ADDIS ABABA UNIVERSITY

COLLEGE OF MEDICINE AND HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

Mothers' Values and Food Choices for their Infants and Young Children and the Association with the Dietary Diversity in Addis Ababa, Ethiopia

By: Kibebework Haddis

Address:

Tel: 0913106354

Mail: Kibebework21@gmail.com

Advisors: Seifu Hagos Gebreyesus (MPH, M.Sc., Ph.D.)

Bilal Shukur (MD, MPH)

Yalemwork Getnet (BSc., MPH)

2017

ADDIS ABABA UNIVERSITY

SCHOOL OF GRADUATE STUDENTS

Thesis submitted to the School of Graduate studies, Addis Ababa University in partial fulfillment of the requirements for the Degree of Masters of Public Health in Public Health Nutrition

Advisors:

Dr. Seifu Hagos: _____ _____

Signature Date

Dr. Bilal Shukur: _____ _____

Signature Date

Mrs. Yalemwork Getnet: _____ _____

Signature Date

Acknowledgement

I thank the Almighty God for providing peace and health to me and my family.

I gratefully thank my advisors; Dr. Seifu Hagos, Dr. Bilal Shukur and Mrs. Yalemwork Getnet for their great and honest support for the accomplishment of this research. I sincerely thank the Addis Ababa University for giving me the women's scholarship.

I also thank my family for their support and encouragement.

Table of content

Acknowledgement I

LIST OF TABLES IV

LIST OF FIGURES V

LIST OF ACRONYMS VI

ABSTRACT VII

1.INTRODUCTION ..... - 1 -

1.1. Background ..... - 1 -

1.2 Statement of the Problem ..... - 2 -

1.3 Significance of the Study ..... - 3 -

2.LITERATURE REVIEW ..... - 4 -

2.1 Infant and Young Child Feeding Practice ..... - 4 -

2.2 Complementary Feeding ..... - 5 -

2.3 Dietary Diversity and Meal Frequency ..... - 6 -

2.4 Parental Food Choices for Their Infants and Young Children ..... - 8 -

3 OBJECTIVES ..... - 11 -

3.1 General Objective ..... - 11 -

3.2 Specific Objectives ..... - 11 -

4 METHODS ..... - 12 -

4.1 Study Area ..... - 12 -

4.2 Study Design ..... - 12 -

4.3 Source Population ..... - 12 -

4.4 Sample Size ..... - 13 -

4.5 Sampling Procedure ..... - 14 -

4.6 Data Collection Procedures ..... - 14 -

4.7 Study Variables ..... - 15 -

4.8 Data Analysis Procedures ..... - 15 -

4.9 Data Quality Management ..... - 16 -
4.10 Dissemination of the Results ..... - 16 -
4.11 Ethical Consideration ..... - 16 -
5 RESULTS ..... - 17 -
5.1 Socio-Demographic Characteristics of Mothers and Fathers of Index IYC ..... - 17 -
5.2. The Values Mothers May Consider While Choosing Food for their IYC ..... - 20 -
5.3 Dietary Diversity Practice of Index IYC ..... - 22 -
5.4 The Association between Mothers' Values for Food Choice of their IYC and Dietary Diversity - 23 -
6 DISCUSSION ..... - 26 -
7 STRENGTH AND LIMITATION OF THE STUDY ..... - 29 -
8 CONCLUSION AND RECOMMENDATION ..... - 30 -
8.1 Conclusion ..... - 30 -
8.2 Recommendation ..... - 30 -
9 REFERENCE ..... - 31 -
10 . ANNEX ..... - 34 -
10.1 Annex I: Information Sheet and Consent Form ..... - 34 -
10.1.1 Information Sheet ..... - 34 -
10.1.2. Consent Form ..... - 35 -
10.2. Annex II: English And Amharic Version Questionnaire About Factors That Contribute For Mothers' Infant And Young Children Food Choice And Feeding Practice ..... - 36 -
10.2.1 English Version Questionnaire ..... - 36 -
10.2.2 Amharic Version Questionnaire ..... - 45 -

LIST OF TABLES

Table 1 Calculation of Sample Size ..... - 13 -

Table 2 Socio-demographic Characteristics of Mothers and Fathers of IYC (6-23 months) in Addis Ababa (n = 605), 2017 ..... - 17 -

Table 3 Mothers' Score for Health, Mental development, Weight, Cost and Nutritional Content of Food While Choosing Food for their IYC in Addis Ababa (n = 605), 2017 ..... - 21 -

Table 4 Rating of Mothers' Values that Affect their Decisions on What to Feed their IYC (n = 605), Addis Ababa, 2017..... - 22 -

Table 5 IYC Dietary Diversity Practice of IYC in Addis Ababa (n = 605), 2017..... - 23 -

Table 6 The Association between Mothers' Values for Food Choice of their IYC and Dietary Diversity in Addis Ababa (n = 605), 2017..... - 24 -

LIST OF FIGURES

PAGE

Figure 1. Conceptual framework of mothers' values for food choice and dietary diversity of infants and young children..... - 10 -

LIST OF ACRONYMS

Acronym	Description
EDHS	Ethiopian Demographic and Health Survey
IYC	Infant and Young Child
IYCF	Infant and Young Child Feeding
UNICEF	United Nations International Children Emergency Fund
USAID	United States Agency for International Development
WHO	World Health Organization
SNNP	Southern Nations, Nationalities and Peoples

ABSTRACT

Background: Among the factors which affect Infants and Young Children (IYC) feeding practice, mothers' values for food choices are crucial. Mothers' food choice may depend on the value of the food for health, mental development, weight, nutritional content and cost of the food. There is limited evidence on mothers' values for food choice of their IYC and their association with dietary diversity.

Objective: To evaluate the value mothers give for health, mental development, weight, nutritional content and cost of food when choosing food for their IYC from 6-23 months and its association with the dietary diversity, in Addis Ababa.

Method: A community based cross - sectional study was conducted from March 04 - April 22, 2017 in Addis Ababa. We used a multi stage sampling technique and included 605 mothers of index child (6-23 months). Data were collected by using structured and pretested questionnaire that include mothers' values (health, mental development, weight, nutritional content of food and cost of food) for choosing their IYC food using Likert scale and 24 hours dietary recall prior to interview. Data was entered to Epi_data version 3.1 then exported to stata/se 14.0 for analysis. The factors which had association with dietary diversity in the bivariate analysis and mothers' values were considered for multivariate analysis to evaluate the association between mothers' values and the dietary diversity.

Result: It was observed that 58.4% of mothers either strongly or moderately scored the five values (health, mental development, weight, nutritional content of food and cost of food). From the rating of mothers' values, a highest mean value of 3.23 was found for health followed by mental development with a mean value of 3.13. In this study, 61.5% of mothers practiced minimum dietary diversity. From the multivariate analysis result, mothers' values for health and mental development while choosing food for their IYC were significantly associated with the minimum dietary diversity having AOR[CI] of 4.39[1.34, 14.39] and 4.29[1.25, 16.45], respectively. Mothers' either strong or moderate score for the five values as a whole was significantly associated with the minimum dietary diversity of their IYC.

Conclusion: Mothers' food choice for their IYC was found to depend on the value they give for health, mental development, weight, nutritional content of food and cost of food. Mothers' strong/moderate score for health and mental development values were found to be predictors of dietary diversity. Increasing the awareness of mothers on the food values when choosing food for their IYC, can be one way of improving dietary diversity feeding practice.

1. INTRODUCTION

1.1. Background

The opportunity to enhance the survival and optimal growth of a child is critically determined by the feeding practice of the age period 6-23 months. Breast feeding along with safe and adequate complementary foods has been recommended as an optimum Infant and Young Child Feeding (IYCF) practice by WHO (1). According to WHO, infants should start receiving complementary foods at 6 months of age in addition to breast milk, initially 2-3 times per day between 6-8 months, increasing to 3-4 times daily between 9-11 months and 12-24 months with additional nutritious snacks offered 1-2 times per day, as desired. Inappropriate feeding practice will lead to malnutrition.

Seven food groups are recommended by WHO for IYCF feeding practice. These are 1) grain, roots and tubers, 2) legumes and nuts, 3) dairy products, 4) flesh foods, 5) eggs, 6) vitamin A rich fruits and vegetables and 7) other fruits and vegetables. According to WHO IYCF practice guideline, an IYC is said to get the minimum dietary diversity if fed on at least four groups. Feeding on four food groups within 24 hours results with a better quality diet that consists of at least one animal-source food and at least one fruit or vegetable in addition to grain, root or tuber (2).

Lack of minimum dietary diversity leads to under - nutrition. Among the factors that determine the prevalence of dietary diversity, mothers' food choice for their IYC plays a vital role. The choice in turn is affected by various socio-demographic and socio-economic factors.

Among the factors that affect food choice and feeding practice, mothers' values for health, weight, mental development, nutritional content and cost of food are important (3). These factors vary mainly depending on the level of health care utilization and socio-demographic characteristics such as livelihood and local perceptions of health issues (4).

1.2 Statement of the Problem

Globally, according to 2016 WHO report, 156 million children under five years of age were stunted, 50 million wasted and 42 million overweight (5). The 2016 Ethiopian Demographic and Health Survey (EDHS (2016)) showed that the national rates of stunting, waste and overweight among children under-five years old stood at 38.4%, 10% and 2.8%, respectively (6). The survey for Addis Ababa city showed respective rates of 14.6%, 3.5%, and 7%. Except the overweight rate, all the above mentioned rates showed a tendency to decrease when compared with earlier reports. The decrease, however, is not sufficient. The survey showed that there is a need of intervention on feeding practice of infants and young children.

The level of health care utilization and socio - demographic characteristics such as educational level, age, marital status, occupation, and local perceptions of health issues were reported among the factors that affect IYCF practices in Ethiopia (4). Accordingly, IYCF practices and associated factors had been studied in the different parts of the country.

Qualitative studies done in, Amhara, Oromia, Tigray and Southern Nations, Nationalities and Peoples (SNNP) regions showed that mothers are motivated to improve their IYCF practice by the value of the food for health, growth, strength, intelligence and weight (7-9). However, mothers could not provide diversified nutritious food because of low family income, cost of food, unavailability of certain foods and insufficient understanding about optimal IYCF practices (8). The misconception that certain foods are “too heavy” for children was also reported to hinder the practice of diversified food. Mostly, mothers of IYC believed that, except breastfeeding and first baby foods (gruels and porridges), young children should eat what the rest of the family eats that consists of grains and legumes, with only infrequent consumption of animal source foods and nutrient-dense vegetables and fruits (4). Hence, the studied parents did not have special food choice for their IYC.

In a qualitative study done in Adds Ababa, it was found that mothers’ food choice for their IYC depend on the value they give for health, mental development, nutritional content, weight and cost of food. Health benefit of the food was found to be crucial and main value that influences mothers’ decision on IYC food (10). However, to the best of the researcher’s knowledge, there are no quantitative studies done in Ethiopia on mothers’ values and food choices for their IYC and the association with dietary diversity feeding practice.

