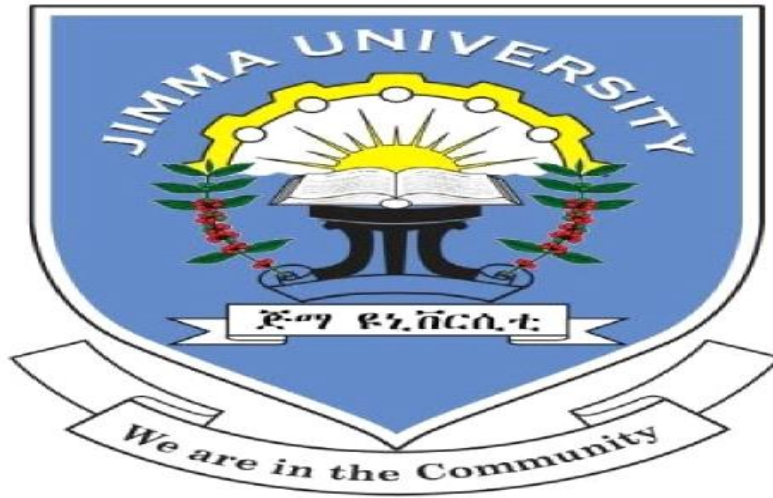


**SICK CHILD FEEDING PRACTICE AND ASSOCIATED FACTORS AMONG  
MOTHERS OF UNDER TWO YEAR SICK CHILDREN IN TEMBARO  
WOREDA, SOUTHERN ETHIOPIA.**



**BY: TADESSE MEKURIA (BSc)**

A research thesis to be submitted to Jimma University, Institute of Health, Faculty of Public Health, Department of Nutrition and Dietetics; In Partial Fulfillment for the Requirement for Masters of Science in Human Nutrition.

August 2020

Jimma, Ethiopia

JIMMA UNIVERSITY  
INSTITUTE of HEALTH  
DEPARTMENT OF HUMAN NUTRITION AND DIETETICS

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August 2020

Jimma, Ethiopia

## Abstract

**Background:** -Adequate nutrition during infancy and early childhood is fundamental to the development of each child's full human potential. The period from birth to two years of age is a critical window for the promotion of optimal growth, health, and behavioral development. During an illness the need for fluid frequently increases, a child should be offered and encouraged to take more, and breastfeeding on demand should continue. Infants and young children may not be fed adequately when they are sick. When a sick baby stops breastfeeding/ feeding, she or he loses more weight and takes longer to recover.

**Objective:** - To assess sick child feeding practice and associated factors among mothers of under two-year sick children in Tembaro Woreda, KT Zone, South Ethiopia, 2020.

**Methods:** -Facility-based cross-sectional study design was conducted from March 11–April 20, 2020, among 417 mothers of children under 2 years who were attending sick baby clinic Tembaro woreda public health facilities. Study participants were selected by systematic random sampling. Data were analyzed using statistical package for social sciences version 25. The adjusted odds ratio with 95% CI was used to determine the association. A statistical significance was declared at p-value <0.05.

**Result:** - A total of 408 (98%) mothers with their index child were interviewed. All respondents were biological mothers of the child. 71.8% of interviewed mothers were 15-30 years with a mean age of 26.23( $\pm 2.85$ ) and 73% of children were  $\geq 6$  months old. About 21.3% of the children were fed more frequently compared to what they fed when they were healthy. Paternal education, age of the child, having ANC visit, and hearing information about sick child feeding were the predictors identified at the last stage of analysis.

**Conclusion:** - A wide range of inappropriate sick child feeding practices exists. Paternal education, age of the child, having ANC visits, and having information about sick child feeding affects the feeding practices of mothers. Promoting paternal education and increasing the quality of ANC service for further improvement of sick child feeding is recommended.

**Keywords:** -Sick child, Infant and young child feeding practice, Kembata Tembaro.

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## Abbreviations

ANC	Antenatal Care
AOR	Adjusted Odds Ratio
CI	Confidence Interval
EDHS	Ethiopian Demographic Health Survey
FMOHE	Federal Ministry of Health of Ethiopia
HIV/ AIDS	Human Immune Virus/ Acquired Immune Deficiency Syndrome
IMNCI	Integrated Management of Neonatal and Child Illness
IYCF	Infant and Young Child Feeding
KMs	Kilometers
MAD	Minimum Acceptable Diet
NGOs	Non-governmental Organizations
ORS	Oral Rehydration Salt
OPD	Outpatient Department
S.N.N.P.R	Southern Nations Nationalities Peoples Regional State
SPSS	Statistical Package for Social science
UNICEF	United Nation International Children Education Fund
WHO	World Health Organizations

# CHAPTER: ONE

## 1. Introduction

### 1.1 Background of the study

Infant and young child feeding (IYCF) is the most important for infant and child survival, healthy growth and development, a healthy future generation, and national development(1). Adequate nutrition during infancy and early childhood are fundamental to the development of each child's full human potential. The period from birth to two years of age is a critical window for the promotion of optimal growth, health and behavioral development, and optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better development overall(2,3).

Evidence shows that children's growth deteriorates rapidly during illness if foods and feeding practices do not meet the additional nutrient requirements associated with illness(4). It also explained feeding during illness and recovery is the practice identified in developing countries regarding suboptimal child feeding this contributes to founder nutrition which is associated with more than one-third of the global disease burden for children under 5 years of age(5). Poor breastfeeding patterns, low nutrient density, and poor quality of complementary feeds account for nutrient deficiency, illness, and infections in children leading to malnutrition at an early age(3).

During an illness the need for fluid often increases, a child should be offered and encouraged to take more, and breastfeeding on demand should continue. A child's appetite for food often decreases, while the desire to breastfeed increases and breast milk may be coming to the main source of both fluid and nutrients. Intake is usually better if the child is offered his or her favorite foods and if the foods are soft and appetizing(6). In the context of Human Immune Virus/Acquired Immune Deficiency Syndrome(HIV/AIDS), the new World Health Organizations(WHO) guideline on Human Immune Virus(HIV) and infant feeding practices recommended that HIV infected mothers whose infants are HIV negative or unknown status to breastfeed exclusively for the first 6 months, then introduce complementary foods and continue to breastfeed for the first 12 months of life(7).

## 1.2 Statement of the problem

The optimal and appropriate infant and young child nutrition practices and strategies are Exclusive breastfeeding's (EBF) should be practiced till the end of six months; after completion of six months, the introduction of optimal complementary feeding should be practiced preferably with energy-dense, homemade food; breastfeeding should be continued minimum for 2 years and beyond; the mother should communicate by look into the eyes, touch and caress the baby while feeding and practice responsive feeding and WHO Growth Charts recommended for monitoring growth(5,7).

Infants and young children may not be fed adequately when they are sick. When a sick baby stops breastfeeding/ feeding, she or he loses more weight and takes longer to recover. Sick infants and children need to be fed more frequently than usual to meet their nutritional requirements(8).

However, globally, only 40% of infants under six months of age are exclusively breastfed. Lack of exclusive breastfeeding during the first 6 months accounts for 77% deaths and 85% disability-adjusted life years(9). Also, about 8.8 million children under 5 die each year mostly due to preventable causes such as undernutrition, diarrhea, pneumonia, measles, malaria, and HIV/AIDS and about 35% of under 5 child deaths and 11% of the total global disease burden can be attributed to undernutrition(5).

In developing countries, 35% of caregivers reported an increase in fluid intake during diarrhea for children 6–23 months, and 45% of caregivers across countries reported giving ORS during diarrhea for children 0–23 months. About 28% of caregivers across countries reported that their children 6–23 months old maintained food intake during illness and they have wide differences across countries in maintaining food intake during illness(5).

According to EDHS 2016, 73% of infants started breastfeeding within one hour of birth and 58% of children were exclusive breastfeeding during the first six months and only 7% of children in Ethiopia age 6-23 months meet the minimum standards concerning IYCF practices. Also, 15% of children with diarrhea were given more fluid and 7% were fed more food than usual, as recommended, 21% were given the same amount of fluid and 18% were fed by the same amount of food or breast milk as usual and, 33% were offered less fluid, and 35% were fed less food than usual when they have diarrhea(10).

A sick child should get better if given lots of rest, liquids, and healthy foods. A child who is throwing up or has diarrhea can lose lots of water and salt from his or her body. If this water and salt are not replaced by drinking the right liquids, your child becomes dehydrated. Dehydration can be life-threatening, especially for infants and young children(11).

Household-level factors such as poor household's socioeconomic status, lack of parental joint decision-making strategy on the treatment of the sick child, paternal education, lack of maternal access to health facilities, having a narrow birth interval and less dietary consumption determine the feeding practice and nutritional status of the children(2,12).

To reverse this problem the Federal Ministry of Health of Ethiopia(FMOHE) has tried to enhance the practice of optimal breastfeeding practice by developing training manuals and implementation guidelines on breastfeeding; and incorporated it to the primary health care in line with the health extension program, but there is no national guideline concerning sick baby feeding separately. Despite a few local studies conducted in different places in the country, no sufficient study tried to identify sick baby feeding practice and associated factors in babies less than 2 years in the study area. Therefore, this study is aimed to assess sick child feeding practice and associated factors among mothers of less than two-year sick children in Tembaro woreda, Southern Ethiopia.

### 1.3. Significance of the study

This study is aimed to assess the sick child feeding practices and associated factors among mothers of less than two-year sick children, health workers who work in under five clinics and in the community setting will use the result from this research as a baseline in their counseling/health education session to minimize malnutrition during illness practice and strengthen the good child feeding practices.

The finding of this study will provide for policymakers additional a significant input by involving a crucial role of sick infant and young children feeding practice as a tool to combat child malnutrition and immune capacity of children and will be helpful to ongoing program (IYCF), the community, medical profession and at the national level.

Nongovernmental organizations (NGOs) will also be benefited with relevant information for future planning and interventions of appropriate strategies to promote and maintain sick baby feeding practices.

## CHAPTER: TWO

### 2. Literature Review

In 2002, the WHO and UNICEF adopted the Global Strategy for infant and young child and it was developed to revitalize world attention to the impact that feeding practices have on the nutritional status, growth and development, health, and survival of infants and young children(13).

Malnutrition in all its forms increases the risk of disease and death. More than half of deaths in children under 5 years of age and one in five adult deaths worldwide can be attributed to dietary risk factors(14). A child who is sick will have little or no appetite or anorexia can contribute to a vicious cycle of illness and malnutrition that can be dangerous for a child below two years(6). Sick children attended to health facilities are initially checked for danger signs and the main symptoms of the key IMCI diseases: diarrhea, malaria, pneumonia, measles, and other severe infections. Next, all children are assessed for malnutrition and anemia, and vaccination status is verified. Also, children under two years of age, as well as older children presenting low weight for age, receive nutrition counseling(15).

