficult, everything is expensive. At his current age he need to have milk but I can afford to buy milk. There is a problem, if we eat breakfast we make our lunch for him. Even if we need to eat we are adults we can survive but he is small. Sometimes we borrow food for him from shop."*

Another 27 years old new mother with 5000-birr monthly income describe as follows

> *"…. raising a child requires more finance and currently it is very difficult. You cannot raise your child with local diaper ("shint cherk"), because first he will not be comfortable and second nobody will hold your baby with this. So you have to use pampers and its cost is beyond the cost of teff."*

Mothers use different ways to solve their economic problem. Some of them participate in income generating activities and try to cover the gaps not covered by their salary. Others try to balance the money they have as much as possible. Mothers restrict their needs and give priority for their children as they are growing. For example, a 38 years old mother with 5 children and low monthly income (1,500 birr) explained that

'Now I am starting a small business to solve my income shortage. I am going door to door and schools to sell clothes because our Woreda could not give as working place. So we are trying to cover what our children's needs. The other way I use is, I put the money that left from taxi in a small bank and through time it helps me to fulfil things."

Another 30 years old mother who used to have job and have 2 children and monthly 1500 birr said

"I have saved a little when I was working because I care about my children too much. If it is very essential, I will use that, otherwise I try to balance the salary that I have and give priority for them."

Another 32 years old mother with monthly income 2,000 birr describe her coping strategies as follows:

"…. I also cover all of the house work. Sometimes I try to cover our economic problem by working handmade things at home, selling enjera and you will arrange ways that makes you pass the problems for the time being. I also join EKUB. For instance, you can buy TEFF with it and use it for longer time. Things like this are the key for solving problems"

5.4.1.1.2 Lack of support/ work load

As raising a child by itself needs a lot of commitment, most caregivers were the one who do the childcare. They also do all activities in the household because they cannot afford to hire someone who can help them. This make their day busy and they cannot take care of themselves and get rest. They also cannot participate in the social life (funeral, wedding) and go shopping and to buy foods for their as no one is there to look after their IYC. It also affects their relationship with their husbands because their main focus is on their children and they may not get a time to do things that has to be done for their husbands. Those caregivers who had good income also face these problems as there is a problem of finding someone who can rely on and trusted. For example, a 29 years old mother with two children mentioned that

"It is difficult to send and bring my older child from school because sometimes the small one sleeps and I cannot take him with me. So I put holy bible beside him and went out. Shortage of time by itself, you do not get rest and peace for yourself. Whether you like it or not you need someone who help you when you have child, therwise You will detach from people."

A 32 years old mother of 2 children with high monthly income (10,000 birr) said

" I forget myself when I take care of him. It makes you very busy; when you feed him, wash him, change his cloth and sometimes it makes you very angry. Additionally, the house work will not be finished"

Another 30 years old mother with low monthly income (1,500 birr) explained how lack of time and support affect her as follows

"My social life is not as hot as the previous one because I give my full time for my children. Previously, I used to visit my families and I had connection with people but now I sacrifices everything for them. I do not even have time for myself. You know my husband is not happy, he said you are always doing things for your children. I have faced a lot but I am not mad."

A 30 years old mother who used to work and had to quit her job to raise her children said

"I believe you need your own income but it cannot be, as I choose to raise my children. Since you cannot hire housekeeper, you do all the house works by yourself. You might need rest but you cannot even when you gave birth. You will lose confidence when you stay at home, but Even though there are lots of things that disturbs you, it is mandatory to cope."

Mothers do the house work when their children sleep or when their husband is at home. Neighbours and husbands help the caregivers by taking care of their IYC while they go out and

also by buying foods that are necessary both for the IYC as well as for the whole family. A 29 years old caregiver who used to work and had low monthly income (3,500 birr) said

> *"There is one elderly women in front of our house and if it sunny, I will leave him there. Otherwise I will take him with me wherever I go because your child is your jewellery."*

Another 27 years old new mother with medium monthly income (6,000 birr) said

> *"Most of the time you cannot ask people favor because everyone has his own thing. Currently my husband helping me by taking care of our baby when I go out and by shopping, but I come back so fast because I cannot fully rely on him, I do not know if it is because I am a mother"*

5.4.1.2 Raising a Child by a Babysitter

The main reason that most caregivers quit their job was because of fear of the problems that caused by babysitters in IYC. In mothers' view babysitters are not as careful and committed as mothers. The problems elicited by mothers were: not holding the children carefully, not feeding them timely and properly and not letting the children move on their time they have to move. Due to these problems the children were exposed to accidents (falling down injury), health problems (malnutrition and common cold), unable to use or move their body. For example, a 29-year-old working mother with 2 children explain the problems as follows

> *"Last time, the babysitter fed my daughter juice at lunch which is prepared in the morning. Then she had vomiting and diarrhea. And One of my friend's son become diabetic due to feeding. The babysitter does not give him food appropriately and he cried a lot because he is hungry and thirsty. But when he cried she make him sleep without feeding him. Finally, the child becomes diabetic. It is not hereditary rather due to not getting food frequently and thirst."*

Another 38-year-old mother with low income describes how difficult raising a child by babysitter as follows

> *"It is difficult if you do not raise your child yourself. Babysitters are not as careful as you. For example, yesterday I went to my relative's funeral and on my way out I told her to take care of my daughter. But my baby falls down when she left her in the bed and went out to fetch water. At that time there could be fracture, twist or other disability on her."*

Another problem faced by working mothers explained as follows by a 30-year-old home staying mother of 2 children

> *"My friend is a working mother and she headed to work after she finishes the work at home. The babysitter holds the baby and spent the whole day by watching television. When the child becomes 9 months old, she does not control her right hand and leg. At that time the mother thought she is left handed. When she put her on stroller at 11 months, she cannot push it. The doctors said it is a problem caused by holding the child too much on one side. Now her leg is a bit rotated and her movement is not as the children in her age."*

Caregivers take their children with them wherever they go not to leave them to babysitters, unless they are working mothers. But the children get tired and sick when they are taken out. For example, a 38-year-old mother who had low monthly income (1,500 Birr) started a small business said

> *"Not to leave her with babysitter there is a day that I take her with me if I am nearby and have an umbrella. The problem is when you take them with you, they will get tired or their exposure to sunlight will cause health such as tonsillitis."*

As a solution, working mothers tried to control and supervise their babysitters by coming back home as frequently as possible.

5.4.1.3 Not Spacing Births

Not spacing births or giving birth frequently is the other main problem elicited by mothers. When the number of children increases and their income is not increasing, they have difficulties to buy food, cloth and other things that are essential for children. They are forced to share what they have and they believe that it is not enough for children. For example, a 38 years old key informant who had 5 children describe the problem as follows:

> *'Giving birth frequently has bad thing. First, you cannot buy food for the new child. What you would do is you decrease from the older one and feed the smaller and It create some kind of emotional disturbance. Because this one cries by holding your dress and the little one shout, they make you confused and stressed. and it is not good for everybody to give birth in our current market condition"*

Using contraceptives was the main solution mentioned by caregivers to solve the above-mentioned problem.

5.4.1.4 Working Mothers

Being a working mother is the other most important problem raised by mothers. When the mothers are working, it has a big effect on both the mother and the children. There is a lot of work load and stress on them when they are working mothers as they need to prepare food for their children before they go to work and after they get back as they need their children to be healthy. Even though they have babysitter, they prepare food and sterilize or boil the tools that their children going to use.