This study aimed to evaluate whether or not mothers give value for health, mental development, weight, nutritional content and cost of food when choosing food for their IYC (6 – 23 months) and the association of the values with the dietary diversity. Minimum dietary diversity is chosen over the minimum meal frequency since mothers' values are expected to be primarily manifested through the quality of foods chosen rather than the quantity of food they feed their IYC.

1.3 Significance of the Study

Complementary feeding is concerned with providing food to a child and maximal feeding practice. According to EDHS 2016, nationally, only 7% of IYC were receiving a minimal acceptable diet (6) while according to EDHS (2011), in Addis Ababa only 12.3 % of children age 6-23 months had met the criteria for a minimum dietary diversity (11).The aim of this study is to evaluate mothers' values for health, mental development, weight, nutritional content and cost of food when choosing food for their IYC, and the association of mothers' values for food choice with the dietary diversity. Understanding this association is important to advance the proper intervention on malnutrition during the period of 6-23 months of age.

The result of the research will give better understanding about the factors which affect mothers' food choice for their IYC and the feeding practice. When mothers choose food for their IYC, is their choice based on the value they give for health, mental development, weight, nutritional content and cost of the food? Is there association between mothers' values for food choice of their IYC and the dietary diversity practice? The answers to these questions help to create awareness and develop behavioral change among mothers in making purposeful food choice that satisfies the optimal feeding practice. Therefore, the findings of the research will help the health personnel in governmental and non-governmental organizations to develop tailored behavioral change communication based on mothers' values for food choice and the role on IYCF feeding practice.

2. LITERATURE REVIEW

2.1 Infant and Young Child Feeding Practice

The transition period from exclusive breastfeeding to two years, i.e., the period from 6 – 23 months of age is a critical window for optimal growth and development of a child (12). During this period, sufficient dietary diversity and meal frequency is essential. Of all preventive health and nutrition interventions, Infant and Young Child Feeding (IYCF) has the greatest potential impact on child survival, growth and development (13). Therefore, reduction of child mortality can be reached when nutrition in IYCF practices are highly prioritized in national policies and strategies. To this end, Ethiopia has developed National Infant and Young Child Feeding Strategy document back in 2004 (14). Supporting quality child feeding practices and improving household food security are the most effective interventions that can significantly reduce stunting and acute malnutrition during the first two years of life and their consequences later in life (13).

The following eight core indicators are recommended by WHO for assessing IYCF practices for measuring feeding of children at 0-24 months (2).

1. Early initiation of breastfeeding within one hour of birth
2. Exclusive breastfeeding for 6 months
3. Continued breastfeeding to two years
4. Introduction of solid, semi-solid or soft foods at six months
5. Minimum dietary diversity
6. Minimum meal frequency
7. Minimum acceptable diet
8. Consumption of iron-rich or iron-fortified foods

2.2 Breast Feeding

Breastfeeding is an essential way of providing ideal food for the healthy growth and development of infants. It can provide half or more of a child's energy needs between the ages of 6 and 12 months, and one third of energy needs between 12 and 24 months. Even though it is a natural act, breastfeeding is also a learned behavior (15). Mothers should have access to skilled practical help from, for example, trained health workers, who can help to build mothers' confidence, improve feeding technique, and prevent or resolve breastfeeding problems. Women in paid employment can be helped to continue breastfeeding by being

provided with minimum enabling conditions, for example paid maternity leave, part-time work arrangements, on-site crèches, facilities for expressing and storing breast milk, and breastfeeding breaks (15).

According to the 2016 UNICEF report, globally, about 45% of infants less than 6 months of age were exclusively breastfed (16). The data showed that about half of young children aged 12-23 months were benefitting continued breast feeding. In Ethiopia, according to EDHS (2016), only 58% of children less than 6 months old were exclusively breast-fed while 95%, 92%, 91% and 76% were breast-fed among children age 6-8, 9-11, 12-17 and 18-23 months, respectively (6).

2.3 Complementary Feeding

World Health Organization defines complementary feeding as "a 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" (17).

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk. Therefore, complementary foods are necessary to meet those needs. Delayed introduction of complementary foods or inappropriate feeding practice may falter infant's growth (5). The complementary diets should be high in energy density, with balanced protein, vitamins and minerals (18). The complementary foods are grouped in to seven: 1) grains, roots and tubers, 2) legumes and nuts, 3) dairy products (milk, yogurt cheese), 4) flesh foods (meat, fish, poultry and liver/organ meats), 5) eggs, 6) vitamin A-rich fruits and vegetables and 7) other fruits and vegetables (2).

According to the guiding principles of WHO for complementary feeding of breastfed child between the age of 6 and 23 months, animal source proteins and vitamin A-rich fruits and vegetables should be eaten daily. Use of fortified complementary foods or vitamin-mineral has also been recommended (17). It also recommends avoiding drinks with low nutrient value, such as tea, and to limited delivery of juice so as to avoid displacing more nutrient-rich foods.

The recommendation for complementary feeding recipes for Ethiopian children of 6–23 months is based on simple and locally available food items. The recipes are based on three major staples that are locally available, including maize/*enset*/*teff*, wheat/barley, and sorghum/maize , while the target energy and nutrient composition and daily intakes from the

complementary foods were drawn in line with the WHO's infant and young child feeding/complementary (19).

Complementary foods should be timely and adequate. Assuming a diet with energy density of 0.8 kcal per gram or above and low breast milk intake, the recommended meal frequencies are 2–3 meals per day for infants 6–8 months of age and 3–4 meals per day for infants 9–23 months of age, with 1–2 additional snacks as required (20).

Complementary foods usually are of two types: commercially prepared and homemade. Commercial fortified food products are often expensive. As a result, in developing countries homemade complementary foods are frequently used during child feeding. Complementary foods need to be far more nutrient-rich compared to family foods, but in low- income households, IYC foods are often known to be of low nutritive value (21). Hence utilization of homemade foods should be maximized, and the promotion of additional products should be considered only if they can fill a critical gap in nutrients (22). Mothers, fathers and other caregivers should have access to complete information about complementary foods free from commercial influence.

Rapid social and economic change intensifies the difficulties that families face in properly feeding and caring for their children. Expanding urbanization increases the number of families that depend on informal or intermittent employment with uncertain incomes and few or no maternity benefits. Mothers, fathers and other caregivers should have access to complete information about appropriate feeding practices, free from commercial influence. In particular, they need to know about the recommended period of exclusive and continued breastfeeding; the timing of the introduction of complementary foods; what types of food to give, how much and how often; and how to feed these foods safely (13). Interventions to improve breastfeeding practices and to promote breastfeeding include: Maternity care practices (23), Lay and peer support (23), Professional support (24), Community-based breastfeeding promotion and support (25), Media and social marketing (26), and Support for breastfeeding in the workplace (27).

2.4 Dietary Diversity and Meal Frequency

Dietary Diversity is a major factor to meet the requirements for essential nutrients. Adequately diversified food can lead to improved intake of energy and nutrients. The efficiency of feeding practice of the IYC can be evaluated using the parameters; Minimum Dietary Diversity and Minimum Meal Frequency (28).

Minimum Dietary Diversity: It is the proportion of children with 6–23 months of age who receive foods from four or more food groups of the seven food groups. It is associated with better quality diets (29). A child who consumes at least four food groups in a day would mean a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food (grain, root or tuber) (2).

Minimum Meal Frequency: It refers to the appropriate number of daily meals of complementary foods that depends on the energy density of the local foods and the usual amounts consumed at each feeding. Assuming a diet with energy density of 0.8 kcal per gram or above, for breastfed IYC, the minimum is defined as 2 times per day for 6-8 months of age and 3 times per day for 9-23 months of age while for non-breastfed IYC the minimum is defined as 4 times per day for 6-23 months of age. It reflects the quantity of the diet.

Minimum Acceptable Diet refers to the proportion of children 6–23 months of age who receive both minimum dietary diversity and minimum meal frequency.

Different factors may be significantly associated with minimum dietary diversity, either positively or negatively. These factors include food availability, child age, caregiver's occupation, marital status, caregivers' educational status, and knowledge, size of household and family income among others (30-32).

Few children receive nutritionally adequate and safe complementary foods. In many countries less than a quarter of infants 6–23 months of age meet the criteria of dietary diversity and feeding frequency that are appropriate for their age (5). Among Nepalese children aged 6–23 month, 76.6% received the minimum meal frequency, only 30.4% received the minimum dietary diversity and 26.5% received an acceptable diet (30).

Global infant and young child feeding practice guide line has been introduced in Ethiopia for more than a decade. However, inappropriate complementary feeding practices is still reported as a major contributor to poor nutrition status among children under two years (33). Based on EDHS 2011 of Ethiopia, in 2013, it had been reported that among children aged 6–23 months, the national adequate dietary diversity feeding practice and meal frequency feeding practice were 10.8% and 44.7%, respectively (34). Economic status, educational level, exposure to media and antenatal care visit were among the associated factors that determine the feeding practice.

According to 2016 EDHS, only 7 % of children age 6-23 months had met the criteria for a minimum acceptable diet (6). In a study conducted to assess dietary diversity feeding practice and associated factors among 6-23 months young child in Kemba Woreda, Southern Ethiopia, it was reported that the prevalence of dietary diversity feeding practice was 23.3% only (35). The misunderstanding of mothers that young children could not be able to digest foods like meat and egg and mothers' low economic status was suggested for the low dietary diversity. Among socio-demographic factors, mothers who worked as housewives were more likely to feed diversified food as compared to those who work far from their house (35).

In a study conducted to study the prevalence of complementary feeding practice in Arsi Negele, Southern Ethiopia, a minimum acceptable diet of 12.3 %; minimum dietary diversity of 18.8 %; minimum feeding frequency of 67.3 % and timely initiation of complementary feeding of 72.5 % has been reported (31). According to EDHS 2011, the minimum dietary diversity of IYC in Addis Ababa was 12.3% (11). All the results indicate the need for proper IYCF practice intervention at national level.

2.5 Parental Food Choices for Their Infants and Young Children

Foods chosen for infants during 6 – 23 months are of interest because it is a key period when early learning influences food preferences and eating behavior, which consequently shapes dietary patterns, growth and health outcomes (36). In studies conducted in different parts of Ethiopia, mothers were found motivated to improve their IYCF practice by the value of the food for health, growth, strength, intelligence and weight (4, 7, 8). The range of factors linked to parental attitudes and socio-demographic factors which are recognized to influence what infants eat include parental choices related to: breast or formula feeding, timing of introducing foods and foods of different nutrition value (3, 37, 38). It has been studied that beliefs, values, norms and knowledge were of central influence on choices. Cost, quality and availabilities of various foods were also key factors (3). Equity issues may be key regarding the degree to which mothers can choose particular foods for infants such as choosing foods which promote health (3). However, low family income could result in having to replace some preferred healthy food choices such as meat and vegetables with foods of possibly lower nutrient content and lower cost (3).