#### 2.1 Sick Baby Feeding Practices

Feeding during sickness is important for recovery and the prevention of undernutrition. Even sick babies mostly continue to breastfeed and the infant can be encouraged to eat small quantities of nutrient-rich foods and increase fluid intake during illness, but more frequently and by offering foods that a child likes to eat. Also, after the illness the nutrient intake of a child can be easily increased by increasing one or two meals in the daily diet for about a month; by offering nutritious snacks between meals; by giving extra amount at each meal; and by continuing breastfeeding(3,16). In older infants and children continue to feed a normal diet making sure to give lots of fluids. Some foods that might be easier to digest than others include infant cereals, bread, toast, rice, potatoes, crackers, yogurt, fruit and vegetables and avoid giving your child sugary foods and drinks or fatty and greasy foods(11).

Diarrhea and malnutrition increase child morbidity and mortality and may also interfere with physical and cognitive development. Ingestion of nutrient-rich food early in life is associated with better school performance and earning higher wages later in life(17). Diarrhea is most common

among 6 to 23 month-old children, which can in turn lead to further undernutrition and susceptibility to diseases(5).

One study conducted in Lagos State, Nigeria, shows that the majority (75%) of the mothers breastfed their children, and only 14.7% of the mothers breastfed exclusively. About 43.3% of the mothers in addition to breastfeeding included complementary foods for their children at 4-6 months of age. However, about 16% of the mothers introduced complementary foods and solid foods and 32.7% of the mothers continued breastfeeding with complementary feeding(18).

A study conducted in Barcelona (Spain) shows that 46.6% of caregivers would give a "special diet," 25.3% would feed "less," and 2.1% would give "no" food to feed their child during diarrhea(19). Also, a study done in Baitadi district of Far Western Nepal shows that only 22% of mothers reported feeding the sick child more than usual, while 58% fed less and 17% fed the same amount and a qualitative finding shows that mothers explained that they provided food to a sick child only when the child wanted to eat. Some mothers indicated that they did increase the amount of liquids (particularly breast milk) and soft foods, given to the child(20).

Another study done in San Juan de Lurigancho, Peru stated that caregivers of children already eating solid food were asked how they intended to feed their child during diarrhea, 46.6% of caregivers would give a "special diet," 25.3% would feed "less," and 2.1% would give "no" food and when asked for the source of advice that caregivers usually sought regarding the management of diarrhea, 49.1% mentioned a family member, a friend, or neighbor; 36.8% a physician; 9.3% no one; and < 2% a health worker or nurse(19).

According to EDHS 2016, among children under age 24 months, 67% are receiving age-appropriate breastfeeding. Exclusive breastfeeding among children under age 6 months is 58% and 60% of children are introduced to solid, semi-solid, or soft foods at 6-8 months, and 76% continue breastfeeding until their second birthdays. Only 7% of children age 6-23 months meet the minimum standards concerning all three IYCF practices and 40% of children had an adequately diverse diet in which they had been given foods from the appropriate number of food groups, and 45% had been fed the minimum number of times appropriate for their age(10).

A study conducted in Jigjiga town shows that half of the mothers (50%) indicated that sick children and those recovering from illness should not be fed on diluted porridge or fruit juices. Less than

half of the mothers reported the need for responsive feeding of complementary foods to ensure optimal intakes were 45.5% thought, the mother should be the primary feeder of her child, while 54.5% stated that the mother should assist her child to eat up to the age of 2 years(3). A cross-sectional study conducted in Afar, North Eastern Ethiopia: stated that the mothers who fed their children with less than usual were common in the events of diarrhea, cough/pneumonia, and fever. Very few proportions of the ill children were offered with more than usual foods to eat and fluids to drink during childhood illnesses. Only 5.2%, 5.8%, and 4.2% of the sick children from diarrhea, cough, and fever were offered with more than usual foods to eat, respectively(22).

Another study done in Burayu Town, Ethiopia on sick child feeding practice shows that about 54% of mothers had a good practice of sick child feeding. Hence those mothers feed their sick child more frequently at a time of illness than when they were healthy and 47% of mothers had got counseling on infant and young child feeding during ANC visits. Also, 35% of mothers used bottles for child feeding. (23).

## 2.2 Factors affect sick child feeding practices

Nutritional status is influenced by three broad factors: food, health, and care. Optimal nutritional status results when children have access to affordable, diverse, nutrient-rich food; appropriate maternal and child-care practices; adequate health services; and a healthy environment including safe water, sanitation, and good hygiene practices. Also, cultural beliefs, food availability, time and financial constraints, seasonality, and water availability were all cited as factors that affected the quantity and variety of foods provided to children(7,20).

The cross-sectional study was conducted in Ahmedabad city, India shows that 82% of mothers continued feeding during illness, 78.67% of mothers consulted the doctor during illness and 75.33% of mothers were completely satisfied with their infant feeding practice and only 1.33% is not satisfied(24). Another a descriptive survey was conducted in the pediatric OPD, of tertiary care hospital of India shows that Among the 19% of the children who faced the problem due to ingestion of complimentary food, 42% of them were treated by the doctor, 16% were admitted to the hospital and 42% of them have not taken any kind of treatment for the problem(25).

Childhood diarrheal disease was statistically associated with the educational status of mothers and the age of the children. Children whose mothers had attended formal education (primary and above) were less likely to develop diarrhea compared to children whose mothers had not attended



any formal education(26). Also, a study conducted in Gujarat, India explained paternal education revealed a significant association with feeding when the child is ill, the study explained that mothers of children whose fathers attended education practiced according to WHO recommendation(27).

A cross-sectional survey conducted at the pediatric department of Liaquat University Hospital, Hyderabad/ Jamshoro, stated that regarding the use of specially-prepared food, mothers who had completed primary school and above were more likely to give specially prepared food compared to those without formal education. Regarding the duration, 52.2% of mothers continued breastfeeding for 2 years and 60% of the 0-5-month-old infants breastfed 8 or more times per day(28).

Infant and young child feeding counseling is the process by which a health worker can support mothers and babies to implement good feeding practices and help them overcome difficulties. Also, details of infant and young child feeding counseling depend on the child's age and the mother's circumstances(13). A cross-sectional survey in china shows that 22.4% practice of early initiation of breastfeeding and around 80% of information on breastfeeding and complementary feeding came from family members, neighbors', or friends and popular media (newspaper, magazine, book, radio and television and only 20% came from health facilities(29).

A study conducted in Hiwot Fana Specialized Hospital, Eastern Ethiopia, stated that 68.3% of women who had a history of antenatal care during their youngest child pregnancy period were initiated complementary feeding timely and 42.6% had no history of ANC. Women who had post-natal visits were more likely to initiate complementary feeding timely. Women reported their feeding practice during childhood illness period that 45% of women feed their sick child accordingly, but 32.5% of mothers feed as usual 3-8 times per day and Less than one fourth (22.5%)of mothers were feeding their child less than 3times per day(30).

Mothers' age was associated with child dietary diversity practice. Mothers whose age belongs to the age group of 25–34 years practiced good dietary diversity (minimum acceptable dietary diversity) than mothers that belong to any other age groups. This could be due to the increase of dietary diversity feeding practice as the age of the mother increases and the mothers gain experience in child feeding(2). The mother's education level affects a child's nutrition through her choices and health-seeking skills related to nutrition, hygiene, preventive care, and disease

treatment. The mothers' responsibility to care for herself during pregnancy and her child through the most vulnerable stages of its life significantly affects under-five malnutrition(31). A cross-sectional study was done in Hadaleala District, Afar Region, Northeast Ethiopia, identified that childhood diarrheal disease was statistically associated with the educational status of mothers which means children whose mothers had attended formal education (primary and above) were less likely to develop diarrhea compared to children whose mothers who had not attended any formal education(26).

One study conducted in Shashemene Woreda, Oromia Region shows that during ANC follow up one third 76.5% of mothers didn't receive information about Infant and Young Child Feeding Practices and only 32.1% of children received appropriate feeding practice and 20.9% of mothers feed bottle-feeding.38.1% of mothers gave birth by the assistance of traditional birth attendants,63.3% gave birth at home and 70.3% of mothers didn't have PNC(32). Another study done in Mecha district, Northwest Ethiopia shows that a significant association was observed between PNC infant feeding counseling and the practice of EBF. The mothers who got PNC counseling on infant feeding are more likely to practice EBF as compared to those who did not get the counsel(33). Another study conducted in Debre Tabor Hospital, North West Ethiopia on appropriate complementary feeding practice and associated factors among mothers having children aged 6–24 months show that 89.2% of mothers had ANC follow up, 79.7% delivered in a health institution, 30.3% had post-natal care follow up, 93.4% had EPI service and 80.7% had got under five-unit services. Regarding ANC follow up, 31.8% of mothers have got only advice of exclusive breastfeeding EBF, 55.5% of respondents have got the advice of optimal complementary feeding (CF) of infants/young children and 12.7% of mothers haven't got any advice during ANC follow up(34).

A study conducted in Burayu Town, Ethiopia on sick child feeding practice shows that mother's occupation, access to counseling of infant and young child feeding, and age of the child were factors that have a statistically significant association with mother's sick child feeding practice. Those mothers of younger infants were less likely to breastfeed more frequently than mothers of older children who gave more complementary foods during and after an illness.. Also, a mother who had got counseling on sick child feeding were almost three times more likely to feed their child appropriately than those who did not get counseling(23).

A study was done in Selected Woreda South Nation Nationality of People Regional State, Ethiopia stated that those mothers who received counseling concerning infant feeding during ANC were 43% more likely to feed breast milk only for their infants than those not counseled and young mothers' (15-25 years old) are 59% less likely to practice exclusive breastfeeding than age between 26-37 and 38-49 years old respectively(35).

Since there are different interventions like breastfeeding promotions and continuing feeding during illness have been given at health institutions and at the community level by community health extension workers and other health care providers. However, these efforts are not based on systematic evidence on the level of existing practice which might be due to insufficient study tried to identify sick infant and young child feeding practice and associated factors in the study area. Hence, there is a need to carry out the study to come up with the issue with sick baby feeding practice in the study area.