> *"Raising a child is very difficult for working mothers. I have a friend whose son is 8 months and he is sick. Firstly, she sends him to day care and go to work, but she brought him back because he was not comfortable. Then she leaves him to the babysitter and his body is decreasing because the babysitter does not give him food on time or she may not prepare or she may use it for herself, but his body weight decreases every day. Sometimes*

you may not notice what your child is missing if you go out in the morning and come back in the evening"

Interestingly, in order to solve this problem, caregivers make a big decision and quit their job to raise their children. Others tried to supervise their babysitters and for most they pray and leave things to God.

5.4.1.5 Having More Than One Child under the Age of Five in the House

For caregivers having small children is very difficult because the older children are jealous and took their bottles and contaminate. These expose the small ones to health problems. For example, a 30 years old key informant who had 2 children under the age of 5 said

'I am not facing any problem to give him care, but his older sister is very difficult. She put her hand in his mouth with nobody seeing her. She also took his bottle and they give him back when I am not around. So at 6 months he was very very sick "

To solve this problem, caregivers believe that it is needed to put eye on the older ones. They also mentioned that discussion, giving them advice and sometimes punishment is mandatory.

5.4.1.6 Health Problem

Health problem is the other concern of caregivers when it comes to raising a child. It was due to the natural process of growth as the children start to have teeth and sometimes related with care. For example, caregivers mentioned that their living area (crowded areas such as kebele's houses) has contribution to the health problem of children. For example, a 39 years old grandmother who were living in one room with her 6 family members said

"Oh it is very difficult. The breath of others is not good because there may be common cold and if they have common cold, I would say do not come near to him because he does not eat food. But he wants to be with them."

Another 33 years old mother with 2 children and high income (15,000 birr) said

"….. she gets sick when she starts to have teeth. At that time, we took her to hospital and she got better after they gave her glucose. It was very difficult for her and she was damaged. When you raise a child there is some disease they will have but it is not that much bad. "

5.4.1.7 Culture

Culture was mentioned as one problem that all mothers face during raising their children. Families do not want to see their children crying and in order to avoid that they give them whatever the children ask. When the families refuse to give the thing that is not appropriate for the child, the children will cry and the families change their mind. This makes the children spoiled and irritable. For example, a 30-year-old mother of two children explained that, even though she tried to correct it in her second child, but she could not make it and this has an impact on children's behaviour. This was the main problem especially on first child.

5.4.2 Food and Feeding-Related Problems

5.4.2.1 Poor Appetite

Poor appetite was one of the major challenge and mothers' headache that occurs in most of children. Caregivers prepare IYC food and when their children refuse to eat, it makes them sad and worried. For instance, a 32 years old diploma holder mother said

"He does not have interest for food and it is stress for me. That is why I took him to the clinic. I do not believe he has enough eating behaviour because when I give him at the time he has to eat, he does not eat properly. Not eating food is the problem of our area"

A 30 years old home staying mother described how much difficult poor appetite of a child for caregivers as follows

"There is my niece whose weight is small and she is very thin. She is 1 year and 6 months, but she does not eat food. I swear, do you know not eating for real? She does not eat specially children's food and do not drink milk.

Her body weight is very small. She took her to the health center but she does not get a solution. People told her it is a problem caused by inadequate food intake and she will get better after the age of 5. Now she stops buying food for her and waiting until she is 5-year-old."

There were also mothers who believe child's poor appetite is the problem caused by the mothers' feeding behaviour. For example, a 32 years old degree holder mother said

"There are people who said like this but I do not believe in this. First of all, you should give him food on time and If he adapts that he will eat. I do not have a problem like this because I give him on time. But I have seen lots of people who said my baby is not eating, around 90 %"

Feeding children by destruction such as opening childrens' movie, giving their mobiles or the thing that the children loves were some of the ways used by mothers to feed a child. If they are not eating persistently, they will take them to the health facility and get treatment. Some mothers explained that there is no improvement seen even if they took them to the health facility and given some kind of vitamins. They were wishing if there is some kind of solution for this. But the main solution given by the caregivers was giving them food on time and try to make it as Varity as possible. A 38 years old mother of 5 children said

"If she refuses to eat, I will give her with force or I will give her orange if I think it is common cold or I will heat one clove garlic and give her and she will be fine. Otherwise if refuse to eat because of common cold or cramp I will give her my breast."

A 30 years old mother of two children explain how she feed her baby as follows

''Most of the time he opens his mouth to eat things like pencil. So I feed him when he opens his mouth to eat the pencil. But when they are above a year and half or 2 years, I do not struggle with them. What I did with my first baby was when she refuses to drink milk, I fill the plastic bottle with

milk and put it on the table. She will pick it and drink it by herself in a while and I did the same for food. So I left her I swear and it works."

5.4.2.2 Lack of Knowledge

Having a child for the first time is a new life for the families. In relation to this, knowing how to feed and raise a child, and what to feed were the main challenges/ problems that families face especially when they have their first child. This put both the families and the children in difficult situations; like malnutrition. For example, a 30 years old degree holder mother mentioned that meat has to be given to IYC but most mothers do not know how. There were mothers who do not even think IYC can eat food. They perceive that the food will choke them and they consider feeding IYC is a forcing action. This problem was mainly seen in mothers who have baby for the first time. The others believe that the children should be given only gruel/ Atmit like and mother relate this is with the awareness problem and the influence of their surroundings. A 30 years old mother who had 3 children said

'When I raise my first child I have everything, but not knowing things hurt me. I was in trouble for a long time because he did not eat. Even his weight was very low and reaches to unreturnable stage. So where does it come, because of lack of knowledge not lack money'

5.4.3 Recommendations from Study Participants

As financial problem (low income) and the high price of foods were the main challenges, mothers strongly recommend if the government could subsidize the price of foods for IYC. For example, a 30 years old mother who had low income put her recommendation as follows

"Our country's condition is not good to raise a child, because everything is expensive. Even though I have never go to other countries, from what I have read I know the governments make subsidies and support the children. I think our government should think about it."

Another 32 years old educated mother with low income said

"As I told you I quit my job for my children and I cannot get back to work because there is no one who take care of him. I think it will be best if the government could open a daycare with fair price. Frist the children will be safe and second I can work and get money to fulfill their needs."

5.5 Health and Food Perceptions

Mothers perceive that hygiene, avoiding leftovers, balanced food, and mother's care were the strategies that makes the children healthy.

5.5.1 Hygiene

5.5.1.1 Keep the Children's Personal Hygiene

All of the key informants agreed that that keeping children's hygiene is very important for their health and it includes giving them bath, wash their clothes, changing their diaper frequently, and wash their hands before they eat. A 30 years old degree holder mother with 7-month old child said

"if their hygiene is kept very well, if their feeding tolls and playing place is clean, your children will grow healthy. Children by their behavior put a lot of things in their mouth, the main thing is make their place clean"

Another30 years old mother who complete 10th grade explained as follows

"….. I used to use local diaper more but what I see mostly is, most mothers do not change diaper (both local and the commercial one) properly. Especially when it is local diaper (shint cherk), it smells very badly and it is disgusting. This will expose them to common cold I swear because it is urine. I think it is good to keep their hygiene and it has to be changed frequently. If it is like that, they will be clean, not smelly and not burnt."