Parents may choose an IYC food by considering the value of the food for its nutritional content. This has been reported to be the case for those parents that prefer commercially available baby foods over homemade baby foods (39).

Influences of time, parents' capacities, social connections and different information sources on dietary choices were clearly apparent. Among triggers which lead to unhealthy dietary choices, reliance on fast food outlets due to shift work, lack of access to personal transport, inability to cook, mothers' own childhood dietary experiences, peer pressure and familial relationships has been reported (40).

Conceptual Framework

IYCF practices are influenced by mothers' food choice and it is based on their knowledge, beliefs, values, educational level, occupational status, economic status, work load, access to food, culture and family support.

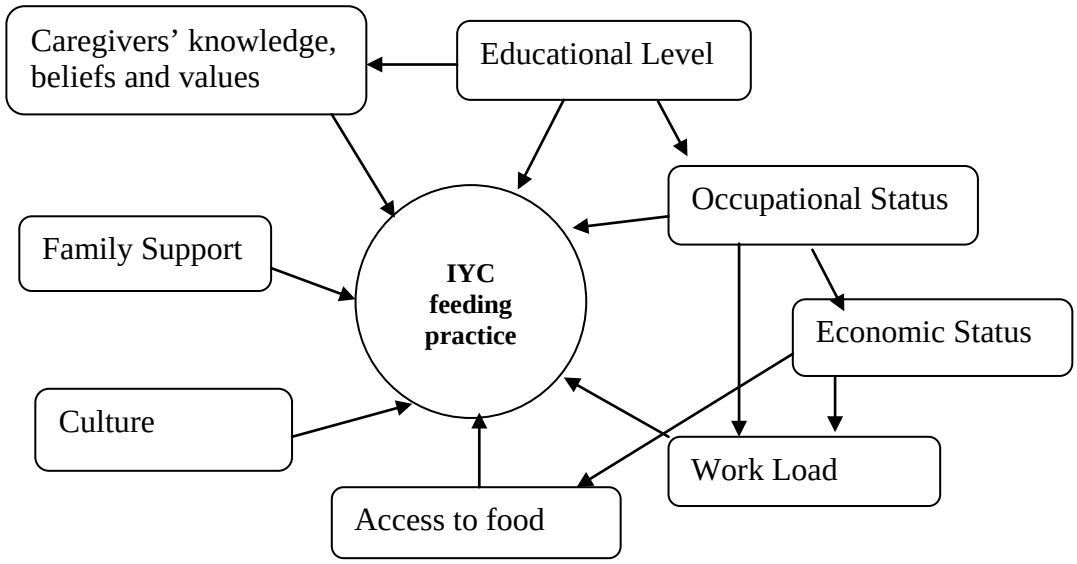

Figure 1. Conceptual framework for IYCF practice

The research question of this study is: What are the values mothers consider when choosing food for their IYC (6 - 23 months) and what is the association of the values with the dietary diversity in Addis Ababa city?

3 OBJECTIVES

3.1 General Objective

To evaluate the value mothers give for health, mental development, weight, nutritional content and cost of food when choosing food for their IYC from 6-23 months and its association with the dietary diversity, in Addis Ababa.

3.2 Specific Objectives

- To evaluate mothers' values for health, mental development, weight, nutritional content and cost of the food when choosing food for their IYC.
- To evaluate the association between mothers' values for food choice and the dietary diversity of the IYC.

4 METHODS

4.1 Study Area

The study was conducted in Addis Ababa city. The city was chosen for it represents urban areas that may have different feeding practice than the rural areas of Ethiopia. Addis Ababa, an important diplomatic city of Africa, is one of the fastest growing cities on the continent. In 2016, the city had a total population of about 3,352,000. Addis Ababa has a total area of 527 km^2 and a population density of 5,165.1/km^2 (41). There are 10 administrative sub-cities and 116 districts. There was high rate of unemployment (31%) and the average household size was 4.1 persons. The number of infants and young children aged 6 – 23 months accounted to 2% of the total population. According to EDHS (2011), the minimum dietary diversity of IYC in Addis Ababa was 12.3% (11).

4.2 Study Design

The study was community based cross sectional study aimed to evaluate mothers' values for health, mental development, weight, nutritional content and cost of food while choosing food for their IYC aged 6 – 23 months and the association of the values with the minimum dietary diversity in Addis Ababa city.

4.3 Source Population

The source population was all mothers having IYC from 6 - 23 months and living in Addis Ababa city and the study population was mothers of IYC of the same age group in selected districts of Addis Ababa.

Since there is no available data on the total population number of IYC from 6 months – 23 months, the conversion method was used to calculate the total number of IYC from the total population of Addis Ababa city. Hence, population of IYC from 6 – 23 months in Addis Ababa = 0.02 × 3,352,000 = 67,040.

4.4 Sample Size

The sample size was determined by using the general formula for analytic study. Since data was not found from previously done research, it is assumed that 50% of mothers give value for health, nutritional content, weight, mental development and cost of the food when they choose their IYC food. There is also no available data on the association between mothers' food choice on value dimension and dietary diversity. Therefore, it is assumed that 50% of mothers diversify their IYC food if they consider the five values when choosing food. The calculation of the sample size (n) is shown in Table 1.

Table 1 Calculation of Sample Size

Assumption: 50% of mothers consider the five values when choosing their IYC food	$n = \frac{(Z\alpha/2)^2 P(1-P)}{W^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$ Where Z = confidence interval (95%) = 1.96, P = proportion = 50% = 0.5 W = margin of error = 5%
Assumption: 50% of mothers who considered the five values diversify their IYC food.	$n = \frac{(Z\alpha/2)^2 P(1-P)}{W^2} = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$ Where Z = confidence interval (95%) = 1.96, P = proportion = 50% = 0.5 W = margin of error = 5%
Proportion of children with minimum dietary diversity = 12.3% (11)	$n = \frac{(Z\alpha/2)^2 P(1-P)}{W^2} = \frac{(1.96)^2 \times 0.123 \times 0.877}{(0.05)^2} = 166$

The largest sample size = 384

Assuming a 5% non-response, rate the sample size will be:

384 + 0.05 × 384 = 403

Multiplying by the design effect, 1.5, yields

403×1.5 = 604.5

Therefore, the sample size for the study was 605.

4.5 Sampling Procedure

To sample mothers, a multi-stage sampling procedure was used. First, the ten administrative sub-cities were stratified into two groups based on social indicators of development (mainly economical activity rate and percentage of female educational level above grade 10) of the 2007 population and housing census of Ethiopia (41). The sub-cities in Strata1 (lower standards) are Addis Ketema, Nefase Selk Lafto, Kolefe Keranyo, Ledeta and Akaki Kality with a total population of 1,734,683. The calculated proportional sample size was 305. The sub-cities in Strata 2 (higher standards) are Kirkose, Arada, Yeka, Bole and Gulelie with a total population of 1,699,314 (41). The calculated proportional sample size was 300. Nefase Selk Lafto and Bole were selected by lottery method.

From the 12 districts of Nefase Selk Lafto, district 1 and district 11 were selected by a lottery method, having a sample size of 127 and 174, respectively. In these districts 301 mothers with index IYC age from 6 -23 months were selected by lottery method after getting list of mothers from health extension personnel. In a similar way, from Bole sub-city, district 3 and 10 were selected having a sample size of 175 and 129, respectively, with a total of 304 mothers selected by lottery method.

4.6 Data Collection Procedures

Structured and pretested questionnaire were used to collect data. The data was collected by interviewing mothers of IYC face to face at their houses. The questionnaire included socio-demographic factors, information about IYC feeding practice and the 24 hour dietary recall based on EDHS 2011. It also included the values mothers give for health, mental development, weight, nutritional content, and cost of food while choosing food for their IYC using Likert scale (strongly consider, moderately consider, rarely consider, do not consider) as studied by Betelhem Taye (10).

The questionnaire was prepared in English and then translated to Amharic. The data collectors were eight trained health personnel in each sub city and there were two supervisors. The questionnaire was pretested for the relevance of the variables to the study and to avoid confusion while questioning and getting response. The pretest was conducted two weeks prior to the actual data collection at sites different from the selected districts.

4.7 Study Variables

Dependent variable: IYC minimum dietary diversity feeding practice

Independent variables: Mothers' values for health, weight, mental development, nutritional content and cost of food were taken to be independent variables.

Covariate variables: Socio-demographic characteristics and information about IYC feeding practice

4.8 Data Analysis Procedures

Data was entered to Epi data version 3. 1 then exported to stata/se 14.0 for analysis. The socio-demographic factors and mothers' information about IYCF practice were analyzed by calculating frequencies, means and standard deviation for continuous variables and percentage for categorical variables to describe the study population in relation to relevant variables. Mothers' values for health, weight, mental development, nutritional content and cost of food were analyzed by calculating the frequencies and percentages for each "do not consider", "rarely consider", moderately consider" and strongly consider" Likert scales. The food value with the highest frequency or percentage for "strongly consider scale" was taken to be the major value. The scales; "do not consider", "rarely consider", "moderately consider" and "strongly consider" were rated from 1 – 4 in their respective order and the mean rate for each value was calculated. The "Rating" was used to find out the caregivers' degree of concern about the relative importance of the different food values. The value with the highest mean value was considered to be the major value. "Strongly consider" and "moderately consider" responses were taken as positive responses for a given value. Accordingly, the percentage and frequency of strongly/moderately responses for each value was calculated. Dietary diversity data were calculated using 24 hour dietary recall. Those that fed on at least four food groups from the seven food groups (grains, legumes and nuts, flesh food, egg, dairy products, vitamin A- rich fruits and vegetables, other fruits and vegetables) are said to practice the minimum dietary diversity. We did cross tabulation to evaluate the correlation between dietary diversity and mothers' values. The bivariate analysis was conducted to evaluate the crude association between mothers' values and dietary diversity as well as socio-demographic characteristics, mothers' information about IYCF practice and dietary diversity. The socio-demographic factors which had association with dietary diversity in the bivariate analysis, mothers' information about IYCF practice and mothers' "strongly/ moderately" & "rarely" considered values (compared with "do not consider" values) were used in

multivariate analysis. Multivariate analysis was done to control the potential confounding variables. Adjusted odds ratio (AOR) with 95% confidence interval was used to evaluate the strength of association. Variables with confidence interval not included the value **1** in multivariate logistic regression and P-value less than 0.05 were considered as significant and independent predictors of the dependent variables.

4.9 Data Quality Management

- Structured and pretested questionnaire was used for the data collection.
- Data collectors and supervisors were trained for two days on the aim of the study, how to approach the mothers, the procedure to be followed and how to manage the data collection tool using the survey questionnaire and role play.
- The principal investigator and supervisors regularly supervised the data collection and checked for any inconsistency or data incompleteness. The completed data were entered and cleaned by Epi-data software version 3.1.