### 2.3. Conceptual framework

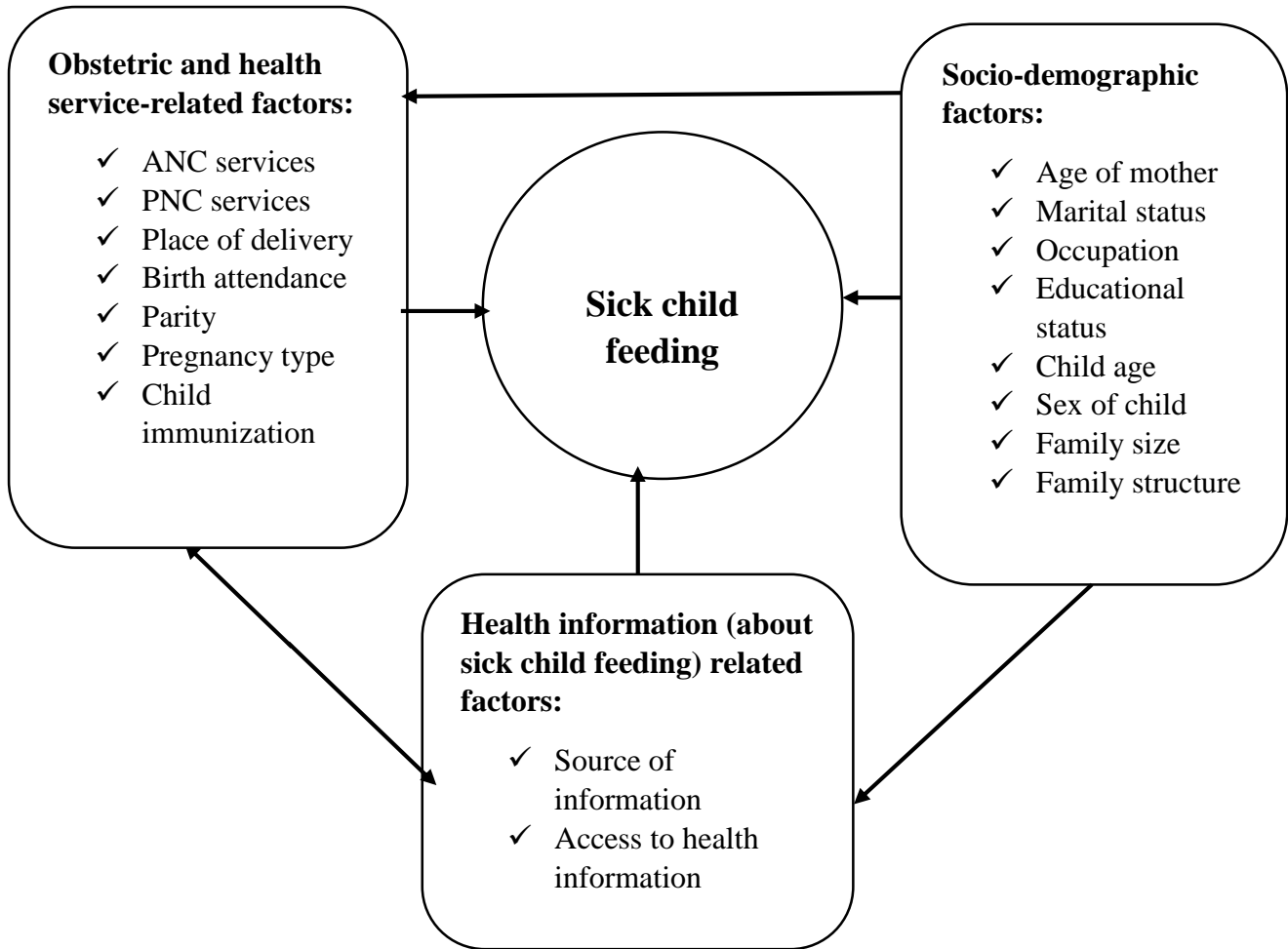


FIGURE 1: CONCEPTUAL FRAMEWORK OF FACTORS ASSOCIATED WITH SICK CHILD FEEDING PRACTICE: DEVELOPED BASED ON A LITERATURE REVIEW(2,3,37,4,18,21,23,30–32,36).

## CHAPTER: THREE

### 3. Objectives

#### 3.1. General objective

- ❖ To assess sick child feeding practice and associated factors among mothers of under two-year sick children in Tembaro Woreda, Southern Ethiopia.

#### 3.2. Specific objectives

- ❖ To determine optimal sick child feeding practice among mothers of under two-year sick children in Tembaro Woreda, Southern Ethiopia.
- ❖ To identify factors associated with optimal sick child feeding practice among mothers of under two-year sick children in Tembaro Woreda, Southern Ethiopia.

## CHAPTER: FOUR

### 4. Methods and Materials

#### 4.1. Study area and period

The study was conducted in Tembaro woreda, which is located 60 Km from Durame, 185 Km from Hawassa, and 400 Km from Addis Ababa which is the capital city of the Kembata Tembaro zone, SNNPR and the country respectively. The woreda has 20 rural and 4 semi-urban kebeles. Based on central statistics agency projection from 2007 population & Housing census report, the total population of the woreda is estimated to be 156102 in 2019/2020, of which 77739 are males & 78363 are females and among these 8086 (5.18 %) are under two-year children (source:- [Tembaro Woreda Health office](#)). Most of the people depend on traditional subsistence agriculture for a living. Mainly they produce coffee, wheat, teff, maize & enset. Concerning health facility distribution, there are three governmental Health centers, two private clinics, one primary hospital, and 22 Health posts, and two rural drug vendors. The study was conducted from March 11–April 20, 2020.

#### 4.2. Study Design

Facility-based cross-sectional study design was employed.

#### 4.3. Population

##### 4.3.1. Source Population

All mothers of under two-year sick children attending a sick baby clinic in public health facilities in Tembaro Woreda.

##### 4.3.2. Study Population

Mothers of under two-year sick children attending sick baby clinics in public health facilities in Tembaro Woreda during the study period.

##### 4.3.3. Study unit

Mothers with their index sick child aged less than two years.

#### 4.4. Eligibility Criteria

##### 4.4.1. Inclusion Criteria

Mothers with their index sick child aged less than two years of age and comes to health facilities during the study period.

##### 4.4.2. Exclusion criteria

The mother of a child with an emergency condition and needing referral was not included in the study.

#### 4.5. Sample size determination

The sample size was determined by using Epi Info version 7 based on objective and by using assumption of 95% confidence level, 5% margin of error, the prevalence of women feed their sick child accordingly was 45%(30). For the non-responses rate, 10% was considered. Finally, the required sample size for this study was determined by taking the maximum sample size from the objective sample size calculation results. Thus, 379 becomes the maximum sample size. Considering a 10% non-response rate, the total sample size was 417.

TABLE 1. SAMPLE SIZE DETERMINATION BASED ON OBJECTIVE

Variable	Confidence interval (%)	Prevalence (%)	Desired precision D (%)		Estimated sample size	Reference
Children receive appropriate feeding practice.	95	32.1	5		334	(32)
Women feed their sick child accordingly.	95	45	5		379	(30)
		% of outcome in exposed	AOR	Power		
The advice given on optimal complementary feeding of infants/young children.	95	55.5	6.34	80	68	(34)

#### 4.6. Sampling technique and procedure

One primary hospital and three health centers in the district were included in the survey. Then probability proportionate to size allocation was used to allocate the calculated sample size to each

public health facility based on the under-five clinic performance of each health facility. The study participants were selected using systematic random sampling. Since the given average time for data collection were one month (March 11–April 20, 2020). Previous three months' data were reviewed from the woreda health office and the average number was taken to know monthly attendants of the under-two year sick children and to calculate  $K^{\text{th}}$  interval based on sample size. Therefore, a total of 865 sick children have visited the health facilities per month in previous months before data collection, which was calculated as an approximate mother with a sick child of every second client was interviewed, using a systematic random sampling method. The first interviewer was taken by simple random sampling (lottery method).