5.5.1.2 Food Hygiene and On-Time Feeding

Handling children's food properly was the main thing to make the children healthy. They believe that their foods should be prepared safely and should be eaten immediately. If they eat by themselves, make them finish it without dropping and contaminating is very important for their health**.**

5.5.1.3 Feeding Tools Hygiene

Mothers believed that making children feeding tool clean is a very important strategy to make children healthy. Mothers prepare feeding utensils such bottles, plates, spoons, cooking pots separately for the index children. Because they have fear if it is mixed with adults or if they use adult plates or, it might not be washed properly and will cause health problem. Therefore, they prefer to do the cleaning by themselves as they do not trust their babysitters.

5.5.2 Avoid Leftovers

This issue discussed in the food preparation and storage section and most mothers do not feed their children mainly because they have fear that the leftover will make the children sick.

5.5.3 Balanced Diet

Feeding children balanced food was one of the major strategy that the mothers used to make the adapt the food and become healthy. They agreed that when it is said balanced food it does not mean that buying expensive foods, rather giving whatever available in the house. A 38 years old mother with low income (1,500) said even if she cannot afford to buy meat and egg she uses avocado and bean to substitute. In order to make the food dense and balanced they prepare foods that are mixed from different crops like porridge. For example, a 30 years old mother with good income (5,000) said

> *'…. if we give them different food which is available at home, it be useful for their adaptation, growth, and health. Especially when they are above 2 years, you may not prepare their own food as they eat family food. But it is good to give balanced diet which is available at home.'*

A 28 years old mother of three children and with high monthly income (10,000 birr) describe her view as follows

> *'…. You raise your children not only by buying canned foods or expensive things, I do not believe in this. For example, if we want to use fruit, it is cheap we can buy it. At least we prepare balanced food from 14 kinds of crop in our home and the main thing is to produce healthy citizen.'*

5.5.4 Mother's Care

Mothers believed and agreed that a mother should be with her child in order to make a child grow healthy. From the discussion in the previous section, the health problem related with raising a child by babysitter was one of the most salient problem raised by mothers. If the mother is the one who raise the child, she feeds her child properly, she follows their growth pattern and she protect them from accidents and injuries. Beside all these she gives her child love as they believe it is a very important and essential component for child health. A 30 years old mother of two children with low monthly income (2,000 birr) said

> *"When you are with your child, you breastfeed him with enough breast milk, you wash his clothes, you take care of him, and beyond all of this he gets mother's love. Because I believe even if I do not have good income and do something useful for him, getting my love by itself has a great psychologically effect for both of us."*

All mothers agreed that the importance of giving balanced and variety of food, making the food an d feeding materials clean is primarily for the children's health and growth. They were also doing this for their brain development and in order to have age appropriate weight and height. A 30 years old mother of 2 children with medium income (5,000 birr) explain her view as follows

"The first and main thing is for health, secondly for their growth and brain. Most of the time from what I see and hear, children's mental development is based on their balanced diet. When you see school performance mostly it is like that. I give balanced diet as I want him to have a good growth."

A 28 years old mother of 3 children and high income (10,000) said

'…. firstly, the time from birth up to 2 years is the time that their brain and body grow well. If you are strong enough and take care of them very well, they will be healthy citizen.

5.5.5 Bad Foods for Children

"Free listing" exercise was used to find out the foods that are available in the community but mothers do not feed their IYC because they believed it is bad for them. Pork was the food that elicited by mothers as food not appropriate for IYC because their religion forbid it and they do not want to feed their IYC. For example, a 32 years old mother of two children said

"I have never eaten pork and I do not want them eat it because my religion forbids it. May be it means nothing is if they eat it because they are kids, but I will not do the thing that I do not believe in it"

Canned food was the other food that mentioned as bad food because of its chemical in it and due to its storage and transportation inconvenience. One informant described that she does not want to give her son canned food except indomie and Cerifam. Her believe was even if these foods are canned, she does not think they have that much side effect because they are purposely prepared for the children. For example, she prefers Cerifam because it is a local product and it is a food for children.

Another 28 years old degree holder mother with high income explains her view about canned foods as follows:

"…. even though people advise me to give them canned foods, I am not interested. I think its side effect and storing condition, from the country it is

produced until it reaches to our country by itself has side effect. Moreover, it has chemical and even if it is not that much, by the small health knowledge I have, I think it causes diseases that are present currently such as cancer and heart case. Due to this I prefer that my children use natural and homemade foods."

Heavy foods (meat, spicy foods and *enjera*), fatty foods, cold foods, and alcohol were also considered by caregivers as bad foods as they are heavy for their intestine and difficult for digestion. But they agree that these foods except alcohol can be used depending on their age. For example, a 39 years old grandmother with low monthly income (700 birr) said

"Fatty food may be good for the children above 2 years of age but it is difficult for the smaller children because it affects their digestion."

A 38 years old mother who completed 10th grade explain why she does not want to provide her daughter *Enjera* as follows

"I do not think Enjera has that much value, it just makes their tummy big and increase their faeces. When I fed her Enjera, she excretes frequently and I have to change her diaper frequently, I cannot afford"

A 30 years old degree holder mother of two children said

" Their stomach will not tolerate fatty and spicy food. We used to give him chicken cooked for us before he is 1 years old but he immediately vomits it because it was heavy for him. Their own food should be separated"

A 24 years old new mother who completed 4th grade describes her idea as follows

" …. I will be happy if food is not given before 6 months because they are not strong enough and it will be difficult for their digestion. I am not educated but based on my understanding there will be an incident of vomiting and food canal blockage. And also they will be constipated, this is what my mind tells me"

Cold food was also considered as bad food and from the discussion it is understandable that cold food means food that is not fresh and stayed the whole day or night after it is cooked. A 28 years old new mom explain her view as follow

> *"I do not give her cold food because I know from my experience. One time after I gave birth, I was hungry and ate cold food and then I got sick. I went to the health facility and told them what I ate. They said it is typhoid which is caused by the cold food I ate. After that I do not eat cold food and I do not give her either"*

kale and sugary foods were also considered as bad foods due to their effect on health. For example, caregivers believe that kale cause abdominal cramp in children and if they are given sugary food, they will adapt it and they will refuse other foods because it affects their appetite. Interestingly honey was considered as medicine for common cold and as bad food for infants as it is believed it makes the mouth of IYC slow" koltafa" and expose them to allergy. A 38 years old mother of 5 children said

> *"I do not give honey for my child unless she has common cold because it has been said their mouth will be tied if they eat honey."*

5.6 Mapping Caregivers' Perception on IYC Foods

Cognitive mapping method i.e. "rating "exercise was used to explore the view of importance of the selected value dimensions. And also to examine caregiver's perception about how these values influence or affect their caregiving and feeding of IYCs. 5 value dimensions were selected from the result of phase 1 (KI interview) and other nutritional IYC studies in other places. The value dimensions were cost ('waga)', nutrient content of food (Ye megebu netre neger', mental development (ye ayemro edget), body weight (ye sewnet kibdet), and protect child health (tenama lij).

5.6.1 Caregivers' Understanding on Meaning of Value Dimensions

In this part, the cards that could represent each value dimension were prepared after the understandability of each cards were approved by key informants. Caregivers were asked how they understand each value dimensions after they have given description about each cards.