4.10 Dissemination of the Results

The result will be presented and submitted to Addis Ababa University, College of Medicine and Health Science as a partial fulfillment of the requirement for Masters Degree in Public Health. It will be disseminated to governmental and non-governmental organizations or institutions who are directly or indirectly involved in child nutrition. The thesis will also be written in a paper form and be sent for possible publication in a relevant scientific journal.

4.11 Ethical Consideration

Ethical clearance 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 Sub city Health Offices. Informed consent was taken from all study participants after proper explanation about the purpose of the study.

All the study participants were assured of the confidentiality of their responses to the questions which will be used only for the study and that their names will not be passed to a third party.

5 RESULTS

5.1 Socio-Demographic Characteristics of Mothers and Fathers of Index IYC

A total of 605 mothers of IYC aged 6–23 months were involved in the study, of which 304 were in Bole sub city and 301 were in Nifas silk lafto sub city. The socio-demographic characteristic of index IYC and their parents is shown in Table 2.

The age range of mothers was 18 - 43 years with a mean age of 27.8 (SD = 4.41). Most of IYC mothers were in age group 25-34 (69.8 %). Most of the mothers (90.6%) were married. It was found that 26.5% of mothers and 33.0% of fathers had college and higher level education. The majority of mothers (45.3%) were housewives while the rest were involved in varieties of occupation. The percentage of mothers that had antenatal care in health centers was 97.5 %. Families with monthly income less than birr 2000, 2001 – 5000 and above 5000 were 8.5%, 48.2% and 43.3%, respectively. The number of household in the majority of our study group was 3 (40.5%) followed by 4 (32.7%). The mean age of the IYC was 14.5 month (SD = 5.15).

Table 2 Socio-demographic Characteristics of Mothers and Fathers of IYC (6-23 months) in Addis Ababa (n = 605), 2017

Variable	Frequency	Percent
Mothers' Age group		
15-24	128	21.2
25-34	423	69.9
35-45	64	8.9
Religion		
Orthodox	372	61.5
Muslim	142	23.5
Protestant	86	14.2
Catholic	4	0.7

Ethnicity		
Amhara	228	37.7
Oromo	146	24.1
Gurage	103	17.0
Tigre	62	10.3
Wolayita	18	2.8
Haddeya	11	1.8
Others	37	6.1
Marital status of mothers		
Single	32	5.3
Married/ Living together	548	90.6
Separated	14	2.3
Divorced	5	0.8
Widow	6	1.0
Mothers' educational status		
Unable to read & write	60	9.9
Able to read &write	48	7.9
Elementary school	199	32.9
Secondary & preparatory	138	22.8
College and above	160	26.5
Mothers' occupation		
Government employee	98	16.2
Non Government employee	65	10.7
Private business	107	17.7
Daily laborer	15	2.5
Student	3	0.5

Unemployed	38	6.3
Housewife	274	45.3
Maid servant	5	0.8
Information about IYCF practice		
Yes	423	69.9
No	182	30.1
ANC during pregnancy of index child		
Yes	590	97.5
No	15	2.5
Fathers' educational status		
Unable to read & write	16	2.7
Able to read &write	28	4.8
Elementary school	170	28.9
Secondary & preparatory	175	29.7
College and above	200	34.0
Fathers' occupation		
Government employee	109	18.6
Non Government employee	116	19.8
Private business	265	45.1
Daily laborer	84	14.3
Student	2	0.34
Unemployed	6	1.0
Income of the family		
< 2000	44	7.3
2001-5000	248	41
> 5000	223	36.9

unknown	90	14.9
No. of under five		
One	443	73.7
Two	155	25.7
Three	4	0.7
No. of house hold		
≤ 3	259	42.8
4-5	293	48.4
6-8	49	8.1
>9	4	0.7
IYC sex		
Male	339	56.0
Female	266	44.0
IYC age in months		
6-8	99	16.4
9-11	80	13.2
12-17	211	34.8
18-23	215	35.5

5.2. The Values Mothers May Consider While Choosing Food for their IYC

Mothers were asked using Likert scale how likely they would consider (strongly consider, moderately consider, rarely consider, do not consider) the following values when choosing food for their IYC: health, mental development, weight, nutritional content and cost of food. Most mothers strongly considered all followed by moderately considered, not considered and rarely considered (Table 3). The highest consideration was given for health value of the food (60.7%) followed by the value for mental development (55.7%), for weight (49.1%), cost of the food (48.4%) and nutritional content of the food (42.2%).

Table 3 Mothers' Score for Health, Mental development, Weight, Cost and Nutritional Content of Food While Choosing Food for their IYC in Addis Ababa (n = 605), 2017

Mothers' value	Strongly scored n(%)	Moderately scored n (%)	Rarely scored n (%)	Did not score n (%)
Health	367 (60.7)	111(18.3)	27(4.5)	100(16.5)
Mental development	337(55.7)	128(21.2)	26(4.3)	114(18.8)
Weight	297(49.1)	153(25.3)	30(5)	125(20.6)
Cost	292(48.4)	180(29.6)	40(6.6)	93(15.4)
Nutritional content	255(42.2)	184(30.4)	40(6.6)	126(20.8)

It was observed that 58.4% of the mothers scored either strongly or moderately all the five values; namely the health, mental development, weight, nutritional content and cost of the food. There were few mothers (4.3%) who did not give value (with a scale of "do not consider") for all.

The response of mothers to the five values were ranked from 1 – 4 for "do not consider", "rarely consider", "moderately consider" and "strongly consider", respectively. The health value was found to have the highest mean ranking (3.23) followed by mental development, weight, cost and nutritional content, in their respective order (Table 4).

Table 4 Rating of Mothers' Values that Affect their Decisions on What to Feed their IYC (n = 605), Addis Ababa, 2017

	Number of times the rating was assigned to the value dimension				
Mothers' value	4	3	2	1	Mean ranking
Health	367	111	27	100	3.23
Mental development	337	128	26	114	3.13
Weight	297	153	30	125	3.02
Cost	292	180	40	93	3.10
Nutritional content	255	184	40	126	2.93

5.3 Dietary Diversity Practice of Index IYC

The mothers were asked about the food items their IYC fed in the past twenty four hours prior to the interview. Most of the IYC were fed on grains (94.6%) and only 23.1% were fed on flesh food. The results are summarized in Table 5.

Based on WHO IYC feeding guide line indictors on dietary diversity (15), **61.5%** (n = 372) received the minimum dietary diversity (fed four groups or more from seven groups) while 38.5% (n = 230) received below the minimum dietary diversity.

Table 5 IYC Dietary Diversity Practice of IYC in Addis Ababa (n = 605), 2017

Food group	Response	n (%)
Flesh	Yes	140 (23.1)
	No	465 (76.9)
Egg	Yes	321 (53.1)
	No	284 (46.9)
Dairy product	Yes	440 (72.7)
	No	165 (27.3)
Grain/tuber/root	Yes	572 (94.6)
	No	33 (5.5)
Legumes/nuts	Yes	236 (39.0)
	No	369 (61.0)
Vitamin A rich fruits and vegetable	Yes	376 (62.3)
	No	228 (37.8)
Other fruits and vegetable	Yes	343 (56.7)
	No	262 (43.3)

5.4 The Association between Mothers' Values for Food Choice of their IYC and Dietary Diversity

Mothers' values for food choice of their IYC scaled as "strongly/moderately", and "rarely" were compared with the scale "do not consider" in multivariate analysis. In model 1, the five mothers' values were used separately. For adjusting the association, family income, mothers' educational status and occupation, fathers' occupation, IYC age and mothers' information about IYC feeding practice were used. In model 2, The five mothers' values which were all scored strongly or moderately were taken as **1** and **0** for the others that include at least one "rarely" or "do not consider" response. In model 3, mothers who did not consider all the values were taken as **0** and mothers who scored the values strongly, moderately or rarely for at least one value were taken as **1**. The results of the analysis are shown in Table 6.

Table 6 The Association between Mothers' Values for Food Choice of their IYC and Dietary Diversity in Addis Ababa (n = 605), 2017

Variable (mothers' values for food choice)	Response	Dietary diversity		COR [95%CI]	AOR [95%CI]
		Yes n (%)	No n (%)		
Health	Strongly/ Moderately	346(72.4)	132(27.6)	16.10[8.84,29.32]	**4.39[1.34, 14.29]**
	Rarely	12(44.4)	15(55.6)	4.91 [1.90,12.65]	1.09[0.42, 8.00]
	Do not consider	14(14.0)	86(86.0)	1.00	
Mental development	Strongly/Moderately	338(72.7)	127(27.3)	14.19[8.24, 24.43	**4.29[1.18, 16.45]**
	Rarely	16(61.5)	10(8.5)	8.53[3.34, 21.78]	2.87[0.58, 14.06]
	Do not consider	18(15.8)	96(84.2)	1.00	
Weight	Strongly /Moderately	322(71.6)	128(28.4)	7.31[4.65, 11.47]	1.17[0.45, 3.05]
	Rarely	18(60)	12(40)	4.35[1.89, 10.03]	1.96[0.39,9.72]
	Do not consider	32(25.6)	93(74.4)	1.00	
Nutritional content	Strongly/Moderately	322(73.4)	117(26.7)	9.74[6.08, 15.60]	1.50[0.44, 5.03]
	Rarely	22(55)	18(45)	3.86[1.82, 8.18]	0.39[0.07, 2.08]
	Do not consider	28(22.2)	98(77.8)	1.00	
Cost	Strongly/Moderately	300(63.6)	172(36.4)	1.37[0.87,2.15]	0.56[0.25,1.24]
	Rarely	20(50)	20(50)	0.78[0.37,1.65]	0.53[0.17,1.68]
	Do not consider	52(55.9)	44(44.1)	1.00	
Strong/ moderate score for all five values	Strongly/Moderately for all five value	285(72.7)	107(27.3)	3.85[2.71,5.48]	**4.37[2.81,6.81**]
	Rarely/Do not for at list one from five	87(40.8)	126(59.2)	1.00	
Did not consider all five values	Did not for all	4(15.38)	22(84.62)	1.00	
	Strongly/Moderately/ Rarely for at list one from the four food values (cost: do not consider)	368(63.56)	211(36.44)	9.59[3.26, 28.21]	**10.02[3.15,31.82]**

Significant association was observed between mothers' food choice for health and mental development values of the food and the minimum dietary diversity. The AOR [95%CI) for strongly/moderately scored health and mental development values were 4.39[1.34, 14.29] and 4.29[1.18, 16.45], respectively. Significant association was observed between strong/moderate consideration of mothers' five values for food choice and the minimum dietary diversity of the IYC feeding practice (AOR [95% CI] = 4.37[2.81, 6.81]). Positive significant association was observed between mothers' strong, moderate or rare score for at least one food value and the minimum dietary diversity (AOR [95% CI] = 10.02[3.15, 31.82]).