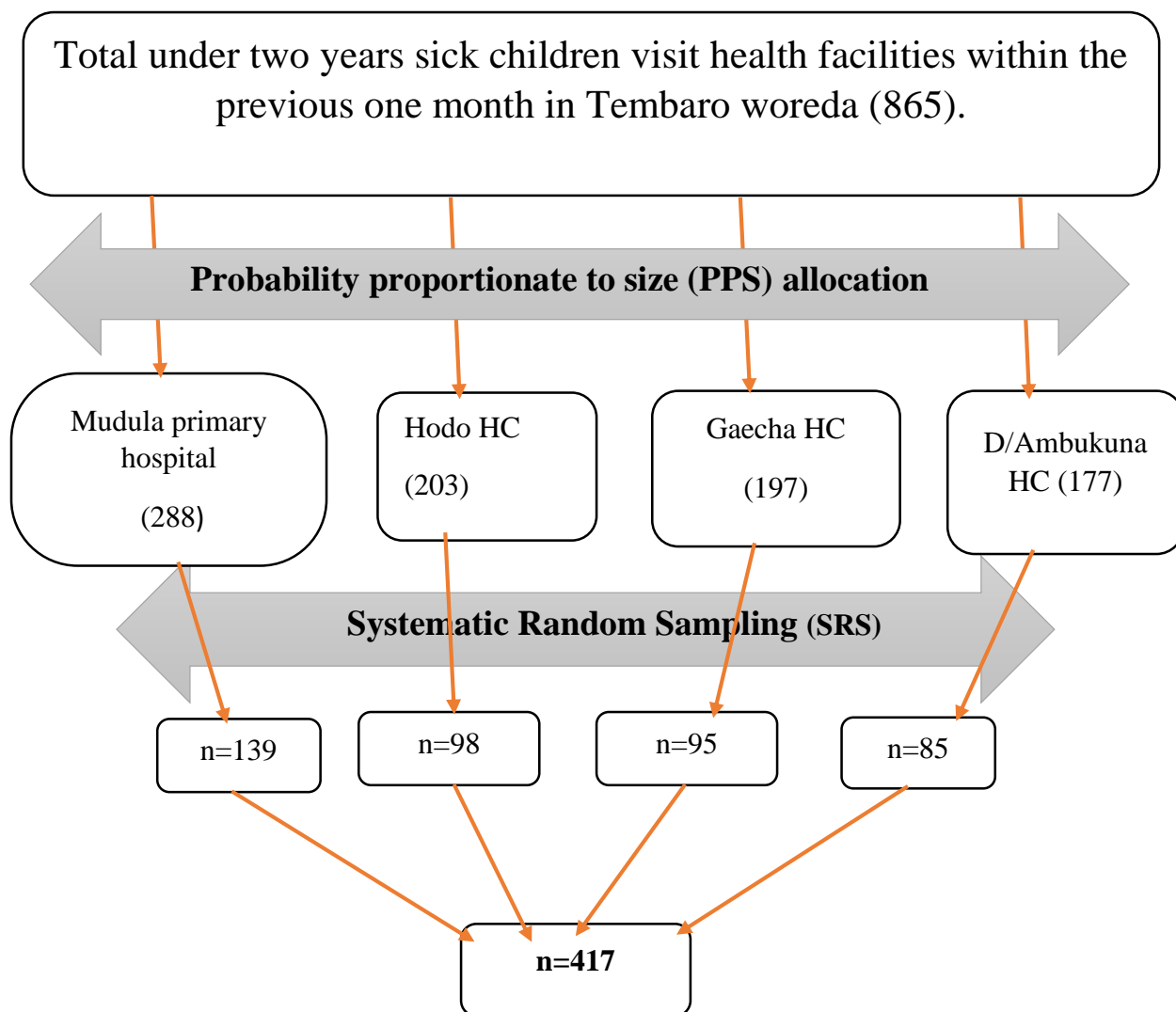


FIGURE 2: SCHEMATIC PRESENTATION OF THE SAMPLING PROCEDURE



#### 4.7. Data collection procedure

Data collectors and the supervisor were trained on procedures, techniques, ways of collecting the data, and about the purpose of the study, as well as how to fill the questionnaire properly. Interviews were performed face to face using a pretested structured questionnaire developed according to the WHO guideline for feeding infants and young children and national strategy for IYCF. One data collector (clinical nurse) was assigned to each health facility and supervised by the supervisor (health officer) and principal investigator.

##### Data collection instrument

Data were collected using a standardized structured questionnaire adapted from freely accessed WHO guidelines for feeding infants and young children and national strategy for IYCF and EDHS 2016 for this specific study. The questionnaire was prepared in English then translated into Amharic, then back-translated into English by different experts. The questionnaire includes 17 questions concerning socio-demographic characteristics, 12 questions concerns obstetric and maternal health-related factors, 10 questions concerning feeding practice of infant and young children, 13 questions on feeding practice of infant and young children during illness, and 3 questions on information on sick baby feeding. For the assessment of sick baby feeding practice; definitions and recommendations of WHO and the national strategy for IYCF were used. In this study, mothers were requested to provide information regarding how they feed their babies during illness.

## 4.8. Study variables

### 4.8.1. Dependent variable

- ❖ Sick child feeding practice.

### 4.8.2. Independent variables

- ❖ Socio-demographic variables- Age of the mother, marital status, maternal occupation, maternal educational status, ethnicity, religion, family structure, family size, and husband educational status, sex of the child, and age of the child.
- ❖ Health service-related factors-, Provision of advice on BF and complementary feeding during ANC, PNC, and source and access to sick child feeding information.
- ❖ Obstetrics history variables-Attendance of antenatal care services, pregnancy type, number of antenatal visits, place of delivery, postnatal care services, birth attendance, parity, and birth interval.

## 4.9. Operational definitions.

- ❖ *Optimal sick child feeding:* - refers to routines of feeding a child at the time of illness. To assess these mothers were asked a question on how frequent they fed their child at the time of illness (the correct answer was more than 3 meals and 1-2 snacks per day for those aged 6–8 month, more than 4 meals and 1-2 snacks per day for those 9–23 months, for those who were exclusively breastfed mothers who breastfed more than 12 feeds per day and for non-breast feed children feeding more than 5 meals and 1-2 snacks per a day)(11,13).
- ❖ *Mother:* - Biological mothers of the child.
- ❖ *Sick child:* - refers to an infant or young child who had either of the common childhood illness like pneumonia or diarrhea and seeks treatment.
- ❖ *Health service access* - An opportunity to get health service at a reachable distance (within 30 minutes) and services that are of sufficient quality to be effective and do not expose people to financial hardship.
- ❖ *Health service information access:-* Availability of awareness creation and information on timely health service(4).

#### 4.10. Data Management and analysis

Data were checked for completeness and inconsistencies and then coded, cleaned, and entered into Epi data version 3.1 and finally, the data were exported to SPSS (Statistical Package for Social Science) version 25 for analysis. Descriptive statistics such as frequencies, proportions, mean, and median were calculated and presented by tables and charts. Bivariate analysis was carried out to identify candidate variables for multivariable analysis. Then variables with  $p\text{-value} \leq 0.25$  on bivariate analysis were considered as the candidate variable for the Multivariate Logistic Regression model to identify the factors that are associated with the inappropriate sick child feeding practice. The decision was made using the adjusted odds ratio (AOR) and confidence interval (CI) at 95% confidence level. Multicollinearity was checked by using the variance inflation factor ( $VIF < 10$ ). The assumption fitness was tested by Hosmer and Lemeshow goodness of fit test ( $p > 0.05$ ). Finally, the association was claimed to be statistically significant when the  $p$ -value is less than 0.05.

#### 4.11. Data quality control

Qualities of the data were assured with properly designed data collection instruments. Data collectors and the supervisor were trained on procedures, techniques, and ways of collecting the data. The pretest was done on 5% (21) of the proposed sample size in the Jacho health center (west Sorro woreda) to check the consistency of the questionnaire. The collected data were reviewed and checked for completeness by the principal investigator daily. Finally, the double-entry of data on Epi data version 3.1 was done.

#### 4.12. Ethical considerations

Ethical clearance was obtained from Jimma University, Institute of Health Ethical Review Committee and support letter was obtained from the Department of Human Nutrition and Dietetics, official written permission was obtained from Tembaro woreda Health office and health facilities. Also, informed oral consent was obtained from the study participant to confirm willingness for participation after explaining the objective of the study in a local language. The respondents were notified that they have the right to refuse or terminate at any point in the interview. The information provided by each respondent was kept confidential. Individual records were coded and accessed only by the principal investigator.

#### 4.13. Dissemination of the Results

The finding of the result will be submitted to Jimma University, Department of Human Nutrition and Dietetics, Kembata Tembaro Zonal Health Department, Tembaro woreda Health Office will be communicating about the result; besides, a copy of it will be submitted to the respective facilities. It will be presented in seminars and workshops as well as further effort will be made to publish on peer-reviewed journals.

## CHAPTER FIVE

### 5. RESULT

#### 5.1. Maternal socio-demographic characteristics

A total of 408 mothers of children aged <24 months of age were included in the study (98% response rate). All respondents were biological mothers of the child. Majority 293(71.8%) of interviewed mothers were 15-30 years with a mean age of 26.23(SD±2.85). The majority of respondents were Tembaro 332(81.4%). Greater than half (52%) of the respondents were Protestant religious followers. The vast majority of the respondents 398(97.5%) were married, and 66(16.2%) of them have not attended any formal education and 377(92.4%) of fathers have followed formal education. Major of the respondents 277 (67.9%) are housewives. 297 (72.8%) of households had a family size of four to six and the median family size was five and the average dependency ratio of the households was 1.33. The majority of the family (89.5%) have a single-family structure. From the total of the respondents, 67.6% and 12% have radio and television respectively and 15.1% of respondents read magazines, news, or books. (Table 2).

Table 2. Socio-demographic characteristics of respondents in Tembaro woreda, southern Ethiopia, 2020.

Variables (n=408)		Frequency	Percentage
Mother age(in a year)	15-19	41	10.0
	20-24	115	28.2
	25-29	137	33.2
	30-34	93	22.8
	35 and above	22	5.4
Ethnicity	Tembaro	332	81.4
	Hadiya	28	6.9
	Kembata	12	2.9
	Amhara	15	3.7
	Doniga	8	2.0
	Others	13	3.2

Mothers religion	Orthodox	136	33.3
	Muslim	33	8.1
	Catholic	24	5.9
	Protestant	212	52.0
	Others	3	0.7
Marital status	Married	398	97.5
	Single	4	1
	Divorced/Widowed	6	1.5
Mothers occupation	Housewife	277	67.9
	Government employment	32	7.8
	Businesswomen	61	15
	Private organization	17	4.2
	Daily labor	21	5.2
Maternal educational level	No formal education	66	16.2
	Primary education	219	53.7
	Secondary education	85	20.8
	Tertiary education	38	9.3
Paternal educational level	No formal education	31	7.6
	Primary education	149	36.5
	Secondary education	143	35
	Tertiary education	85	20.8
Family structure	Nuclear family	21	5.1
	Single-family	365	89.5
	Extended family	22	5.4

## 5.2. Children’s characteristics

More than half (51%) of children were females and nearly three fourth (73%) of participants were  $\geq 6$  months old. The majority of children (69.9%) were second to fourth in birth order. Almost three fourth of the children (72.3%) birth intervals between the index child and his immediate older were greater than or equal to 24 months. (Table 3)

TABLE 3. CHILDREN’S CHARACTERISTICS IN TEMBARO WOREDA, SOUTHERN ETHIOPIA, 2020.

Variables (n=408)		Frequency	Percentage
Child age	<6	109	26.7
	6-12	159	39.0
	13-23	140	34.3
Child sex	Male	202	49
	Female	206	51
Birth order	First child	80	19.6
	2 <sup>nd</sup> - 4 <sup>th</sup>	285	69.9
	5 <sup>th</sup> and more	43	10.3
Birth interval	No previous birth	81	19.9
	Less than two yrs.	32	7.8
	Greater than or equal to two yrs.	295	72.3

## 5.3. Maternal obstetric and health service-related characteristics

A total of 328 (80.4%) mothers attended antenatal care. Among those who had ANC follow up, the majority 211(64.3%) had less than four visits with the mean ANC follow up of 3.11 times. Among those mothers who had ANC follow up, 185(56.4%) had received ANC in public health centers. Considering the place of delivery to the index child the substantial number, 357 (87.5%) of mothers gave birth to index child at health facilities. More than half of the respondents replied that they heard the information on IYCF from health professionals during their visit to a health institution. (Table 4)

TABLE 4. OBSTETRIC AND MATERNAL HEALTH SERVICE-RELATED VARIABLES IN TEMBARO WOREDA, SOUTHERN ETHIOPIA, 2020.