5.6.1.1 Cost

The influence of cost among caregivers widely differ. The issue of cost includes the cost of food and childcare costs. Even though all caregivers agree foods that are required for the growth of children are expensive, its influence differ among mothers. For the caregivers with high income, cost has no influence on their Childs' feeding. A 33 years old mother of 2 children with high monthly income (15,000 birr) said

> *"I have never thought about it. We do whatever is needed for the children and it has no effect on their feeding. Maybe, the cost of pampers because she uses diapers, but I do not think they are that much costly. If there is anything we missed, I will tell to my husband and he brings it. I have never seen my husband get angry or said I do not have this."*

The interesting finding of this study was caregivers who had low income mentioned that the cost has no influence on their IYC feeding as they believe children are gifts. For example, a 28 years old new mother with low income (1,400) said

> *"… when I tell my husband that our child needs this and he brings it. For your surprise, I have never thought of it, I swear. You know why we buy everything that needs to be bought. I did not think that this will create a gap or have a benefit, because there is no problem and everything is full. If she gets food for a day, if I have food to cook for her, that is what I want. We are not worried about her expense."*

To prevent the influence of cost, caregivers give priority to their IYC feeding before any other expense. All caregivers agreed that the cost of children's food which are important for child

growth such as fish and chicken are very expensive. A 29 years old working mother of 2 children with high monthly income (> 20,000) explains

> *"… sometimes the foods that you think builds their brain such as fish, meat, and chicken because it has zinc are expensive and very difficult for those who have low income. But I believe in one thing, as far as I bring them here, it is my responsibility to fulfill their need as it is known that I will not grow after this. I will do anything for them by decreasing my needs. The things you do until a child reaches five 5 years old will affect their growth and mental development. So, I prefer to restrict my needs"*

The cost of food is the main concern and challenge for mothers who have low income because they cannot afford to buy the food that they wish to feed their IYC. A 39 years old grandmother whose income was very low and lives with her 6 family members in one small room said

> *"cost has high influence on his feeding because his food is more expensive than us. For example, Cerifam and NAN are good and beneficial for him but the price of one NAN is around 200 birr and he may not use it for 15days The cost is not only for his food but also for his treatment and medication when he gets sick. It is very difficult"*

There were caregivers who can afford to buy food for their IYC, but they were unaware how much influence cost has on their IYC as they do not prepare food for their IYC.

5.6.1.2 Nutrient Content of Food

The caregivers' understanding on nutrient content of food vary depending on their educational level. Caregivers believe that the nutrient which is found in the food are important and beneficiary for IYC and they have to get a balanced diet as they will be very thin if they do not. Mothers perceive that all foods are not the same on their nutrient content and this is the main reason for giving different kinds of food. They categorized foods into those that has vitamin and those that are used just for hunger and to fill the stomach.

Mother's also describe the nutrient content of food in relation with cooking i.e. based on their understanding there are foods which should not be overcooked. Even if they understand the benefit, they overcooked the foods in order to make the children eat. They check the effect of the nutrients thorough the body strength, weight gain and mental development of IYC. However, there were mothers who do not give that much attention to the nutrient and they give food to their IYC because they have to eat. Mothers get information about nutrient content of food from health professionals (urban health extension workers), health facilities (private doctors) and from the internet based on their literacy and access. For example, a 30 years old diploma holder mother of 2 children said

> *"I will see the cover of the food when I buy. If it has something like vitamin A or D or if it gives energy for your child, you will take it. The nutrient content of food has a great effect, first of all if it does not have this you will not buy. For example, Anchor, I shifted from cow's milk towards it because it has been said it has around 30 nutrients. You are forced to buy this kind of things and feed them to get the benefit. You feed them vegetables to get the nutrients."*

A 29 years old new mother who was not educated explain her view as follows

> *"…we make her eat because it has vitamin. Most of the time, the foods that we think it has vitamin are porridge, gruel/atmit with milk, milk, egg. Foods out of this, we think that they are for hunger or to full her stomach, but has no vitamin. We used to rent milk with 300 birr per month for her, and then we stopped because she refuses to drink."*

Another 32 years old degree holder mother with high income (10,000 birr) said

> *"….. he east fish, egg, chicken, meat (like merek), drink milk and it has a very good impact on his growth. Now he is around 1 year and 9 months but he looks like some children above his age. And feeding has a great effect"*

A young mother with 2 children and good income (6.000 birr per moth) and attended secondary school said

> *" I have never thought about the nutrient content of food because I do not prepare food for him. When he cries I give him his bottle."*

5.6.1.3 Mental Development

Mental development was understood in different ways among caregivers. Caregivers believes that mental development goes with the age of IYC and it is progressive change. They expressed mental development in different categories such as physical development or movement (fastness, ability to hold things), emotional changes (smiling, playing, laughing), cognitive development (identifying people, bring things towards mouth), child's communication (point what they want, copies what others do) and so on. Almost all caregivers agreed that mental development of IYC linked with feeding and fish, cod liver oil, milk, egg, fruits, and olive oil are the foods that are perceived by caregivers as good foods for mental development. Beside food, peace in the family and caregiver's emotion (such as anger and sadness) contribute to the mental the development of the child. The feeding behaviour of caregivers regarding child's mental development is affected by their literacy and living standard. For example, a 29 years old mother who complete 12 said

> *"When it is said brain development, he will accept things easily, his brain will become clean and fast, good school performance, how can I say? Whatever it is they are cautious, kind of matured. These children are those who have a developed mind. You will say this one is retarded when you see him and it relates with his feeding. I also believe that the age that you gave birth and piece in the house has effect on this."*

Uneducated 28 years old new mother of 17 months said

> *"I do not know. Most of the time when you are illiterate, it does not make you think this. Now, my focus is on work and I am not thinking about her brain, I have no idea about the issues related with brain development and*

school performance. Last time people said to me to buy fish and make her drink its" merek", it will make her brain open and when she starts school she will become intelligent, and her brain will become clean. They also said olive oil is good, it will make her brain open and bright, buy and use it for her hair and also make her drink it. But we have never try it because I am not educated and I am not thinking about it.

As can be seen below, another 29 years old educated mother explains her view.

"….it is based on their Age. It is needed to see her intelligence that she had at 6 month improved at 7 months. You know how I see the Natania's, previously she could not hold things like but now she brings things towards her mouth from the ground. Most people relate this with body weight, but this is the smartness of their brain."

Another 24 years old new mother state her perception of mental development

"for me mental development means his mind and his thinking should be good, there should not be confusion. Their mind will be perfect if they get good care and good diet. You will see his brain development by his body strength and gain weight, he is playing and daily you will see his change. He will have a good brain if you hold him with love. I think if there is anger, he may not have a good brain and attitude."

5.6.1.4 Body Weight

IYC's body weight was the main issue that caregivers were most excited and care about. Caregivers measure the growth of IYC on their body weight. Regarding body weight caregivers had different preference. Most of them reported that they would like to have a fat child" ye fafa lij", but few prefer to have a baby with age appropriate body weight because they believe that excess body weight is not good and it will restrict their body movement. For instance, one mother said

"….I need it very much but I could not get it. Normally, you will be happy when you see a child who is fat. I do not think a child who eats very much will be fat, you will see a fat child who do not eat that much. When you see beggars, they have very beautiful children. Did they give them fresh food like us? No. But the child who eat by himself and who do not eat are not the same. If You do not feed him properly, if he does not get breast milk, if he does not eat food, you can easily identify him."

Another 32 years old degree holder mother said

"I do not want him to be fat, his body should be appropriate with his height. Now, he can gain 3kg based on his current height. He is around 90 and something (his height) and his weight is around 14 or 15kg. With his current height he can go up to 17kg"

According to caregivers, body weight and IYC feeding affect each other. The explanation is there is a time that body weight influences the feeding of IYC. For example, A 28 years old new mother explained

"Last time I took her to health center and they said her body weight is decreased and then I gave her avocado, mango and based on my economy orange sometimes. I took her back and they said now she is good. When I am busy and I give her indomie or pastini her body weight decrease. I feel it when I picked her up. Then when I give her fruit and vegetables for 3 days, she regains her weight."