6 DISCUSSION

The aim of this community based cross-sectional study was to evaluate mothers' value for health, mental development, weight, nutritional content and cost of food when they choose their IYC food and to evaluate the association between mothers' values and dietary diversity.

When the mothers' five values that can affect their food choice for the IYC were rated out of 4 using a Likert scale, all showed a mean value within a range of 2.93 – 3.23. Health was the highest rated value (3.23), indicating that mothers give priority for their IYC health when they choose their IYC diet. This is a good result to be encouraged. Health was followed by mental development (3.13), cost of food (3.1), weight (3.02) and nutritional content (2.93) on the rating scale. The highly rated value for mental development is encouraging. The high rate given for cost is alarming. It indicates that mothers buy not what they choose but what they can afford. The high rate for weight is also alarming. Instead of fulfilling the nutritional requirement gap, mothers will give priority to energy dense food that leads to overweight. Though least in the order, the rate for the nutritional content was also high when compared with those scored 1("do not consider").

It was observed that 58.4% of the mothers scored either strongly or moderately all the five values; namely the health, mental development, weight, nutritional content and cost of the food. Only few mothers (4.3%) did not give value for all. Hence mothers' food choice for their IYC was found to depend on the value they give for health, mental development, cost of the food, weight and nutritional content of the food.

The minimum dietary diversity practice of the IYC observed in this study was 61.5% in close agreement with the research finding reported by Dagmawit Solomon et al which was 59.9% (42). This is higher than the study done at Kemba Woreda and Arsi Negele, southern Ethiopia, where a prevalence of minimum dietary diversity of 23.3% and 19% were reported, respectively (31,35). The better health information, health service, maternal concern on choice of food among urban mothers than those living in rural areas or small villages are possible reasons for the better prevalence of minimum dietary diversity in Addis Ababa. According to EDHS 2011 of Ethiopia, among children aged 6–23 months, the national adequate dietary diversity feeding practice was 10.8% (34) which is much smaller than that reported for Nepal, i.e., 30.4% (30). When compared with the result of the present study, the

minimum dietary diversity percentage of the IYC feeding practice in Addis Ababa is much better than the national average, may be due to the above mentioned reasons.

The present finding of minimum dietary diversity practice in the studied areas of Addis Ababa is relatively high when compared with EDHS 2011report which was 12.3% for Addis Ababa. The possible explanation is the time to time increase of mothers' awareness on IYCF feeding practice due to the involvement of various sectors working on the field. Socio-demographic factors including family income, educational attainment, and mothers' knowledge on dietary diversity and child feeding were reported to be positively associated with minimum dietary diversity (42).

The multivariate logistic regression analysis revealed that mothers' value for the health value of the food was a predictor of dietary diversity practice of the IYC. The odds of IYC dietary diversity practice was 4.39 times higher among IYC whose mothers strongly/moderately scored the health value of the food when compared with the mothers who scored "did not" for health value. Similarly the value of the food for mental development was a predictor of dietary diversity practice with odds of 4.29 times higher among the IYC whose mothers strongly/moderately scored the value than those that did not consider. The observation of strong positive association between health & mental development and the minimum dietary diversity indicates that giving value for health and mental development motivates mothers to diversify their IYC food.

In this study we observed that mothers' strong /moderate considerations of all the five values as a whole for choosing their IYC food were found to be independent predicators of dietary diversity. This result implies that despite mothers' high score for food cost, their scores for the other values, namely; health, mental development, weight and nutritional content of the food had determined the diversity of the IYC feeding practice.

It was also observed that those mothers who scored strongly/moderately at least one of the values, except cost, had diversified their IYC food 10.02 time more than mothers who did not score all the food values. Therefore, the main reason for not diversifying the IYC food is not cost, but rather lack of giving value for health, mental development, weight and nutritional content of the food.

In this study, 58.4% of mothers considered all the five values and this might help them to diversify their IYC food. There were mothers who did not consider all the five values or any one of the values. The food choice of these parents may depend on other factors including food availability and this had a negative effect on the IYC dietary diversity.

7 STRENGTH AND LIMITATION OF THE STUDY

Strength: The study was community based. This makes the study strong for its contribution to further studies that can represent Addis Ababa city.

The study is the first to evaluate mothers' values and IYC food choice quantitatively and its association with IYC dietary diversity. This helps to improve the proper IYC feeding intervention.

Limitations: In the study, multi-stage sampling technique was used based on the 2007 census. The absence of latest census may have introduced an error.

When doing this research, articles done on the same topic were not found by the researcher. This restricted in making comparison of the results of the present study with other research findings.

In this study, mothers' IYC food choice based on the value they give was studied. However, the type of the food chosen for each food value was not studied.

8 CONCLUSION AND RECOMMENDATION

8.1 Conclusion

The majority of mothers gave value for health, mental development, weight, nutritional content and the cost of the food when they choose food for their IYC. Most mothers gave the highest score for health followed by the value for mental development, weight, cost and nutritional content of the food. Health and mental development values were found to be predicators of dietary diversity of the IYC. Increasing mothers' motivation for the food values, while choosing food for their IYC helps to improve the dietary diversity.

8.2 Recommendation

Since mothers' consideration for health, mental development, weight of the IYC and nutritional content of the food had significant effect on their food choices; mothers should be motivated to consider these values. Governmental and non-governmental health works who are involved in mothers' and child care have to motivate mothers to consider the food values while choosing food for their IYC. The education can be given during prenatal/ postnatal visits at health centers, at day care centers, through the media for the general public at large, etc. Government and nongovernment health sectors should work towards these ends. We recommend similar studies to be conducted in different parts of the country. We also recommend further studies to be done on the association between mothers' food values and their food choice for particular values.

9 REFERENCE

1. WHO. International Baby Food Action Network. Concluding Observations on Infant and Young Child Feeding. 2016.

2. WHO. Indicators for assessing infant and young child feeding practices. 2008.

3. R. Boak, M. Virgo-Milton, A. Hoare, A. de Silva, L. Gibbs, L. Gold, M. Gussy, H. Calache, M. Smith and E. *Waters*. Choosing foods for infants: a qualitative study of the factors that influence mothers. John Wiley & Sons Ltd, Child: care, health and development. 2016; 42,3, 359-369.

4. Alive & Thrive. Factors associated with Infant and Young Child Feeding Practices in Amhara Region and Nationally in Ethiopia. 2015.

5. WHO. Infant and Young Child Feeding. 2016.

6. Central Statistical Agency. Ethiopia Demographic and Health Survey. Addis Ababa. 2016.

7. USAID/Engine. Mothers' Infant and Young Child Feeding Practices and their Determinants in Amhara and Oromia Regions. 2014.

8. Alive &Thrive. IYCF practices, beliefs, and influences in Tigray Region, Ethiopia. 2010.

9. Alive & Thrive. IYCF practices, beliefs, and influences in SNNP Region, Ethiopia. 2010.

10. https:/www.etd.aau.edu.et/bitstream/123456789/10130/1/BetelehemTaye. Caregivers perception, values and chalenges on infant and young child feeding in Addis Ababa, 2016.

11. Ethiopia Demographic and Health Survey 2011, Central Statistical Agency, Addis Ababa, Ethiopia, ICF International Calverton, Maryland, USA. 2012.

12. Black RE AL, Bhutta ZA. Maternal and child undernutrition: global and regional exposures and health consequences. The Lancet. 2008; 371: 243-260.

13. UNICEF. Infant and Young Child Feeding. Nutrition Section, Programmes, 2012.

14. Federal ministry of Health, Addis Ababa, Ethiopia, 2004. National strategy for infant and young child feeding. 2004.

15. WHO/UNICEF. Global Stategy for Infant and Young Child Feeding. 2003.

16. UNICEF. Infant and Young Child Feeding, 2016.

17. WHO. Guiding Principles for Complementary Feeding of the Breastfed Child. Geneva. 2001.

18. Monte CM GEJP. Recommendations for the complementary feeding of the breastfed child. 2004.

19. Health FMo. Complementary Feeding Recipes for Ethiopian Children 6-23 Months Old: 2006.

20. WHO. Complementary Feeding: Report of the Global Consultation and Summary of Guiding Principles for Complementary Feeding of the breatfed Child.2002.

21. Nutr. D, Kaep J. The challenge of meeting nutrient needs of infants and young children during the period of complementary feeding. 2013.

22. UNICEF. Strengthening action to improve feeding of infants and young children 6-23 months of age in nutrition and child health programme. 2008.

23. Fairbank L.OMS, Renfrew MJ,Woolridge, M, Sowden AJ, Lister-Sharp D., Health Technology Assessment. A systematic review to evaluate the effectivness of intervensions to promote the initiation of breastfeeding.2000

24. Britton C MF, Wade A,, King SE. Support for breast feeding mothers. Cochrane Database of systematic reviews. 2007.

25. WHO. Community based strategies for breastfeeding promotion and support in developing countries. 2003.

26. Sikorski J RM, Pindoria S, Wade A. , Issue. Art.No. Support for breastfeeding mothers. The Cochrane Database of Systematic Reviews.

27. Cohen R MM. The impact of two corporate lactation programs on the incidence and duration of breastfeeding by employed mothers. American Journal of Health Promotion 1994.

28. WHO. Complementary Feeding: Report of the global consultation, and summary of guiding principles for complementary feeding of the breastfed child. 2002.

29. Working Group on Infant and Young Child Feeding Indicators. Developing and validating simple indicators of dietary quality of infants and young children in developing countries: Additional analysis of 10 data sets. The Food and Nutrition Technical Assistance (FANTA) Project/Academy for Educational Development (AED), July 2007.

30. Vishnu Khanal K., Say Z. Determinants of complementary feeding practices among Nepalese children aged 6-23 months. 2011.

31. Tigist Kassa BM, Yusuf Haji and Jemal Ebrahim. Appropriate complementary feeding practices and associated factors among mothers of children age 6–23 months in Southern Ethiopia, 2015. BMC Pediatrics. 2016; 16:131.

32. Aamer Imdad, Mohammad Yawar Yakoob, Zulfiqar A Bhutta. Impact of maternal education about complementary feeding and provision of complementary foods on child growth in developing countries. BMC Public Health. 2011, 11(Suppl 3):S25.

33. USAID. Focusing on Improving Complementary Feeding in Ethiopia, 2011.

34. Melkam Aemro MM, Zelalem Birhanu and Azeb Atenafu. A Secondary Analysis of Ethiopian Demographic and Health Survey 2011. Dietary Diversity and Meal Frequency Practices among Infant and Young Children Aged 6–23 Months in Ethiopia: Journal of Nutrition and Metabolism 2013;Volume http://dx.doi.org/10.1155/2013/782931.

35. Abyu. EAGDM. Dietary Diversity Feeding Practice and Determinants among Children Aged 6-23 Months in Kemba Woreda, Southern Ethiopia Implication for Public Health Intervention. Nutr Food Sci 2015.