Variables (n=408)		Frequency	Percentage
ANC visit	Yes	328	80.4
	No	80	19.6
Health facility for ANC visit (n=328)	Health post	34	10.4
	Health center	185	56.4
	Public hospital	101	30.8
	Private clinic	8	2.4
Number of ANC visits (n=328)	1-2	80	24.4
	3-4	131	39.9
	>4	103	31.4
	Do not know	14	4.3
Health education on IYCF at any visit (n=328)	Yes	182	55.5
	No	146	44.5
Pregnancy type	Planned	390	95.6
	Unplanned	18	4.4
Place of birth	Home	51	12.5
	Health center	180	44.1
	Hospital	177	43.4
Delivery assistant	TBA	27	6.6
	Health professional	357	87.5
	Relatives	24	5.9
Information on breastfed at PNC	Yes	299	73.3
	No	109	26.7
Immunization status	Completed	161	39.5
	Incomplete	200	49.0
	No, not at all	47	11.5



During ANC, 34.3% and 29.8% of mothers got advice (health education) about feeding a child more frequently during illness and continuing feeding after illness respectively. (Figure 3)

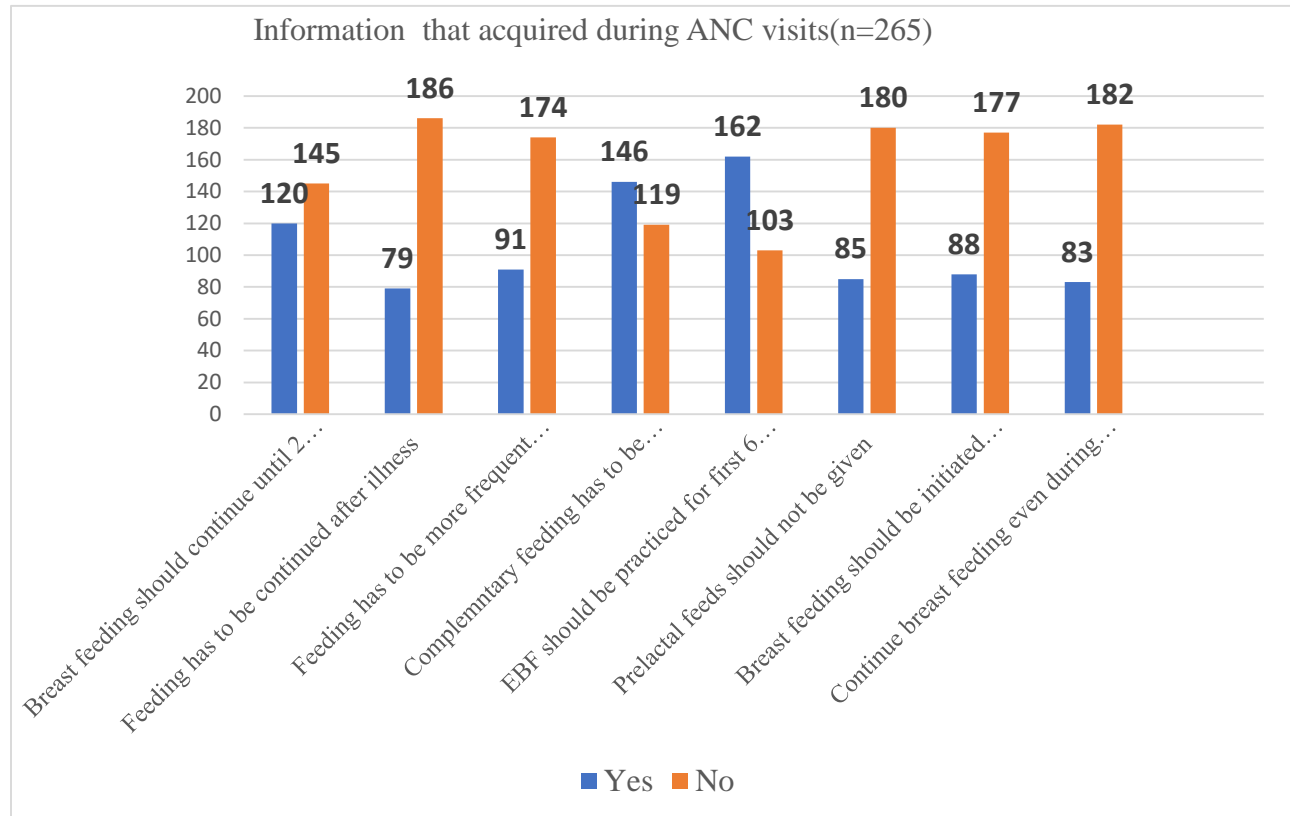


FIGURE 3. INFORMATION ABOUT THE CHILD FEEDING THAT WAS ACQUIRED DURING ANC VISITS IN TEMBARO WOREDA, SOUTHERN ETHIOPIA, 2020.

#### 5.4. Feeding practice of infant and young children

This study showed that almost all mothers 397(97.3%) had breastfed their children at least once in a day. The reasons for those who didn't ever breastfeed their children were: 36.4% of them due to mothers felt my breast is too small, 27.3% of them due to breast disease, and 18.2% of them due to bottle feeding. Among those who ever breastfed children, 362(89%) were breastfeeding during the day and night. More than half of mothers (56.6%) are breastfed their child at least eight times in 24 hours. 40.4% of mothers breastfed on child demand and only 16% of mothers breastfed according to their schedule. The mean age for the introduction of solid, semi-solid, and soft foods was 5.6 (SD ± 0.9) months. Sixty-six (16.2%) of mothers used bottle feeding for their children. (Table 5)

TABLE 5. FEEDING PRACTICE AMONG MOTHERS OF LESS THAN TWO-YEAR SICK CHILDREN IN TEMBARO WOREDA, SOUTHERN ETHIOPIA 2020.

Variables (n=408)		Frequency	Percentage
Breastfeed within 24 hours	Yes	397	97.3
	No	11	2.7
Reason for not BF (n=11)	It takes too much time	1	9.1
	BF will make my breasts sag	1	9.1
	BF is painful	3	27.3
	My breasts are too small to BF	4	36.4
	Due to bottle-feeding	2	18.1
Breastfed during day and night (n=397)	Yes	362	91.2
	No	35	8.8
Numbers of time(BF) (n=397)	Less than 8 times	170	41.7
	Greater than or equal to 8 times	231	56.6
How do you breastfeed? (n=408)	On-demand	165	40.4
	When a child cries	104	25.2
	On schedule	65	15.9
	On convenience	74	18.4
Age of introducing complementary feeding (n=304)	Before 6 months	134	44.1
	≥ six months	170	55.9
Reason for giving additional diet (n=304)	age >6 months	157	51.6
	Mothers felt breast milk alone was insufficient	130	42.8
	Mother was sick	6	2
	Child was sick	6	2
	Mother left home for work	4	1.3
Bottle feeding	Yes	66	16.2
	No	342	83.8

Grains, roots, tubers, and dairy products are the main ingredients given for children as additional food and fluid other than breast milk, and approximately more than 95% of children are fed by their mothers. (Figure 4)

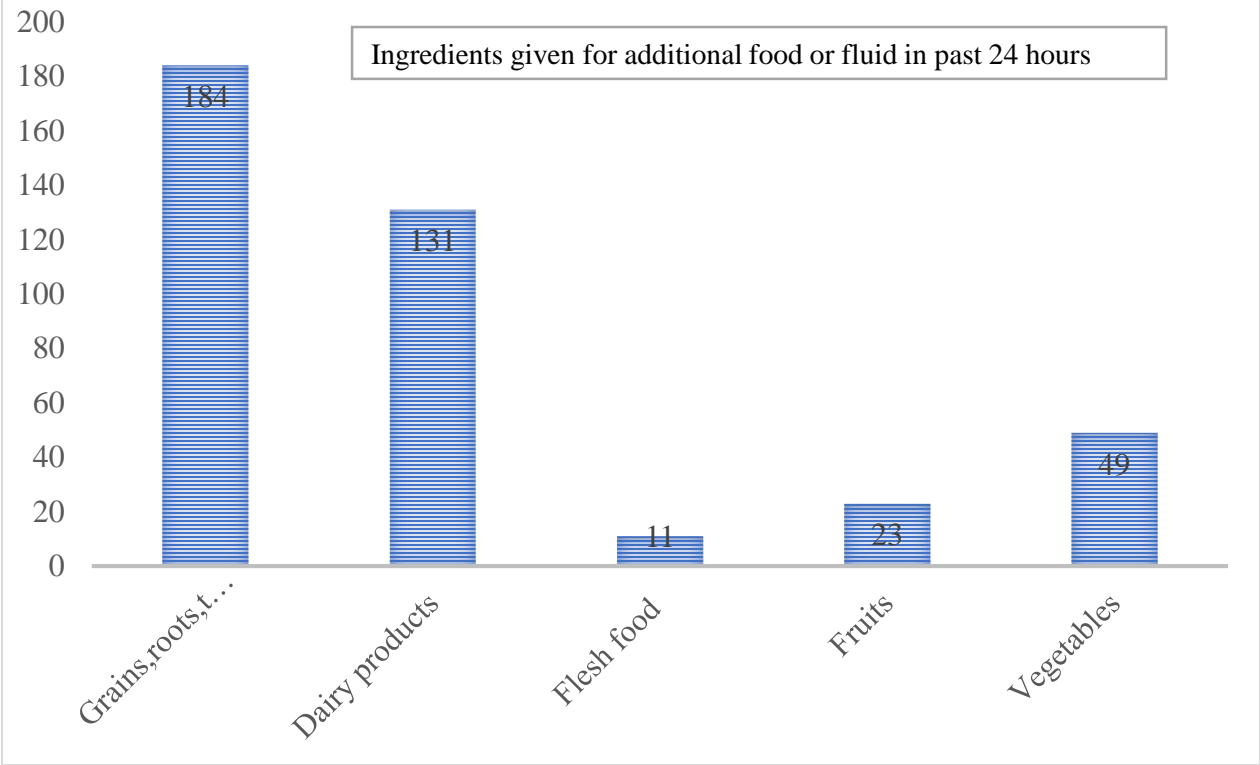


FIGURE 4. INGREDIENTS GIVEN FOR ADDITIONAL FOOD OR FLUID IN PAST 24 HOURS DURING SURVEY IN TEMBARO WOREDA, SOUTHERN ETHIOPIA 2020.