Even though all caregivers agreed body weight of IYC is linked with their feeding, there were caregivers who believe it is related with children's birth weight. For example, a 24 years old mother said I do not give him food but his body weight is not decreasing as he was heavy when he was born.

5.6.1.5 Protect Child Health

During this discussion, caregivers were asked "what are the things that makes a child healthy? How does this issue relate with your child feeding?"

Caregivers universally agreed that keeping their hygiene is the primary thing that makes the IYC healthy. Hygiene includes personal hygiene and environmental hygiene such as hygiene of the house, the utensils that the children use and also the hygiene of the food. Mothers believe that children should be breastfeed as long as possible to be healthy and strong. Food also has a great influence on the health of the child. For example, a 29-year-old mother ho complete 12 grade said

> *"…… if you wash your child, if he eats, and gets enough rest he will be healthy. People get sick when they eat contaminated food. The nutrients found in the food and the way you cook has also contribution for their health. We adults get sick when we eat food that stays overnight. For example, cake is a very good, clean and very attractive when you see it, do not you get sick if you eat the one that stays overnight."*

A 32 years old educated mother of two children explain her view as follows

> *" Feeding balanced diet and cleanness is the main thing. When the child lives with his mom and dad by itself has a great effect, build his confidence. I need him to live with freedom and happiness, now Nati is very happy when I stay at home with him. This has contribution for his health."*

God's protection, getting enough rest, and family love are the things that are believed by caregivers as some major contributors for child's health beside food and hygiene. Give them food on time before they get hungry If they do not eat food, they may not get strength to prevent disease such as common cold.

A 28 years old new mother describe her belief as follows

"…… protect them from picking and eating dirt, make their clothes clean, prepare their food with hygiene are the main things for their health. But above all Gods protection is the main one, it is because of God's protection not mine."

A 29 years old educated mother with high income said

" first of all hygiene second you should give them love and time in addition. You should also know what makes them happy? what do they love? (Food, playing materials), with whom they wanted to be? (With their father? With their nan?), with whom they are happier?"

5.6.2 Rating of Value Dimensions

In this part of exercise one of cognitive mapping technique i.e. "rating "exercise was used to explore the caregivers' perception about the relative importance of the selected 5 value dimensions. Likert scale (1 to 5) was used for this exercise and the participants gave 5 for the perception or value which is very important and 1 if it is not very important. This exercise uses cards that have been created based on the results of the key informant interviews.

Table 3 Rating of Value Dimension, Addis Ababa, 2016

Value dimensions	Number of times Rating was assigned to dimension by caregivers					
	5	4	3	2	1	Mean
Cost	5	2	4	-	1	3.83
Nutrient Content	8	2	1	-	1	4.33
Mental Development	11	1	-	-	-	4.92
Body Weight	9	1	2	-	-	4.58
Protect Health	12	-	-	-	-	5

In this exercise, caregivers were asked "When it comes to what food you feed your child or what you do to take care of her/him, how important is the value for you?". It was explained to them that If they think it is very important to put it on high end 5 or if it is not very important to put it on the low end 1 or they can also place it in between. As a result, all caregivers give highest rate (5) for the value dimension protect health and this may indicate that the health of the child is very important for the caregivers. Mental development and body weight rated

highest next to protect child health. There were few mothers who rated cost as not important when it comes to child feeding.

5.6.2.1 Rating Specific Food Item in Relation to the Value Dimension

Rating was done for 23 food items that was given to IYC and each food item was evaluated for 5 value dimensions: cost, nutrient content of food, mental development, body weight and, protect child health. Likert scale was used and caregivers were give the highest score 5(if it is not very expensive and very good) and also the lowest score 1(very expensive and not very good) for each value dimension.

Table 4 Food Item Rating for Each Value Dimensions, Addis Ababa, 2016

Food Items	Cost	Nutrient Content Of Food	Mental Development	Body Weight	Protect Child Health
Banana	3.92	4.83	4.5	4.75	4.83
Orange	3.1	4.58	4.67	3.58	5
Papaya	3.75	4	4	4.33	4.67
Avocado	3.83	5	4.5	4.67	5
kinche	4	3.92	4.33	3.42	4.42
Pasta	3.83	3.67	4.25	4	4.33
Macaroni	4.17	3.75	3.42	3.58	4.17
Rice	4	3.25	3.25	2.08	3.83
Soup	3.5	4.92	4.25	4	4.75
Egg	3.08	4.5	4.83	5	4.83
Tomato	4.08	3.92	3.83	2.25	4.25
Porridge	3.42	4.42	4.17	4.42	4.67
Gruel/atmit	3.92	4.25	4.17	4.75	4.58
Meat	1.75	5	4.5	4.42	4.5
Pastnini	3.92	3.08	3.42	3.75	4.25
Garlic	2.25	4.75	4.5	3.17	4.83
cerifam	3.75	2.83	3.41	3.83	3.92
Milk	2.42	5	5	4.42	5
Honey	1.92	4.83	4.67	3.58	4.92
Fish	1.08	5	5	4.17	5
Bulla	3.75	4.5	4.5	4.08	4.42
Breast milk	2.67	5	5	4.5	5

In this exercise, caregivers were asked how much value do they give for each food in terms of 5 value dimensions. They give 5 if the food is not very expensive, very nutritious, very good

for mental development, very good for body weight, and very good in protecting child health. They give 1 if the food is very expensive, less nutritious, not good for mental development, not useful for body weight, and not protecting child health. The mean rate of 12 caregiver respondents was calculated. There was variation of rating for each food items and value dimensions. From food items fruits (banana, papaya, and avocado), gruel/atmit, and bulla are relatively rated high in all value dimensions. Others rated highest in some value dimensions and rated very low in others. For example, fish and honey rated highest for nutrient content, mental development, body weight and protect child heath but rated very low for cost. This indicate that these foods are considered and believed as foods that are very important for the above values but it is very expensive. The same is true for meat.

The interesting finding was the rate of Breast milk and it was rated highest for nutrient content, mental development, body weight and protect child heath but rated low for cost. There was two different perception regarding breast milk in terms of cost. More than half caregivers (7 out of 12) give breastfeeding the lowest score 1 because they perceive that breast milk is priceless and very expensive. An interesting explanation given by the caregivers for its expensiveness was they believe that it is unreplaceable. If the mother does not have breast milk the only choice she has is to give her child either formula milk or cow's milk. Additionally, in order to produce breast milk, the mother should take a lot of foods and drinks and it is expensive. Others give breast milk highest score 5 which means it is not expensive because they are not paying for it and they have excess breast milk.

The other interesting explanations were given for Cerifam as it rated the lowest for the value of nutrient content, mental development, and protect child health. They describe that Cerifam has no that much nutrient, but they use it because it is good for hunger and to make a child's stomach full.

6 Discussion

Knowing the foods given to IYC, food preparation and storage condition, challenges caregivers face when they raise their children and their coping mechanisms and caregivers' perception on IYC foods and values are crucial to design effective nutritional intervention.