36. Kimberly Bonia1 LT, Beth Halfyard, Valerie Ludlow, Leigh Anne Newhook and Janet Murphy-Goodridge. A qualitative study exploring factors associated with mothers' decisions to formula-feed their infants in Newfoundland and Labrador, Canada. BMC Public Health. 2013; 13:645.

37. Cameron SL, Heath, A. L. M. & Taylor, R. W. How feasible is baby-led weaning as an approach to infant feeding? A review of the evidence. Nutrients 2012; 4, 1575–1609.

38. Armstrong J, Abraham, E. C., Squair, M., Brogan, Y. & Merewood, A. Exclusive breastfeeding, complementary feeding, and food choices in UK infants. Journal of Human Lactation. 2014;30, 201–208.

39. Sally Lovelace and Fatemeh Rabiee-Khan. Food choices made by low-income households when feeding their pre-school children: a qualitative study; Maternal and Child Nutrition 2013; doi: 10.1111/mcn.12028.

40. Ashrafunnesa Khanom RAH, Kelly Morgan, Frances L Rapport, Ronan A Lyons and Sinead Brophy. Parental recommendations for population level interventions to support infant and family dietary choices: a qualitative study from the "Growing Up in Wales, Environments for Healthy Living (EHL)" study. BMC Public Health. 2015;15:234.

41. Population Census Commission. The 2007 population and housing census of Ethiopia: Statistical report for Addis Ababa City Administation. 2007.

42. Dagmawit Solomon, Zewdie Aderaw and Teketo Kassaw Tege Minimum dietary diversity and associated factors among children aged 6–23 months in Addis Ababa, Ethiopia. International Journal for Equity in Health. 2017; 16:181.

10 . ANNEX

10.1 Annex I: Information Sheet and Consent Form

10.1.1 Information Sheet

How are you? My name is----------. I represent a study team by a post graduate student from School of Public Health in Addis Ababa University who intends to do a research on Infant and Young child food choice and feeding practice in Addis Ababa city. The research is supervised by SPH/AAU instructors. We are studying the effect of maternal food choice based on the different values of the food on the diet and feeding practice of their Infants and Young Children. This research is conducted by **asking the experience of mothers who have infants and young children between the ages of 6 – 23 months**. ***You are randomly chosen*** to be interviewed by the research team. The information obtained from you and other respondents is important**.** We would appreciate if you could answer all questions. Participating in this study ***doesn't harm*** you at all. The information you give **will not be transferred** to any third party. It will be **used for the research purpose** only. All the information obtained from you will be ***kept confidential***. The interview will be conducted under ***private condition***.

You have the right to refuse the participation, not to respond to Questions that you are not willing to answer and withdraw from participation at any time.

Your participation is ***completely voluntary*** but your experiences are very helpful. Your participation or refusal will ***not affect*** the services you may need at the health facility now and in the future.

If you agree to be interviewed, we will complete the Questionnaires within ***20-30 minutes.***

If you have ***any questions*** about the study you can ask me. You can also ***contact*** the principal investigator **Mrs. Kibebework Haddis** using her mobile Phone **0913106354.**

Thank you. Next I will read a consent, which assures your interest to participate.

10.1.2. Consent Form

The researcher explained the aim of the study with clear language that I can decide once I understand the objective of the study. I decided:

1. Agree to participate. _____signature/thumb print, continue
2. Not agree to participate (stop here); thank you very much!

If the study subject agrees to participate in the study, start the interview.

Interviewer signature certifying that informed consent has been given verbally by the respondent.

Data collector's name _____ Signature _____Date ____/__/____

NB: No need of enforcing the respondent to be included in the study

Supervisor's name_____ Signature _____ Date____/___/___

10.2. Annex II: English and Amharic Version Questionnaire about Factors That Contribute For Mothers' Infant and Young Children Food Choice and Feeding Practice

Addis Ababa University; College of Health Science; School of Public Health

Administration: Addis Ababa city

10.2.1 English Version Questionnaire

Interview information

House hold identification Number |__|__|__|

City _____ Sub-city_____ Kebele_____ Ketena/Village _____

Date of interview |__|__| Day |__|__| Month |__|__||__|__| Year

Time started |__|__| Hour |__|__| Minutes

Time ended |__|__| Hour |__|__| Minutes

Result |__| Result codes:

Interviewer's name _____ 1 = Completed

Supervisor's name _____ 2 = partly completed

Checked by _____ 3 = Refused

Entered by _____ 4 = other (specify) _____

Part 1: Socio-economic and demographic characteristics:

Now, I would like to ask you few questions about your conditions.

S. No	***Questions and Filters***	***Coding and Category***	***Skip to***
101	How old are you? (Interviewer: Age in completed years)	|__|__|	
102	What is your religion?	Orthodox Christian ----------1 Muslim ----------2 Protestant ----------3 Catholic ----------4 Other(specify)----------99	
103	To which ethnic group do you belong?	Oromo ----------1 Amhara ----------2 Gurage ----------3 Tigray ---------- 4 Wolaita ----------5 Hadiya----------6 Other (specify)----------99	
104	Mother's marital status	Single ----------1 Currently married ----------2 Separated ----------3 Divorced----------4 Widowed ----------5 Others (specify)----------99	
105	Mother's educational status	Illiterate/unable to read and write----1 Can read and write----------2 Primary school(1-8)----------3 Secondary (9-10) & preparatory school (11-12)----------4	

		College and above ----------5	
106	Mother's occupational status	Government employee ----------1 Non-government employee----------2 Private business/merchant----------3 Daily laborer----------4 Student----------5 Unemployed ----------6 House wife----------7 Maid servant----------8 Other(specify)----------99	
107	Father's educational status	Illiterate/unable to read and write----1 Can read and write----------2 Primary school(1-8)----------3 Secondary (8-9) & preparatory school (11-12)----------4 College and above----------5	
108	Father's occupational status	Government employee ----------1 Non-government employee----------2 Private business/merchant----------3 Daily laborer----------4 Student----------5 Unemployed ----------6 Other (specify)----------99	
109	What is the total number of house –hold members? ***(Interviewer: All individuals living in that particular house hold)***	In Number |__|__|	

110	How many under- five children are there?	In Number |__|__	
111	What is your house hold total monthly expenditure? **(Interviewer: If the respondent knows the weekly expenditure, convert it to monthly expenditure)**	_____ birr	
112	What is your household monthly income? ***(Interviewer: Income generated by whole households members can be in kind and birr. If in kind, convert to birr)***	_____ birr	

Part 2: Information related to experiences during pregnancy and index child

Next, I would like to ask you few questions considering your experiences during pregnancy and index child condition.

201	Did you make any antenatal visit to health facility for care before you gave your last birth?	Yes----------1 No---------- 0	
202	How many antenatal visit(s) did you make to health facility for care before you gave your last birth?	Number of Times ------|__|__| Don't Know----------88	
203	What is the name of your youngest child?	Name----------	
204	Sex of the infant	Male----------1 Female----------2	
205	Age of the infant or young child	In completed months |___|	

206	Does (NAME) has older brother or sister?	Yes----------1 No ----------0	
207	Preceding birth interval ***(Interviewer: If less than one year, Record in months; otherwise record in completed years)***	Months |__|__| Year/s |__|__|	
	Questions from 208 -12 refer to the information obtained during vaccination or ANC follow up.		
208	Do you have any information about the importance of the introduction of solid, semi-solid or soft foods at six months of age?	Yes----------1 No ----------0	
209	Do you have any information about the importance of dietary diversity?	Yes----------1 No ----------0	
210	Do you have any information about the importance of iron –rich or iron-fortified food?	Yes----------1 No ----------0	
211	Do you have any information about the importance meal frequency?	Yes----------1 No ----------0	
212	Do you have any information about the importance of breast feeding continuation up to two years?	Yes----------1 No ----------0	
213	When did you start to feed your IYC additional food other than breast milk?	---------- month of age	

Part 3: The following questions refer to the values parents may consider while choosing food to their IYC.

Now, I will ask you about the conditions that may affect your food choice to your IYC.

301	How likely would you consider the cost of food when choosing food to your IYC?	I strongly consider----------1 I moderately consider ------ 2 I rarely consider ----------3 I do not consider----------4	
302	How likely would you consider the nutritional content of food when choosing food to your IYC?	I strongly consider---------- 1 I moderately consider ------ 2 I rarely consider ---------- 3 I do not consider---------- 4 Do not know ----------88	
303	How likely would you consider the value of the food for the weight of your IYC when choosing food?	I strongly consider----------1 I moderately consider ------2 I rarely consider ----------3 I do not consider----------4 Do not know----------88	
304	How likely would you consider the value of the food for the mental development of your IYC when choosing food?	I strongly consider----------1 I moderately consider ----- 2 I rarely consider ----------3 I do not consider---------- 4 Do not know----------88	
305	How likely would you consider the value of the food for the health of your IYC when choosing food?	I strongly consider----------1 I moderately consider ----- 2 I rarely consider ----------3 I do not consider----------4 Do not know----------88	

Part 4: 24 hour dietary recall (yesterday day and night)

Now, I would like to ask you about liquids or foods (from 401to 426) that (NAME) was fed yesterday during the day or at night. I am interested in whether your child had the item even if it was combined with other foods.

401	Was ***(NAME)*** breastfed yesterday during the day or at night?	Yes ---------- 1 No----------0	
402	Did ***(NAME***) get supplements (cod liver oil, Vitamin) in the past 24 hours?	Yes----------1 No ----------0 Do not know ----------88	
403	Did your IYC drink/eat fruit juice of orange, banana, apple, etc in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
404	Did your IYC drink soup in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
405	Did your IYC drink milk such as tinned, powdered or fresh animal milk in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
406	Did your baby drink yogurt in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
407	Did your IYC eat any commercially fortified baby food, like Fafa, Hilina, Cerilak, or Cerifam in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
408	Did your baby eat Injera, bread, rice, noodles, or other foods made from grains, such as, teff, oats, maize, barley, wheat, sorghum, millet or other grains in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	

409	Did your baby eat Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside and dark green, leafy vegetable like, spinach, in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
410	Did your baby eat white potatoes, white yams, bulla, kocho, manioc, cassava, or any other foods made from roots in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
411	Did your baby eat cabbage, tomato, onion, potato, or other vegetables in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
412	Did your baby eat ripe mangoes, papaya, or any other fruit which are yellow inside in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
413	Did your baby eat liver, kidney, heart or other organ meat in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
414	Did your baby eat any meat, such as beef, pork, lamb, goat, chicken, or duck in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
415	Did your baby eat egg in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
416	Did your baby eat any fresh or dried fish or shellfish in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
417	Did your baby eat any food made from beans, peas, lentils, or nuts in the past 24 hours?	Yes----------1 No ----------0	

		Do not know----------88	
418	Did your baby eat any cheese or other food made from milk in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
419	Did your baby eat any other solid, semi-solid, or soft food in the past 24 hours?	Yes----------1 No ----------0 Do not know----------88	
420	If your answer to Q 419 is yes, what kind of solid, semi-solid or soft foods did NAME), eat?	_____ _____	
421	How many times did your baby eat in the last 24 hours?	----------	

Thank you for your cooperation. We wish you best of luck to you and your child!