### 5.5. Feeding practice of infant and young children during illness

The proportion of children who have fed more frequently during the time their illness compared to when they are healthy were used to measure sick child feeding according to the recommendation. In this study, about 87(21.3%) of the children were fed more frequently compared to what they fed when they (children) were healthy. Based on the above indicators of sick child feeding, 321(78.7%) of under 24 months children were fed inappropriately while only 87(21.3%) were fed optimally. (Figure 5)

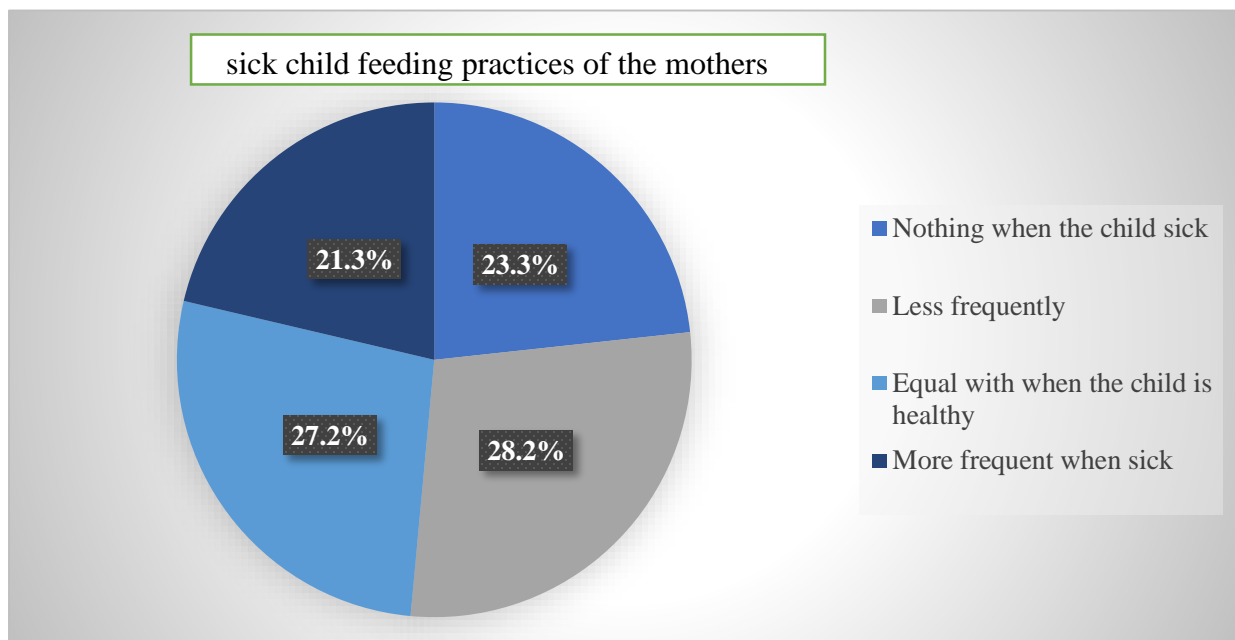


FIGURE 5. SICK CHILD FEEDING PRACTICE OF MOTHERS IN TEMBARO WOREDA, SOUTHERN ETHIOPIA, 2020.

### 5.6. Information on sick baby feeding

From the total of mothers, 189(46.3%) heard information about infant and young child feeding during illness and almost all of the mothers (98.4%) heard increasing frequency of feeding during illness. Health professionals during ANC (IYCF counseling) and health extension workers are the main sources of information for mothers of less than two-year sick children. (Table 6)

TABLE 6. INFORMATION HEARD ABOUT INFANT AND YOUNG CHILD FEEDING DURING ILLNESS BY THE MOTHERS OF LESS THAN TWO-YEAR SICK CHILDREN IN TEMBARO WOREDA, SOUTHERN ETHIOPIA 2020.

Variables (n=408)		Frequency	Percentage
Have you heard any information about infants feeding during illness?	Yes	189	46.3
	No	219	53.7
Type of information you heard (n=189)	Increase feeding	186	98.4
	Decrease feeding	3	1.6
Source of information (n=189)	Health professionals	80	42.3
	HEWs	77	40.7
	Television	15	7.9
	Radio	14	7.4
	Others	3	1.6

### 5.7. Factors associated with sick baby feeding practice

In bivariate analysis; the age of mothers, maternal education, paternal education, age of the child, birth order, family size, having ANC, number of ANC visit, information on breastfeeding at PNC and information heard about sick child feeding were identified as a candidate variables for multivariable analysis ( $p \leq 0.25$ ) to identify factors associated with sick child feeding practice for the children aged less than 24 months of age.

In multivariate analysis, after adjusting possible confounding variables, paternal educational status, age of the child, having ANC visit and information heard about sick child feeding were significantly associated at  $P < 0.05$  with sick child feeding practices. On the other hand, the age of mothers, mother educational status, birth order, family size, number of ANC visits, and information on breastfeeding at PNC was not statistically associated ( $P > 0.05$ ) with IYCFP in this study. (Table 7)

As shown in the table below it presents a multivariate comparison of characteristics of sick baby feeding practice of mothers of children less than 24 months. Paternal education, age of the child, having ANC visit, and hearing information about sick child feeding were the predictors identified at the last stage of analysis. Households who have paternal tertiary education were 4.914 times more likely to practice optimal sick child feeding than those households who have not attended any paternal formal education (AOR: 4.914; 95% CI 1.151-10.406;  $p = 0.028$ ). Those mothers whose children's age is 6-12 months are 8.657 times more likely to practice optimal feeding for their children than the mothers whose children's age less than six months (AOR 8.657; 95% CI: 5.190, 12.082;  $p < 0.001$ ). Those mothers whose children's age is 13-23 months are 11.041 times more likely to practice optimal feeding for their child than the mothers whose children's age less than six months (AOR 11.041; 95% CI 7.869, 16.071;  $p < 0.001$ ). Those mothers who had ANC visits are 3.908 times more likely to feed sick children optimally than mothers who had no ANC visits during pregnancy of the index child (AOR: 3.908; 95% CI: 1.151, 7.268;  $p = 0.028$ ). Those mothers who had heard information about sick child feeding are 4.260 times more likely to feed sick child optimally than those mothers does not hear. (AOR: 4.159; 95% CI: 2.217-8.187;  $p < 0.001$ ).

TABLE 7. BINARY AND MULTIVARIABLE LOGISTIC REGRESSION MODEL TO IDENTIFY FACTORS ASSOCIATED WITH SICK CHILD FEEDING PRACTICE AMONG MOTHERS OF LESS THAN TWO-YEAR SICK CHILDREN IN TEMBARO WOREDA, SOUTHERN ETHIOPIA IN 2020.

Variable		Optimal sick child feeding		COR (95% CI)	AOR (95% CI)
		Yes	No		
Age of mothers	15-19(1)	4(9.8%)	37(90.2%)	1	1
	20-24	21(18.3%)	94(81.7%)	2.066(0.664,6.429)*	0.744(0.161,3.440)
	25-29	36(26.3%)	101(73.7%)	3.297(10.98,9.900)*	0.505(0.095,2.692)
	30-34	21(22.6%)	72(77.4%)	2.698(0.863,8.439)*	0.422(0.072,2.472)
	≥35	5(22.7%)	17(77.3%)	2.721(0.648,11.422)*	0.195(0.020,1.900)
Maternal education					
	No formal education(1)	6(9.1%)	60(90.9%)	1	1
	Primary education	38(17.4%)	181(82.6%)	2.099(0.846,5.211)*	0.988(0.273,3.579)
	Secondary education	22(25.9%)	63(74.1%)	3.492(1.324,9.207)*	0.876(0.206,3.720)
	Tertiary education	21(55.3%)	17(44.7%)	12.353(4.301,35.480)*	1.920(0.345,10.692)
Paternal education					
	No formal education (1)	3(9.7%)	28(90.3%)	1	1
	Primary education	16(10.7%)	133(89.3%)	1.123(0.306,4.115)	0.847(0.211,3.406)
	Secondary education	29(20.3%)	114(79.7%)	2.374(0.674,8.358)*	1.757(0.442,6.984)
	Tertiary education	39(45.9%)	46(54.1%)	7.913(2.234,28.031)*	4.914(1.151,10.406)**
Age of child					
	<6 months(1)	3(2.8%)	106(97.2%)	1	1
	6-12	38(23.9%)	121(76.1%)	11.096(3.329,36.988)*	8.657(5.190,12.082)**
	13-23	46(32.9%)	94(67.1%)	17.291(5.205,57.434)*	11.041(6.869,16.071)**
Birth order					
	first born (1)	9(11.2%)	71(88.8%)	1	1
	2-4	67(23.5%)	218(76.5%)	2.425(1.150,5.110)*	1.870(0.758,4.615)
	5 or more	11(25.6%)	32(74.4%)	2.712(1.023,7.188)*	2.838(0.842,9.571)
Family size					
	1-3 (1)	3(7%)	40(93%)	1	1
	4-6	67(22.6%)	230(77.4%)	3.884(1.165,12.952)	0.867(0.143,5.252)
	≥7	17(25.4%)	50(74.6%)	4.533(1.241,16.566)*	1.177(0.141,9.848)
Having ANC visit					
	yes	83(25.3%)	245(74.7%)	6.437(2.285,18.135)*	3.908(1.151,7.268)**
	No(1)	4(5%)	76(95%)	1	
Number of ANC visits					
	1-2(1)	11(13.7%)	69(86.3%)	1	1
	3-4	24(18.3%)	107(81.7%)	1.407(0.648-3.054)	0.875(0.360,2.126)
	>4	52(26.4%)	145(73.6%)	2.250(1.105-4.579)*	2.137(0.891-5.127)
Information on breast feeding at PNC.					
	Yes	75(25.1%)	224(74.9%)	2.706(1.407,5.207)*	1.338(.038,3.301)
	No(1)	12(11%)	97(89%)	1	1

Information heard about infant feeding during illness					
Yes	70(37%)	119(63%)	6.990(3.928,12.438)*	4.260(2.217,8.187)**	
No(1)	17(7.8%)	202(92.2%)	1	1	

\*=candidate variable at  $p \leq 0.25$  in bivariate logistic regression, \*\*=associated variables in multivariable logistic regression at p value  $< 0.05$ . 1: reference category.

NB. Hosmer and Lemeshow's goodness-of-fit test has a chi-square of 13.232 with a p-value of 0.104, an omnibus test of the p-value of 0.000.



## CHAPTER SIX

### 6. DISCUSSION

Feeding during sickness is important for recovery and the prevention of undernutrition. Even sick babies mostly continue to breastfeed and the infant can be encouraged to eat small quantities of nutrient-rich foods and increase fluid intake during illness, but more frequently and by offering foods that a child likes to eat(16). Inappropriate sick child feeding practices remain the major cause of poor growth and nutritional status in young children. Understanding the factors associated with inappropriate sick child feeding is critical for planning nutritional interventions by targeting individuals, families, and communities at risk of sick child feeding practices. This thesis aimed to describe optimal sick child feeding practices and to determine factors associated with optimal sick child feeding practices among children aged 0-23 months in Tembaro Woreda.