In this study, gruel, cow's milk, potato and carrot, Cerifam, meat, fruits (banana, orange, papaya, avocado), and rice were the most common infant foods from cultural perspective. For young children above one-year-old, family food and macaroni were the common one. From behavioural perspective *enjera* with *shiro*, Indomie, Cerifam, porridge, and cow's milk were the most common IYC foods. As a result, Cerifam and cow's milk were the core IYC foods given to IYC in both cultural and behavioral perspectives. In rural part of Ethiopia most of IYC diet was dominantly cereal based moreover porridge and egg were the core IYC foods in both perspectives (20). In Ghana, Cereal-based foods in the form of instant cereals (particularly CERELAC) and porridge were the most dominant IYC foods and these foods was given as first meal of the day (28).

Caregivers widely used commercial infant foods such as Cerifam, Mothers choice, CERELAC, and RIRI for IYC. The number of times these foods given to the children ranges from once to three times per day. The overconsumption of commercial foods by IYC can contribute to malnutrition, non-communicable diseases, and adult obesity (46).

In this study, caregivers introduce cow's milk for their infant as they believe it is more nutritious than that of formula milk. They used either whole cow's milk or pasteurized milk (MAMA'S or SHOLA). In line with this study, 51 percent of Brazilian mothers give whole cow's milk before the child reaches 6 months of age and 87 percent of mothers gives after 6 months(3). The content of iron, zinc, niacin, vitamin C and vitamin E is low in cow's milk and the low level of iron may lead to anemia particularly iron deficiency anemia (46). The high level of casein in whole cow's milk makes the digestion difficult for by the IYC. Early exposure to cow's milk proteins increases the risk of developing allergy to milk proteins and risk for type 1 diabetes mellitus (DM) for those who have a family history of type 1 DM. (47). For the above mentioned reasons, researchers recommend the delayed introduction of whole cow's milk until the child gets to one year of age (47).

In this study, there were infants given less amount of meals than recommendation either given only cow's milk (no meal) or fed once in a day because of caregivers' perception and lack of knowledge. WHO recommends IYC should have a minimum of two or three meals with two snacks per day depending on their age and breastfeeding status (non-breastfed infant

and young children should have 1-2 cup of milk and extra meal). IYC should also take a minimum of the four food groups in their diet out of seven per day; grains, roots and tubers, legumes and nuts, dairy products (milk, yogurt, cheese), flesh foods (meat, fish, poultry and liver/organ meats), eggs, vitamin-A rich fruits and vegetables, and other fruits and vegetables (48)

In this study different food sources were used depending on the type of food item; shops, *Guilits*, vegetable stores and, mill houses and big markets in the city (Shola, Merkato etc.) were used by caregivers. The main difference between these markets was cost, food quality and the distance from caregivers' house. In line with these study, cleanliness of food (safety), accuracy of measurement, nutrient quality, cost and mothers' choice are the difference between food sources in Dessie Zuria (20).

In this study, caregivers purchase and prepare special foods for their children especially for the infants 6-8 months of age. Starting from 9 months, IYC were given family foods to make them adapt the food. After one year, they were given family food which is modified in a way the IYC could eat. Breast milk, cow's milk, milk cream, butter, and fish were added in IYC foods such as porridge, bulla, soup, and pastini or rice. From the study in eastern part of Ethiopia more than fifty percent of women prepare special type of food for their child and usually milk and milk products used to prepare complementary food such as porridge and soup (34). Mothers were the one mainly responsible for food preparation and feeding though the male participation was low. The same study in Dessie Zuria indicates older daughters, grandmothers, neighbours rarely husbands will help the mother when she is not around (20). In Bangladesh, caregivers prepare special foods for their children and modified family foods given in addition to special foods. (29)

But few caregivers do not prepare foods for their children because of their perception and unwillingness. Egyptian mothers do not prepare any special foods for children instead they buy sweet foods (cakes and sugary biscuits) as they believe these foods are easy, nutritious and easily digestible (30). In Afghanistan special IYC food is not prepared families are not willing to buy food that cannot be eaten by the whole family (37.)

In the present study Most caregivers prepare fresh food for each meal time. They do not give their children leftover because they believe the food will be contaminated and cause health problems. Nonetheless there were mothers who fed leftover as they do not think it has bad effect. Most of the time they gave leftover when the food is not perishable (meat or egg), and when they do not have food to prepare. In contrast with this study, caregivers in Dessie zuria do not feed their children leftover because they believe something will breath on it and it is not good for children (20). In Bangladesh caregivers do not provide leftover since the children do not eat the food they already ate and the food is wasted (29). Providing cooked and moist leftover foods which stored at room temperature for more than 8 hours could cause diarrheal disease in children (49).

In this study, caregivers gave foods such as peanut and roasted grain (*kolo*) through pre-mastication as the children are excited to try these foods. Mothers were the ones who used pre-mastication to feed their children but fathers involve sometimes. Studies showed pre-mastication is significantly related with increased bacterial load of weaning foods and could cause infectious disease. Maternal IgA is added to the food pre-masticated by mother and this decrease the bacterial load for infectious disease. Pre-mastication may also increase the digestibility of many foods (mainly starches) through the enzymatic action of amylase in the parents' saliva (50).

For caregivers, all foods are not equally healthy and important. In this study, caregivers perceive that foods such as orange, honey, garlic, and papaya are very important to protect child's health and to treat diseases such as common cold and parasitic infections. Papaya is one of the most important fruit as it is a rich source of antioxidant nutrients (e.g., carotenes and vitamin C), vitamin B (e.g., folate and pantothenic acid), minerals (e.g., potassium and magnesium), and fiber. Papaya has also anti-plasmodia, anti-cancer antiseptic, anti-parasitic, anti-inflammatory, antidiabetic effect and good for the treatment of digestion disorders (51). A randomized control trial indicates participants from garlic supplementation group showed less episode of common cold than the placebo groups but the duration of the common cold was the same in both group. (52)

Honey has been used in many countries as food and traditional medicine for wound healing, diarrhea, burn and so on. Natural honey is a good source of carbohydrate as it contains mainly sugar. It also contains around 200 substances, including amino acids, vitamins, minerals and enzymes. Some of the benefit of honey; it has antimicrobial, antiviral, antioxidant, anti-inflammatory effect, good for GI infections and wound healing and so on.(53) Despite all the above mentioned benefits, honey is not safe for the infants as it contains clostridium botulinum organisms which cause Infant botulism; a disease that affect their gastrointestinal tract (54).

In this study, caregivers believe that fatty foods for example meat and butter are heavy and damage their intestine as they are difficult for their digestion. They also believe that *Enjera* is heavy, makes children tummy big and increase their feces; kale cause abdominal cramp; and honey make the children's' moth slow and cause allergy. *Enjera* a traditional food made of *Teff* and *Teff* is a grain which has a high content of iron, calcium, phosphorus, copper, aluminum, barium, thiamine. unlike other grains *Teff* is gluten free (55)

In the present study, financial problem (low income), raising a child by babysitters, poor appetite and lack of knowledge were the major challenges parents face while they raise their children. Child priority was the main and widely used coping strategy. In line with this study, financial problem or shortage of money is the major concern for caregivers in rural Ethiopia and Ghana. (20, 28).

There were mothers who fed their children with force when their children refuse to eat. But IYC specially infants express their food need by crying or turning their head away from the food or by closing their mouth or by spitting or vomiting. Therefore, responsive feeding i.e. understanding children's hunger and satiety cues and avoiding force feeding is crucial to develop healthy eating behavior and to prevent malnutrition in children (56).