10.2.2 Amharic Version Questionnaire

አዲስ አበባ ዩኒቨርሲቲ፤ ጤና ሳይንስ ኮሌጅ፤ የህብረተሰብ ጤና አጠባበቅ ት/ቤት

የወላጆች የምግብ ምርጫ በህጻናቱ ምግብና የአመጋገብ ስርአት ላይ ያለው ተጽእኖ፤በአዲስ አበባ ከተማ

የመረጃ መስጫ እና ስምምነት ቅጽ

1. የመረጃ መስጫ ቅጽ

ጤና ይስጥልኝ፤ስሜ---------- ይባላል፡፡ እኔና በአዲስ አበባ ዩኒቨርሲቲ የህብረተሰብ ጤና አጠባበቅ ትምህርት ቤት ለማስተርስ ዲግሪ የምታጠና ተማሪ በአዲስ አበባ ዩኒቨርሲቲ ህብረተሰብ ጤና አጠባበቅ ትምህርት ቤት መምህራን በመታገዝ የእናቶች የምግብ ምርጫ በህናቱ ምግብና የአመጋገብ ስርአት ላይ ያለውን ተጽእኖ ለመረዳት ጥናት እያካሄድን እንገኛለን፡፡ የዚህ ጥናት ዋና አላማ እናቶች ለልጆቻቸው ምግብ ሲመርጡ ምንን ታሳቢ እንደሚያደርጉና ይህም በልጆች አመጋገብ ላይ ምን ተጽእኖ እንዳለው መረዳት ነው፡፡ ይህ ጥናት ከ 6 እስከ 23 ወር ህጻናት ልጆች ካላቸው እናቶች በቃለ መጠይቅ መረጃ በማሰባሰብ ይካሄዳል፡፡ እርስዎ የተመረጡት በእጣ በዚህ መስፈርት ብቻ ነው፡፡ እርስዎ የሚሰጡን መረጃ ከሌሎች መረጃ ምንጮች ጋር ተዳምሮ ለጥናቱ ያለው ጠቀሜታ የጎላ ነዉ፡፡ ለጥናቱ መሳካት እርስዎ የሚሰጡን ትክክለኛና ቀና መልስ ወሳኝ ሚና አለዉ፡፡ በጥናቱ በመሳተፍዎ ምንም ጉዳት አይደርስብዎትም፡፡ በዚህ ቃለ መጠይቅ የሚሰበሰበው መረጃ ለዚህ ጥናት የሚውል እንጂ ለሌላ ሦስተኛ ወገን የሚሰጥ አይደለም፡፡ እርስዎ የሚሰጡን ምላሽ ሁሉ በሚስጥር ይያዛል፡፡ መጠይቁም የግል ምኞትዎን በጠበቀ መልኩ ከእርስዎ ጋር ብቻ ይካሄዳል፡፡

በዚህ ቃለ መጠይቅ የመሳተፍም ሆነ ያለመሳተፍ ሙሉ መብት አለዎት፡፡ በማንኛውም ጊዜ ቃለ መጠይቁን ማቋረጥ ከፈለጉም ይችላሉ፡፡ ሊያገኙት የሚፈልጉት የጤና አገልግሎት ካለ በዚህ ጥናት ባለመሳትፍዎ አሁንም ቢሆን ወደፊት አይስተጓጎልም፡፡ ነገር ግን የርስዎን ተሳትፎና ሁሉንም ጥያቄዎች እንዲመልሱልን እናበረታታለን፡፡ በጥያቄዉ ለመሳተፍ ፈቃደኛ ከሆኑ ከ20-30 ደቂቃ ባለው ጊዜ ዉስጥ እናጠናቅቃለን፡፡
ግልፅ ያልሆነ ነገር ካለ ሊጠይቁን ይችላሉ፡፡ አስፈላጊ ሆኖ ካገኙት የጥናቱ መሪ የሆኑትን ወ/ሮ ክበበወርቅ ሀዲስን በስልክ ቁጥር 0191310635 4 ማግኘት ይችላሉ፡፡

አመሰግናለሁ!

በመቀጠል የስምምነት ቅጽ አነባለሁ። ይህም በጥናቱ ለመሳተፍ ያለዎትን ፍላጎት ያረጋግጣል።

2. የስምምነት ቅጽ

ተመራማሪው የጥናቱን ዓላማ በሚገባ ግልጽ በሆነ መንገድ አስረድተውኛል። በዚህም መሠረት የጥናቱን ዓላማ ስለተረዳሁ ለመሳተፍ ወሰኔየን በሚከተለዉ መንገድ አረጋግጣለሁ።

1. አዎ እሳተፋለሁ። ስም _____

ፊርማ/የጣት አሻራ፣ ----------

2. አልስማማም/ አልሳተፍም ። [ ] (አመስግነዉ በዚህ ያብቁ)

ተጠያቂዉ ለመሳተፍ ፈቃደኛ ከሆኑ መጠይቁን ጀምር።

የመረጃ ሰብሳቢ ፊርማ ተጠያቂዉ በቃል ስምምነት መስጠቱን ያረጋግጣል።

አስታዉሰ፡ ተጠያቂዉ በጥናቱ እንዲሳተፉ አላስፈላጊ ጫና መፍጠር አያስፈልግም።

የመረጃ ሰብሳቢ ስም _____ ፊርማ _____ቀን _____/___/___

የተቆጣጣሪ ስም _____ፊርማ_____ቀን_____/___/___

የእናት መለያ (ኮድ) |_|_|_|

ከተማ ስም _____ ክ/ከተማ _____ ቀበሌ _____ ቀጠና/መንደር _____

መጠይቁ የተደረገበት ቀን |_|_|ቀን |_|_|ወር |_|_||_|_|ዓ.ም

መጠይቁ የተደረገበት ሰዓት |_|_| ሰዓት |_|_| ደቂቃ

የተጠናቀቀበት ሰዓት |_|_| ሰዓት |_|_| ደቂቃ

ዉጤት |_| ዉጤት ኮዶች:

የጠያቂዉ ስም _____ 1 = የተጠናቀቀ

የተቆጣጣሪዉ ስም _____ 2 = በከፊል የተጠናቀቀ

የመረመረዉ ስም _____ 3 = ለመጠየቅ ያለተስማሙ

ያስገባዉ ስም_____ 4 = ሌላ (ይገለጽ)

ክፍል ፤ <u>የማህበራዊና ዲሞግራፊያዊ ሁኔታዎች</u>

አሁን ስለእርስዎ ሁኔታ ጥቂት ጥያቄዎችን እጠይቅዎታለሁ፡፡

ተ.ቁ	መጠይቅና መለያዎች	የመልስ ኮድ	ይለፍ
101	ዕድሜዎ ስንት ነዉ? ***(ለጠያቂ፡- በሙሉ ዓመት ይገለፅ)***	___	
102	ሐይማኖትዎ ምንድን ነዉ?	ኦርቶዶክስ ----------1 እስልምና----------2 ፕሮቴስታንት----------3 ካቶሊክ----------4 ሌላ (ይገለፅ)----------99	
103	ብሔረሰብዎ ምንድን ነው?	ኦሮሞ----------1 አማራ----------2 ጉራጌ----------3 ትግራይ----------4 ወላይታ----------5 ሀድያ ----------6 ሌላ (ይገለፅ)----------99	
104	የእናት ጋብቻ ሁኔታ	ያላገባች ----------1 ባለትዳር ----------2 የተለያየች ----------3 የተፋታች----------4 ባል የሞተባት ----------5 ሌላ (ይገለፅ)----------99	
105	የእናት ትምህርት ሁኔታ ***(ለጠያቂ፤ማንበብና መጻፍ የሚችሉ ሲባል መደበኛ ባልሆነ ትምህርት የተማሩ ማለት ነዉ)***	ያልተማሩ/ማንበብና መጻፍ የማይችሉ-----1 ማንበብና መጻፍ የሚችሉ----------2 የመጀመርያ ደረጃ (1-8) ---------- 3 ሁለተኛ ደረጃ (9-10) ና መሰናዶ (11-12)-4	

		ኮሌጅ እና ከዛ በላይ ---------- 5	
106	የእናት ሥራ ሁኔታ ***(ለጠያቂ፤ዋና ሥራቸዉን ያክብቡ)***	የመንግስት ሠራተኛ ---------- 1 መንግሥታዊ ያልሆነ ድርጅት ሠራተኛ-- 2 የግል ቢዝነስ/ነጋዴ----------3 የቀን ሠራተኛ----------4 ተማሪ ---------- 5 ሥራ ፈላጊ/ሥራ የሌለዉ----------6 የቤት እመቤት----------7 የቤት ሠራተኛ----------8 ሌላ ካለ(ይገለፅ)----------99	
107	የአባት ትምህርት ሁኔታ ***(ለጠያቂ፤ማንበብና መጻፍ የሚችሉ ሲባል መደበኛ ባልሆነ ትምህርት የተማሩ ማለት ነዉ)***	ያልተማሩ/ማንበብና መጻፍ የማይችሉ----1 ማንበብና መጻፍ የሚችሉ ----------2 የመጀመርያ ደረጃ(1-8)----------3 ሁለተኛ ደረጃ (9-10) ና መሰናዶ (11-12) 4 ኮሌጅ እና ከዛ በላይ----------5	
108	የአባት ሥራ ሁኔታ	የመንግስት ሠራተኛ ----------1 መንግሥታዊ ያልሆነ ድርጅት ሠራተኛ --2 የግል ቢዝነስ/ነጋዴ----------3 የቀን ሠራተኛ----------4 ተማሪ ----------5 ሥራ ፈላጊ/ሥራ የሌለዉ ----------6 ሌላ ካለ (ይገለፅ)----------99	
109	ጠቅላላ የቤተሰብዎ ቁጥር ስንት ነዉ? ***(ለጠያቂ፤ቤት ዉስጥ የሚኖሩትን ሁሉን ደምረዉ ጠቅላላ ቁጥራቸዉን ይመዝግቡ***	በቁጥር ___	
110	ከአምስት ዓመት በታች የሆኑ ህጻናት ብዛት ስንት ነዉ?	በቁጥር ___	
111	ጠቅላላ የቤተሰብዎ ወርሀዊ ወጭ ስንት ነዉ? ***(ለጠያቂ፤ መልሰ ሰጭዎ የሚያዉቁት ሳምንታዊ ወጫቸውን ከሆነ ወደ ወርሃዊ ወጭ ቀይረው ይመዝግቡ)***	---------- ብር	