The finding of this study showed that overall prevalence of optimal sick child feeding practice according to WHO recommendation is 21.3% which is comparable with the finding in Baitadi district of Far Western Nepal shows that 22% of mothers reported feeding the sick child more than usual(20) and higher than EDHS 2016(7%) children with diarrhea were fed more food than usual. But the proportion of optimal sick child feeding was less than the proportion of study conducted in Burayu Town (53.6%)(23), Hiwot Fana Specialized Hospital, Eastern Ethiopia(45%)(30), and Shashemene Woreda (32.1%)(32). This difference might be due to differences in geographic settings and socio-economic backgrounds of the study participants.

Several factors were found in this study to influence optimal feeding of sick child practice. For example, paternal education, age of the child, having ANC visit, and information heard about sick child feeding were found to be factors affecting optimal sick child feeding practices. This study revealed that mothers of children whose fathers have formal education (tertiary) were more likely to practice optimal sick child feeding compared to those whose mothers of children whose fathers have no formal education. This finding is consistent with a study conducted in Gujarat, India.(27). This shows that the source of income for the household might be fathers and/or involvement of fathers in-home child care. This study found a positive association between optimal sick child feeding practices and the age of children. Children who are greater than or equal to 6 months of age were more likely to get optimal child feeding during sickness than those who are less than six

months of age. This study was supported by a study done in Burayu Town(23). This may be attributed to the poor breastfeeding practices and/or early initiation of additional foods. Information on IYCF at ANC was one of the associated factors for sick child feeding practice, which can affect optimal sick child feeding practices. Furthermore, this study found a positive association between mothers who have got an ANC visit and optimal sick child feeding practice. This finding is consistent with the study of those reported in Debre Markos(38), Indonesian Demographic Health Survey(39), and in Mecha district, Northwest Ethiopia(33). This indicates that there is an improvement in the mother's practice of optimal feeding of sick children in the study area due to the advice given at ANC. Children of mothers who received counseling or information about sick child feeding are more likely to feed sick children optimally compared to children whose mothers did not get advice or information related to sick child feeding while she was pregnant for the index child or at any visit to a health institution. These findings are consistent with those reported in Arbaminch zuria woreda(40). A possible explanation for this similarity is the similarity of the socio-economic status of the respondents.

This study assessed mainly sick child feeding practice by asking respondents how much food and fluid/breast milk to their child compared to when they are healthy retrospectively and the results of the study are also dependent on the report of the mother. Also, this study can have significant implications for national nutrition strategy in the promotion of optimal sick child feeding practices and the achievement of sustainable development goals for the reduction of child mortality. However, to appreciate similarities and differences of factors associated with inappropriate sick child feeding practices in logistic regression with other studies are impossible due to lack of study on sick child feeding practices according to WHO recommendation with similar indicators.

## Strength and limitation of the study

### **Strength**

- The multiple factors considered in this study were analyzed using a stepwise logistic regression technique. This technique helps control for mediating and confounding factors and also to identify the most important risk factors for proper intervention.
- The respondents were willing to for the interview because the issues being assessed were not sensitive.

### **Limitations**

- Since the feeding practice of mothers was not scaled, some respondents may have been replying to what they know rather than what they perform.
- Amount of meal given at a time and continuity of feeding after illness were not assessed.

## CHAPTER: SEVEN

### 7. Conclusion and Recommendation

#### 7.1. Conclusion

This study has shown that the proportion of optimal sick child feeding practice is lower when the finding is compared to the proportion of the previous study findings reported from other places. Based on a composite variable to construct sick child feeding practice, a large number (78.7%) of women practices inappropriate feeding based on WHO recommendations for sick child feeding. This proportion is not acceptable to ensure good health and better nutritional status of children and to achieve SDG (sustainable development goal). Even though these problems may be alleviated by sustainable socio-economic development through the integrated effort of different sectors, in the long run, recommendations are forwarded considering short-term solutions based on the findings of the study.

Paternal education, age of the child, having ANC visit, and information heard about sick child feeding were found to be factors affecting optimal sick child feeding practices. Adherence to the recommended sick child feeding practice can be increased by imparting paternal education, considering favorable conditions for mothers at health facilities, and mobilizing the community to attained antenatal care, providing guidelines for age-specific child feeding and promoting the importance of infant and young child feeding counseling at any visit.

#### 7.2. Recommendations

Based on the findings of the study the following recommendations were forwarded:

##### **Policy/ program /Decision-makers**

- The multi-sectorial collaborative intervention has to be designed.
- Promoting paternal education imparting health education on infants age-appropriate feeding.
- Providing guidelines for age-specific child feeding which explains child feeding health education by focusing on age distinctive feeding as they demand more frequent breastfeeding when they are sick as other age groups of children do.

- Mobilization of health professionals who will provide counseling on infant and young child feeding at any visit by promoting on the job training of IYCF( infant and young child feeding) will have a better role in promoting sick child feeding practice.
- Provision of evidence-based information regarding the effect of sick child feeding and child health outcome may motivate health professionals to provide nutrition education regularly during ANC visits, delivery, and any other visits.
- Mobilizing the community to enhance sick child feeding practice using the existing one to five health system and female developmental army.

### **Facility level**

- Increase the quality of ANC services and institutional delivery.
- Training for Health professions working in ANC, delivery and PNC room on counseling of IYCF

### **Health Professionals / HEWs**

- Provide IEC/BCC on IYCF especially to change feeding practices of mothers.
- Encourage mothers to attend ANC and provide appropriate counseling about sick child feeding.
- At the community, level makes a demonstration center for mothers on how to feed their child according to the recommendation.
- Community mobilization to attained antenatal care and enhance sick child feeding practice using the existing one to five health system and female developmental army

### **Researchers**

- Further study also needed to carefully track sick child feeding practices from birth to 24 months of age and to identify factors affecting feeding infant and young children during illness is recommended.
- More research is needed in terms of constituting composite index variable

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## ANNEXES

### I. Administrators Information Sheet

Information sheet and consent form for mothers (English Version) Jimma University, Department of Human Nutrition and Dietetics.

Name of Health facility \_\_\_\_\_

Questionnaire identification no. \_\_\_\_\_

#### INTRODUC TION

Good morning / afternoon? My name is \_\_\_\_\_ I am working as data collector in a survey conducted by the collaboration of Jimma University on sick child feeding practices and associated factors among under two children in Tembaro woreda, SNNPR, In this study, You and me would have a short discussion of about 20-30 minutes only and I am asking you to help me. Before we got to our discussion, I request you to listen carefully to what I am going to read to you about the purpose and general condition of the study and you will tell me whether you agree or disagree to participate in this study at the end. The purpose of this study is to assess sick child feeding practices and associated factors among under two children in Tembaro woreda, SNNPR, Ethiopia, 2019. The study will be conducted through interviews. The result of the study will inform design to intervene based on the findings. I would like to assure you that privacy will be maintained strictly through. A code number will identify every participant and no name will be used. Your responses to any of the questions will not be given to anyone else and no reports of the study will ever identify you. If a report of results published, only information about the total group will appear. The interview is voluntary and your participation/non- participation or refusal to respond or stop responding to the questions will have no effect now or in the future on services that you or any member of your family may receive from the service providers. Are you willing to participate in this study?            1. Yes            2. No

Thank you!!!

NB:1. if the study subject is voluntary to participate in the study, start the interview.

2. No need of enforcing the clients to be included in the study.

3. If there are things that require clarification please don't hesitate to ask the interviewer or the principal investigator for clarification.

Address of the principal investigator:

Jimma University, Insitute of public Health, Department of Human Nutrition and Dietic Ethics

Tadesse Mekuria

Mobile: 0916672407/0960930756

Email: tadessemekuria5@gmail.com

Jimma

## II. Questionnaire English version

### PART I. Socio-demographic characteristics of mothers with their index child (age less than 24 months) and child.

No	Question	Response	Remark
101	Mother's age (in years)	_____years	
102	Marital status	1. Married 2. Single 3. Divorced 4. widowed	
103	What is your religion?	1. Orthodox 2. Muslim 3. Catholic 4. Protestant 5. Others(specify)_____	
104	Ethnicity	1. Tembaro 2. Hadiya 3. Kembata 4. Amhara 5. Doniga 6. Others(specify)_____	
105	Maternal education	1. No formal education 2. Primary education 3. Secondary education 4. tertiary education	
106	Occupation of mother	1. Housewife 2. Government employee 3. Business woman 4. Private Organization 5. Daily labor 6. Others(specify)_____	

107	Paternal education	1. No formal education 2. Primary education 3. Secondary education 4. Tertiary education	
108	Family structure	1. Nuclear family 2. Single family 3. Extended family 4. Stepfamily/blended family	
109	Age of the child	_____ in month	
110	Sex of the child	1. Male                  2. female	
111	Do have: A radio  A TV  Do you read magazines, news or books	1. Yes    2. No  1. Yes    2. No  1. Yes    2. No	
112	How many children do you have	_____ number	
113	Birth order	_____ <sup>th</sup>	
114	Birth interval between the youngest and his/her immediate elder	1. this is my first 2. _____ years	If the answer is 1, go to 201
115	How old is earlier child	_____ years	
116	How many members of household are below age 15 and above 65?	_____ -	
117	How many members of your household are between the age of 15-65?	_____	
<b>PART II. Obstetric and Maternal health related factors</b>			
201	Did you visit health facility for ANC during your recent pregnancy	1. Yes 2. No	If No, go to 204

202	Which facility did you get ANC service	<ul style="list-style-type: none"> <li>1 Health post</li> <li>2. Public Health Center</li> <li>3. Public hospital</li> <li>4. Private clinic</li> </ul>	
203	How many times did you receive (number of antenatal care) during your time of pregnancy for this child?	<ul style="list-style-type: none"> <li>1. 1-2</li> <li>2. 3-4</li> <li>3. &gt;4</li> <li>4. Don't know</li> </ul>	
204	Did you get health education on Infant and young child feeding at any of your visit?	<ul style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ul>	If No, go to 206
205	What was the information that you acquired during your visit (more than one answer is possible)	<ul style="list-style-type: none"> <li>1.Continue breast feeding even during maternal or child illness</li> <li>2.Breast feeding should be initiated within one hour</li> <li>3.Prelacteal feeds should not be given</li> <li>4. EBF should be practiced for the first six months</li> <li>5.Complementary feeding has to be started after six months</li> <li>6.Feeding has to be more frequent during illness</li> <li>7.Feeding has to be continued after illness</li> <li>8. Breast feeding should continue until 2 years</li> <li>9.Other (specify)_____</li> </ul>	
206	At the time of you become pregnant to this child; did you want to become pregnant?	<ul style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ul>	
207	Where did you gave birth to this child/Place of delivery	<ul style="list-style-type: none"> <li>1. Home</li> <li>2. Hospital</li> <li>3. HC</li> </ul>	