When it comes to IYC food, different determinants influence mothers' food choice depending on the value they give to the determinants. In this study food cost, nutrient content of food, mental development, body weight and child health were the influential. But above all, the healthiness of food was the main value dimension that influences their food choice as all of

the caregivers gave it the highest score 5. The same as this study, healthiness of food is the factor that influences mothers' decision about IYC foods in Dessie and Ghana (20, 28)

7 Strengths and Limitations

The limitation of the study was as it is focused ethnographic study, the sample was not representative of the caregivers in Addis Ababa. Conducting the study by principal investigator and using tested household protocols to collect the data was the strength of the study. Collecting data by using different tools and addressing different issues was also another main strength. Despite the limitation, the study provide information rich data that will be used for the nutritional interventions.

8 Conclusion

Currently infants and young children routinely receive cereal based foods in the form of commercial instant cereal (cerifam) and porridge. Families purchase and prepare special foods for their IYC and male participation in food preparation and feeding is low. Breast milk, cow's milk, butter and sometimes milk cream added to IYC foods depending on the type of food and availability. Inappropriate feeding practice such as feeding below recommendation and feeding pre-masticated foods were identified. Feeding Leftover foods was also widely practiced and this may expose the children to infections such as diarrheal disease. Cold or stored foods widely considered as bad for IYC

For caregivers, all the IYC food sources are not the same as they have cost and food quality difference. Financial problem specifically low income coupled with high-priced IYC foods is the major challenge parents' face while they raise their children. From mothers' perspective, the health benefit of the food they feed their IYC is crucial and is the main value that influence their decision on IYC food. They believe all foods are not equally healthy and foods essential for child health are very expensive and caregivers are emotional disturbed when they cannot afford to buy these foods.

9 Recommendations

Health education about what, how, and when to feed IYC should be given to caregivers when they come to the health facilities for ANC, immunization or under 5 clinics to improve caregivers' perceptions and IYCF Practices. As urban health extension workers have direct contact with the community, the health education can be given by them. Preparing brochures and flyers about IYC foods and food preparation may help the mothers improve their knowledge on IYCF practice.

The government should consider alternative childcare options for working mothers so that they keep working and improve their income as well as they keep their children's health. As caregivers recommend, it might be a good idea to consider food cost subsidies. BCC (behavioral change communication) interventions should also be considered. More quantitative researches should be done to evaluate IYCF practice and its relation with their nutritional status in urban setting.

10 References

1. WHO. Infant and Young Child Feeding: WHO; 2015 [updated July 2015. Available from: http://www.who.int/mediacentre/factsheets/fs342/en/.

2. Exclusive Breastfeeding: WHO; 2015 [updated July 30, 2015 Available from: http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/.

3. Caetano MC, Ortiz TTO, Silva SGLd, Souza FISd, Sarni ROS. Complementary Feeding: Inappropriate Practices in Infants. Journal de pediatria. 2010;86(3).

4. Guiding Principles for Complementary Feeding of the Breastfed Child. Washington: Pan American Health Organization; World Health Organization; 2001.

5. Infant Nutrition and Feeding Washington: U.S. Department of Agriculture Food and Nutrition Service; 2009.

6. National Strategy for Infant and Young Child Feeding in Bangladesh. Mohakhali: UNICEF; 2007.

7. Indicators for Assessing Infant and Young Child Feeding Practices. Indicators for assessing infant and young child feeding practices. Indicators for assessing infant and young child feeding practices : conclusions of a consensus meeting held 6–8 November 2007 in Washington D.C., USA. ed: WHO; 2008.

8. The State Of The World's Children 1998 Focus On Nutrition: UNICEF; 1998 [

9. National Nutrition Programme. Addis Ababa, Ethiopia: Government of the Federal Democratic Republic of Ethiopia; June 2013

10. Health Sector Transformation Plan (HSTP). Addis Ababa, Ethiopia: The Federal Democratic Republic of Ethiopia Ministry of Health; 2015. p. 182.

11. Situation Analysis of the Nutrition Sector in Ethiopia: 2000-2015. Addis Ababa, Ethiopia Ethiopian Federal Ministry of Health, UNICEF, and European Commission Delegation, 2016.

12. UNICEF, WHO, BANK W. UNICEF-WHO-The World Bank Joint Child Malnutrition Estimates. UNICEF, New York; WHO, Geneva; The World Bank, Washington, DC, 2012.

13. Global Strategy for Infant and Young Child Feeding: WHO; 2015 [Available from: http://www.who.int/nutrition/topics/global_strategy/en/.

14. Ethiopia Demographic and Health Survey 2011. Addis Ababa: Central Statistical Agency, 2012.

15. Das JK, Salam RA, Imdad A, Bhutta ZA. Infant and Young Child Growth. In: Black RE, Laxminarayan R, Temmerman M, Walker N, editors. Reproductive, Maternal, Newborn, and Child Health: Disease Control Priorities. 2. Third ed. Washington (DC): The International Bank for Reconstruction and Development/ The World Bank; 2016.

16. Nutrition country profiles: Ethiopia summary. Food And Agriculture Organization Of The United Nations, 2008.

17. Faber M, Benadé AS. Perceptions of infant cereals and dietary intakes of children aged 4–24 months in a rural South African community. International Journal of Food Sciences and Nutrition. 2009;52(4):359-65.

18. Tessema M, Belachew T, Ersino G. Feeding Patterns and Stunting During Early Childhood in Rural Communities of Sidama, South Ethiopia. Pan African Medical Journal. 2013;14(75):22.

19. Fekadu Y, Mesfin A, Haile D, Stoecker BJ. Factors Associated with Nutritional Status of Infant and Young Children in Somali Region,Ethiopia: A Cross-Sectional Study. BMC Public Health. 2015;15(1):1-7.

20. Hagos S, Mengiste Y, Jones S, Birhanu D, Pelto GH. Feeding Infants and Young Children in Dessie Zuria District, Northen Ethiopia: Report to GAIN on the Result of the Focused Ethnographic Study Global Alliance for Improved Nutrition (GAIN) August 21, 2014

21. Facts for Life. Fourth Edition ed. New York: UNICEF, WHO, UNESCO, UNFPA, UNDP, UNAIDS, WFP and the World Bank.; 2010.

22. Lutter CK, Daelmans BMEG, Onis Md, Kothari MT, Ruel MT, Arimond M, et al. Undernutrition, Poor Feeding Practices, and Low Coverage of Key Nutrition Interventions. Pediatrics. 2011;128(6):e1418-e27.

23. Agedew E, Demissie M, Misker D, Haftu D. Early Initiation of Complementary Feeding and Associated Factors among 6 Months to 2 Years Young Children, in Kamba Woreda, South West Ethiopia: A Community –Based Cross - Sectional Study. Nutrition and Food Sciences. 2014;4(6):1-6.

24. Nankumbi J, Muliira JK. Barriers to Infant and Child-Feeding Practices: A Qualitative Study of Primary Caregivers in Rural Uganda. Journal of Health, Population and Nutrition. 2015;33(1):106-16.

25. Ashwini S, Katti SM, Mallapur MD. Comparison of Complementary Feeding Practices Among Urban and Rural Mothers – A Cross Sectional Study. Al Ameen Journal of Medical Sciences. 2014;7(4):257-64.

26. Mekbib E, Shumey A, Ferede S, Haile F. Magnitude and Factors Associated with Appropriate Complementary Feeding among Mothers Having Children 6-23 Months-of-Age in

Northern Ethiopia; A Community-Based Cross-Sectional Study. Journal of Food and Nutrition Sciences. 2014;2(2):36-42.