112	ጠቅላላ የቤተሰብዎ ወርሀዊ ገቢ ስንት ነዉ? ***(ለጠያቂ፡ ከሁሉም የቤተሰብ አባላት የሚገኘዉን ጠቅላላ የገቢ ምንጭ ደምር። እባክዎን ገቢዎቸዉን በዓይነትና በብር ይጠይቁ። ንብረቱ በዓይነት ከሆነ በወቅቱ ገበያ መሠረት ወደ ብር ይቀይሩ።)***	---------- ብር	

ክፍል 2. ከዕርግዝና ጊዜ እና ከህጻኑ ጋር የተያያዙ ሁኔታዎች መረጃ፡

በመቀጠል በዕርግዝና ጊዜ ስለተደረገልዎት ድጋፍ እና ስለህጻኑ ሁኔታ የተወሰኑ ጥያቄዎችን እጠይቅዎታለሁ።

201	የመጨረሻዎን ልጅ(የህፃኑ ስም) አርግዘዉ እያሉ የነፍሰ ጡር ምርመራ በጤና ድርጅት ተከታትለዋል?	አዎ---------- 1 የለም ---------- 0	
202	ባለፈው እርግዝና የነፍሰ ጡር ምርመራ በጤና ድርጅት ተከታትለዉ ከሆኑ ስንት ጊዜ ክትትል አድርገዋል?	በቁጥር ___ አላዉቅም----------88	
203	የህጻኑ ስም	----------	
204	የህጻኑ *ፆታ*	ወንድ---------- 1 ሴት ----------2	
205	የህጻንዎ ዕድሜ ስንት ነዉ? ***(ለጠያቂ፤ከወሊድ መዝገብ / ከክትባት ካርድ/ ከቤተሰብ ጤና መመሪያ ካርድ ለማረጋገጥ ይሞክሩ።***	(በሙሉ ወር ይገለፅ) __	
206	ህጻኑ ታላቅ እህት ወይም ወንድም አለው ወይ?	አዎ----------1 የለም----------0	
207	ህጻኑ ከታላቅ እህቱ/ወንድሙ ከስንት ወር/ዓመት በሓላ ነዉ የተወለደዉ? ***(ለጠያቂ፤ ከ1ዓመት በታች ከሆነ በወር ይመዝግቡ። ያለዛ በሙሉ አመት ይመዝግቡ)***	__ ወር __ ዓመት	
	ከ208 – 212 ያሉ ጥያቄዎች በእርግዝና ክትትልና በልጅዎ ክትባት ጊዜ ስላገኙት መረጃ ዎች ይመለከታል።		

208	ህጻኑ 6 ወር ሲሞላው ከጡት በተጨማሪ ጠጣር፣ከፊል ጠጣር እና ለስለስ ያሉ ምግቦችን ስለመጀመር አስፈላጊነት ምክር ተሰጥቶዎት ነበር ወይ?	አዎ ----------1 የለም----------0	
209	የተለያዩ የምግብ አይነቶችን ስለመመገብ አስፈላጊነት ምክር ተሰጥቶዎት ነበር ወይ?	አዎ ---------- 1 የለም---------- 0	
210	ልጅዎን በብረት የበለጸጉ ምግቦችን መመገብ አንዳለብዎ ምክር ተሰጥቶዎት ነበር ወይ?	አዎ ----------1 የለም----------0	
211	ተጨማሪ ምግቦችን በቀን ስንት ጊዜ መመገብ አንዳለብዎ ምክር ተሰጥቶዎት ነበር ወይ?	አዎ ----------1 የለም----------0	
212	ልጅዎን ከተጨማሪ ምግቦች ጋር እስከ 2 አመት ድረስ ጡት ማጥባት አንዳለብዎ ምክር ተሰጥቶዎት ነበር ወይ?	አዎ ----------1 የለም----------0	
213	ለልጅዎ ከጡት ሌላ ተጨማሪ ምግብ መስጠት የጀመሩት መቼ ነበር?	---------- ወር እድሜ	

ክፍል 3 የወላጆች የህጻናት ምግብ ምርጫ መነሻ ሊሆኑ የሚችሉ ምክንያቶች

አሁን ደግሞ ለህጻን ልጅዎ ምግብ ሲመርጡ ግምት ዉስጥ ስለሚያስገቧቸው ጉዳዮች እጠይቅዎታለሁ ::

301	ህጻን ልጅዎን (የህጻኑ ስም) ምን መመገብ እንዳለብዎ ሲያስቡ የምግቡን ዋጋ ምን ያህል ታሳቢ ያደርጋሉ?	በጣም አደርጋለሁ----------1 በመጠኑ አደርጋለሁ----------2 አንዳንድ ጊዜ አደርጋለሁ ----------3 አላደርግም----------4	
302	ህጻን ልጅዎን (የህጻኑ ስም) ምን መመገብ እንዳለብዎ ሲያስቡ የምግቡን ይዘት ምን ያህል ታሳቢ ያደርጋሉ?	በጣም አደርጋለሁ----------1 በመጠኑ አደርጋለሁ----------2 አንዳንድ ጊዜ አደርጋለሁ ----------3 አላደርግም----------4	
303	ህጻን ልጅዎን (የህጻኑ ስም) ምን መመገብ እንዳለብዎ ሲያስቡ ክብደቱ እንዲጨምር/እንዲፋፋልዎ ማስቻሉን ምን ያህል ታሳቢ ያደርጋሉ?	በጣም አደርጋለሁ----------1 በመጠኑ አደርጋለሁ----------2 አንዳንድ ጊዜ አደርጋለሁ ----------3 አላደርግም----------4	

304	ህጻን ልጅዎን (የህጻኑ ስም) ምን መመገብ እንዳለብዎ ሲያስቡ ለአእምሮ እድገት ያለውን ጠቀሜታ ምን ያህል ታሳቢ ያደርጋሉ?	በጣም አደርጋለሁ----------1 በመጠኑ አደርጋለሁ----------2 አንዳንድ ጊዜ አደርጋለሁ ----------3 አላደርግም----------4	
305	ህጻን ልጅዎን (የህጻኑ ስም) ምን መመገብ እንዳለብዎ ሲያስቡ ለጤናው መጠበቅ የሚኖረውን ጠቀሜታ ምን ያህል ታሳቢ ያደርጋሉ?	በጣም አደርጋለሁ----------1 በመጠኑ አደርጋለሁ----------2 አንዳንድ ጊዜ አደርጋለሁ ----------3 አላደርግም----------4	

ክፍል 4. በ 24 ሰዓት ውስጥ ህጻኑ የተመገበው የምግብ አይነትና ስንት ጊዜ እንደተመገበ ለመረዳት የሚያስችሉ ጥያቄዎች

አሁን ደግሞ በ 24 ሰአት ውስጥ ልጅዎ ምን አይነት ምግቦችንና መጠጦችን እንደወሰደና ለምን ያህል ጊዜ እንደወሰዳቸው እጠይቅዎታለሁ፡፡ የወሰደው ምግብ ከሌላ የምግብ አይነት ጋር የተቀላቀለ ሊሆን ይችላል፡፡

401	በ24 ሰአት ውስጥ ልጅዎን ጡት አጥብተዋል?	አጥብቻለሁ----------1 አላጠባሁም ----------0	
402	በ24 ሰአት ውስጥ ልጅዎን የአሳ ዘይት ወይም ቫይታሚን መግበውታል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
403	በ24 ሰአት ውስጥ ልጅዎ እንደ ብርቱካን፡ ሙዝ፣ ፖም የመሳሰሉ ፍራፍሬዎችን በልቷል/ ጭማቂ ጠጥቷል?	ጠጥቷል----------1 አልጠጣም ----------0 አላወኩም----------88	
404	በ24 ሰአት ውስጥ ልጅዎ ሾርባ ጠጥቷል?	ጠጥቷል----------1 አልጠጣም ----------0 አላወኩም----------88	

405	በ24 ሰአት ውስጥ ልጅዎ የታሸገ ወተት ወይም የላም ወተት ጠጥቷል?	ጠጥቷል----------1 አልጠጣም ----------0 አላወኩም----------88	
406	በ24 ሰአት ውስጥ ልጅዎ እርጎ ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
407	በ24 ሰአት ውስጥ ልጅዎ የበለጸገ የገበያ የህጻን ምግብ (ለምሳሌ ፋፋ፣ ሴሪፋም) ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
408	በ24 ሰአት ውስጥ ልጅዎ እንጀራ፤ ዳቦ፤ ሩዝ፤ ወይም እንደጤፍ፤ በቆሎ ስንዴ፤ ገብስ ከመሳሰሉ እህሎች የተሰሩ ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
409	በ24 ሰአት ውስጥ አንደ ዱባ፤ ካሮት፤ ስኳር ድንች ያሉ ውስጣቸው ቢጫ ወይም ብርቱካናማ የሆኑ ምግቦችን ወይም ጥቁር አረንጎዴ ቅጠላቅጠሎችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
410	በ24 ሰአት ውስጥ እንደ ድንች ቡላ፤ ቆጮ የመሳሰሉ የስር ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
411	በ24 ሰአት ውስጥ እንደ ጥቅል ጎመን፡ ቲማቲም፡ ቀይ ሽንኩርት፡ ድንች የመሳሰሉ የአትክልት ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
412	በ24 ሰአት ውስጥ የበሰሉ ማንጎ ወይም ፓፓያ ወይም ሌላ ውስጣቸው ቢጫ የሆኑ ፍራፍሬዎችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ---------- 0 አላወኩም----------88	

413	በ24 ሰአት ውስጥ ልጅዎ እንደ ጉበት፤ኩላሊት፤ልብ የመሳሰሉትን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
414	በ24 ሰአት ውስጥ ልጅዎ እንደ የበሬ የጥጃ፤ የበግ የፍየል የዶሮ ስጋ፤ ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
415	በ24 ሰአት ውስጥ ልጅዎ እንቁላል ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
416	በ24 ሰአት ውስጥ ልጅዎ ትኩስ ወይም የደረቀ አሳ ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
417	በ24 ሰአት ውስጥ ልጅዎ ከአተር፤ከሽንብራ ከምስር ወይም ከለውዝ የተሰሩ ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
418	በ24 ሰአት ውስጥ ልጅዎ ከወተት የተሰሩ እንደ አይብ የመሳሳሉ ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
419	በ24 ሰአት ውስጥ ልጅዎ ሌላ ጠጣር፤ ከፊል ጠጣር ወይም ለስላሳ የሆኑ ምግቦችን ተመግቧል?	ተመግቧል----------1 አልተመገበም ----------0 አላወኩም----------88	
420	ለላይኛው ጥያቄ መልስዎ ተመግቧል ከሆነ ስማቸውን ይጥቀሱ	----------	
421	በ24 ሰአት ውስጥ ልጅዎ ስንት ጊዜ ተመግቧል?	----------	

ለትብብርዎ በጣም አመሰግናለሁ፡፡

ለእርስዎና ለልጅዎ መልካም እድል እመኛለሁ፡፡