27. Saleh F, Ara F, Hoque MA, Alam MS. Complementary Feeding Practice among Mothers in Selected Slums of Dhaka City: A Descripitive Study. Journal of Health, Population and Nutrition. 2014;32(1):89-96.

28. Pelto GH, Armar-Klemesu M. Balancing Nurturance, Cost and Time: Complementary Feeding in Accra, Ghana. Maternal and Child Nutrition. 2011;7(3):66-81.

29. Pelto G, Lee J, Akhter S, Porqueddu T, Hoang CT-C, Anwar I, et al. Summary Report: Infant And Young Child Feeding And Home Fortification In Rural Bangladesh – Perspectives From A Focused Ethnographic Study. GAIN, 2015.

30. Kavle JA, Mehanna S, Saleh G, Fouad MA, Ramzy M, Hamed D, et al. Exploring Why Junk Foods are 'Essential' Foods and How Culturally Tailored Recommendations Improved Feeding in Egyptian Children. Maternal and Child Nutrition. 2014.

31. Souza FISd, Caetano MC, Ortiz TT, Silva SGLd, Sarni ROS. Complementary Feeding of Infants in Their First Year of Life: Focus on the Main Pureed Baby Foods. Revista da Associação Médica Brasileira. 2014;60(3).

32. Saldiva SRDM, Venacio SI, Santana ACd, Castro ALdS, Escuder MML, Giugliani ERJ. The Consumption of Unhealthy Foods by Brazilian Children is Influenced by Their Mother's Education Level. Nutrition journal. 2014;13(33):1-7.

33. Huffman SL, Piwoz EG, Vosti SA, Dewey KG. Babies, Soft Drinks and Snacks: A Concern in Low- and Middle-Income Countries? Maternal and Child Nutrition. 2014;10(4):562-74.

34. Agumaise S, Gezahegn T, Alemayehu B. Complementary Feeding Practice of Mothers and Associated Factors in Hiwot Fana Specialized Hospital,Eastern Ethiopia. Pan African Medical Journal. 2014;18(143):1-18.

35. Hoare A, Virgo-Milton M, Boak R, Gold L, Waters E, Gussy M, et al. A Qualitative Study of Factors that Influence Mothers When Choosing Drinks for thier Young Childern. BMC Research Note. 2014;7(430).

36. Focusing on Improving Complementary Feeding in Ethiopia. Washington: USAID, 2011.

37. Pelto GH, Armar-Klemesu M, Siekmann J, Schofield D. The Focused Ethnographic Study 'Assessing the Behavioral and Local Market Environment for Improving the Diets of Infants and Young Children 6 To 23 Months Old' and its Use in Three Countries. Maternal and Child Nutrition. 2013;9:35-46.

38. Aemro M, Mesele M, Birhanu Z, Atnafu A. Dietary Diversity and Meal Frequency Practice among Infant and Young Children Aged 6-23 Months in Ethiopia: A Secondary Analysis of Ethiopian Demographic and Health Survey 2011. Journal of Nutrition and Metabolism. 2013;2013:8.

39. Hadley C, Lindstrom D, Belachew T, Tessema F. Ethiopia Adolescents' Attitudes and Expectations Deviate from Current Infant and Young Child Feeding Recommendations. Journal of Adolescent Health. 2008;43(3):253-9.

40. Woldie H, Kebede Y, Tariku A. Factors Associated with Anemia among Children Aged 6–23 Months Attending Growth Monitoring at Tsitsika Health Center, Wag-Himra Zone, Northeast Ethiopia. Journal of Nutrition and Metabolism. 2015;2015:9

41. Alemayehu M, Tinsae F, Haileslassie K, Seid O, G/egziabher G, Yebyo H. Nutritional Status and Associated Factors among Under-Five Children ,Tigray,Northen Ethiopia. International Journal of Nutrition and Food Sciences. 2014;3(6):579-86.

42. Nguyen PH, Menon P, Ruel M, Hajeebhoy N. A Situational Review of Infant and Young Child Feeding Practices and Interventions in Viet Nam. Asia Pacific Journal of Clinical Nutrition. 2011;20(3):359-74.

43. Njeri KA. Assessment Of Mothers‟ Compliance With National Infant And Young Child Feeding Recomendations Amongst Children Aged 0-24 Months In Nakuru Municipality, Kenya: Kenyatta University; October 2013.

44. Pelto GH, Gove S. Developing a Focused Ethnographic Study for the Who Acute Respiratory Infection (ARI) Control Programme. In: Scrimshaw NS, Gleason GR, editors. RAP, Rapid Assessment Procedures, Qualitative Methodologies for Planning and Evaluation of Health Related Programmes. Boston: International Nutrition Foundation for Developing Countries (INFDC); 1992. p. 528.

45. Kuhnlein HV, Pelto GH. Culture, Environment, and Food to Prevent Vitamin A Deficiency: International Nutrition Foundation for Developing Countries (INFDC); 1997.

46. Pries AM, Huffman SL, Mengkheang K, Koreun H, Champeny M, Roberts M, et al. High use of commercial food products among infant and young children and promotion of these products in Cambodia. Maternal and Child Nutrition. 2016;12(S 2):52-63.

47. Leung AK, Sauv RS. Whole Cow's Milk in Infancy. Pediatric and Child Health. 2003;8(7):419-21.

48. WHO. Indicators for assessing infant and young child feeding practices :Part 3 Country Profiles. 2010.

49. Sheth M, Obrah M. Diarrhea Prevention Through Food Safety Education. Indian Journal of Pediatrics. 2004;71:879-82].

50. Zhang Y. The Role of Pre-mastication in the Evolution of Complementary Feeding Strategis: a Bio-cultural Analysis [Partial Fulfillment of the Requirments for the Research Honors Program]: Cornell University May 2007

51. Karunamoorthi K, Kim H-M, Jegajeevanram K, Xavier J, Vijayalakshmi J. Papaya: A gifted nutraceutical plant - a critical review of recent human health research TANG HUMANITAS Traditional Medicine. 2014;4(1):1-54.

52. Lissiman E, Bhasale AL, Cohen M. Garlic for the Common Cold. Cochrane Library 2014.

53. Eteraf-Oskouei T, Najafi M. Traditional and Modern Uses of Natural Honey in Human Diseases: A Review. Iran Journal of Basic Medcinal Science. 2013;16(6):731–42.

54. Paul IM, Beiler J, McMonagle A, Shaffer ML, Duda L, Jr CMB. Effect of Honey, Dextromethorphan, and No Treatment on Nocturnal Cough and Sleep Quality for Coughing Children and Their Parents. JAMA Pediatrics. 2007;161(12):1140-6.

55. Gamboa DPA, Ekris Lv. TEFF "Survey on the nutritional and health aspects of teff (Eragrostis Tef)"2008.

56. J H, S B, B N, CE D. Responsive Feeding Establishing Healthy Eating Behavior Early on in Life. S Afr J Clin Nut. 2013;26(3):141-9.

11 Annexes

Food Lists from “Free Listing” Exercise and 24-Hour Dietary Recall

Annex of food lists.docx

Cards Used for Rating Exercise

Appendix E
Double Click

Information Sheet and Consent Form

Appendix F
Double Click

Key Informant Interview Guide (English Version)

Appendix A
Double Click

Key Informant Interview Guide (Amharic Version)

Appendix B
Double Click

Caregiver Respondents Guide (English Version)

Appendix C
Double Click

Caregiver Respondents Guide (Amharic Version)

Appendix D
Double Click