		4. Other (specify)____	
208	Who help you during delivery?	1. TBA 2. Health extension worker 3. Health professional 4. Relatives 5. Other (specify)_____	
209	Did you receive advice/ information on Breast feeding at Postnatal care	1. Yes 2. No	
210	Why do you bring your child to health center?	1, cough and difficulty of breathing 2, diarrhea 3, fever 4, ear problem 5, others(specify)_____	
211	How long since the child got this symptom	1. One day 2. Last two days 3. Last three days 4. Four plus days	
212	Have your child been immunized?	1. Yes, he/she was completed vaccination 2. Yes, he/she took same of vaccine 3. No, not at all.	
<b>PART III. Feeding practice of infant and young children</b>			
301	Have you ever breast fed the child?	1. Yes 2. No	If yes, go to 303
302	If no, reason for not breastfeeding? (More than one answer is possible)	1. Breastfeeding takes too much time. 2. Breastfeeding means you can't go back to work or school. 3. Breastfeeding will make my breasts sag 4. Breastfeeding is painful	



		5. My breasts are too small to breastfeed 6. With bottle feeding, the mother knows that the baby is getting enough to eat. 7. Other(specify)_____	
303	Was the child breastfed during day or at night?	1. Yes 2. No	
304	How many times did you breast feed your child in the last 24 hours?	_____times	
305	Did you give the child additional food or fluid other than breast milk in the past 24 hours	1. Yes 2. No	If No, go to 307
306	What ingredients did you give?	1. None other than breast milk 2. Grains, roots, tubers (injera, bread, porridge, sweet potatoes, etc.) 3. Dairy products (milk, etc.) 4. Flesh foods (meat, fish, poultry) 5. fruits 6. vegetables 7. Other (specify)_____	
307	Who feeds the child?	1. Mother 2. Father 3. His sister 4. Grandmother 5. Others(specify)_____	
308	What was the reason for giving additional diet?	1. age >6months 2. mothers felt breast milk alone was insufficient 3. mother was sick 4. child was sick 5. Mother left home for work	

		6. other(specify)_____	
309	How do you breastfeed?	1. on demand 2. when child cries 3. on schedule 4. on convenience	
310	Why was the child not breastfeed	1. weaned 2.maternal illness 3. breast problem 4.others (specify)_____	
<b>PART IV. Feeding practice of infant and young children during illness</b>			
401	At what age did you introduce any form of food or liquid other than breast milk to this child (including water)?	_____months	
402	Does [the CHILD] take any food or drink other than breast milk in the past 24 hours?	1. Yes 2.No	If No, go to 404
403	How many times was [NAME OF CHILD] fed mashed or pureed food or solid or semi-solid food as a meal or a snack since this time yesterday?	Number of times_____	
404	What liquids was this child given yesterday during the day and night?	1. None other than breast milk 2. Vitamin drops or medicines as drops 3. ORS 4. Plain water 5. Infant formula (add local brand) 6. Milk (tinned, powdered, or fresh animal milk) 7. Other water-based liquids 8. Thin porridge	Skip to Q406 if answer is 1

		9. Other specify	
405	What foods were given to the child yesterday during the day and night? ( <i>Tick as many options as are mentioned by the respondent</i> )	<ol style="list-style-type: none"> <li>1. None other than breast milk</li> <li>2. Grains, roots, tubers (injera, bread, porridge, sweet potatoes, etc.)</li> <li>3. Dairy products (milk, etc.)</li> <li>4. Flesh foods (meat, fish, poultry)</li> <li>5. fruits</li> <li>6. vegetables</li> </ol>	
406	Has the child been fed with bottle in the past 24 hours?	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> </ol>	
407	Since this time yesterday, how many times did the child eat food other than liquid? (put number)	_____ times	
408	How much liquid do you give for this child to drink when he/she is sick compared to when s/he is healthy?	<ol style="list-style-type: none"> <li>1. Nothing to drink</li> <li>2. Much less than normal</li> <li>3. Somewhat less</li> <li>4. About the same</li> <li>5. More than usual</li> </ol>	
409	How much food (breast milk) do you give this child to eat when he/she is sick compared to when s/he is healthy?	<ol style="list-style-type: none"> <li>1. Never given food</li> <li>2. Much less than normal</li> <li>3. Somewhat less</li> <li>4. About the same</li> <li>5. More than usual</li> </ol>	If Q409 Answer is,5 go to 411
410	Why you give such amount? ( <i>Can answer more than one</i> )	<ol style="list-style-type: none"> <li>1. The child is sick to consume</li> <li>2. The child is no willing</li> <li>3. feeding too much is not good for sick child</li> <li>4. I cannot afford to prepare more and variety</li> </ol>	
411	Why you give more than the usual?	<ol style="list-style-type: none"> <li>1. To promote health of child by giving more food</li> <li>2. To prevent harm of the disease to the child.</li> </ol>	

		3.To compensate lost weight during illness 4. others(specify)_____	
412	Did you change (increase) frequency of feeding by the type of disease?	1. Yes 2. No	If the answer is no, go to 501.
413	If yes, for whom diseases did you increase frequency of feeding? ( <i>possible to answer more than one</i> )	1. Fever 2. Cough 3. Difficulty or fast breathing 4. Diarrhea 5. Vomiting 6. Others(specify)_____	
414	For whom diseases did you decrease frequency of feeding? ( <i>possible to answer more than one</i> )	1. Fever 2. Cough 3. Difficulty or fast breathing 4. Diarrhea 5. Vomiting 6. Others(specify)_____	
<b>PART V. Information on Sick baby feeding</b>			
501	Did you hear any information about infant feeding during illness	1. Yes 2. No	
502	What was the information you heard about feeding during illness?	1, Increase feeding 2, Decrease feeding	
503	From where did you hear this information ( <i>possible to answer more than one</i> )	1, Health professionals during ANC (IYCF counselling) 2, Health extension workers 3, Television 4, Radio 5, others(specify)_____	

“Thanks for your cooperation”

**III. Questionnaire Amharic version**

**የኢንፎርሜሽን መስጫ መረጃ ወረቀት**

የመረጃ እና እናቶች የስምምነት ቅፅ (በአማራጭ ቋንቋ) የጅም ዩኒቨርሲቲ ፣ የሰነ-ምግብ እና የአመጋገብ ስርዓት ክፍል ።

የጤና ተቋም ስም \_\_\_\_\_

መጠይቅ መለያ ቁጥር. \_\_\_\_\_

**የመግቢያ ሃሳብ**

እንደምን አደርሽ / ወልሼ ስሜ \_\_\_\_\_ ነው በጅም ዩኒቨርሲቲ የታመመ የሕፃናትን የመመገብ ልምምዶች እና ተዛማጅነት ባላቸው ነገሮች ላይ እስከ ሁለት አመት ባሉት ልጆች መካከል በጠምባሮ ወረዳ፣ ደቡብ ክልል ከጅም ዩኒቨርሲቲ ጋር በማተባበር በሚደረገው ጥናት ውስጥ እኔ የመረጃ አሰባሰብ እሠራለሁ ። በዚህ ጥናት ውስጥ እኔ እና አንቺ አጭር ውይይት እንኖራለን ። ከ 20 እስከ 30 ደቂቃዎች ያህል ብቻ ነው እና እኔን እንዲረዱኝ እጠይቃለሁ። ወደ ውይይታችን ከመግባታችን በፊት የጥናቱን ዓላማ እና አጠቃላይ ሁኔታ ለእርስዎ እንዲያነብልዎት በጥሞና እንዲያዳምጡ እጠይቃለሁ እናም በመጨረሻ በዚህ ጥናት ለመሳተፍ ይስማማሉ ወይም አይስማሙም ። የዚህ ጥናት ዓላማ የታመሙ የሕፃናት አመጋገብ ልምዶችን እና ተጓዳኝ ጉዳዮችን በጠምባሮ ወረዳ፣ በደቡብ ክልል፣ 2012 ዓ.ም ለመመርመር ነው ፣ ጥናቱ የሚካሄደው በቃለ-ምልልስ ነው ። የጥናቱ ውጤት በግኝቶቹ ላይ በመመርኮዝ ወዴ ትገባራ እንዲገባ ዕቅዱ ያሳውቃል። ግላዊነቱ በጥብቅ እንደሚጣስ ለእርስዎ ማረጋገጥ እፈልጋለሁ። አንድ የኮድ ቁጥር እያንዳንዱን ተሳታፊ ይለያል እና ስምም አይጠቅምም። ለማንኛውም ጥያቄዎች የሚሰጡት ምላሽ ለሌላ ለማንም አይሰጥም እናም የጥናቱ ዘገባዎች በጭራሽ አይለይዎትም። የውጤቶች ሪፖርት ከታተመ ስለ አጠቃላይ ቡድኑ መረጃ ብቻ ይታያል። ቃለመጠይቁ በፈቃደኝነት ሲሆን የእርስዎ ተሳትፎ / ተሳትፎ አለመኖር ወይም ለጥያቄዎቹ መልስ ለመስጠት ወይም እምቢታዎ አሁኑኑ ወይም ለወደፊቱ እርስዎ ወይም ማንኛውም የቤተሰብዎ አባል ከአገልግሎት ሰጪዎች በሚቀበሉዎቸው አገልግሎቶች ላይ ምንም ዓይነት ተጽዕኖ አይኖረውም ። በዚህ ጥናት ለመሳተፍ ፈቃደኛ ነዎት?

- 1. አዎ
- 2. አይደለሁም
- አመሰግናለሁ!!!

- መሳሰቢያ:-1. የጥናቱ ርዕሰ ጉዳይ በጥናቱ ውስጥ ለመሳተፍ ፈቃደኛ ከሆነ በቃለ መጠይቁ ይጀምሩ ።
- 2. ደንበኞቹ በጥናቱ ውስጥ እንዲካተቱ ማስገደድ አያስፈልግም ።
- 3. ማብራሪያን የሚጠይቁ ነገሮች ካሉ እባክዎን ለቃለ መጠይቁ ወይም ለዋና ዋና መርማሪው እንዲብራሩ ከመጠየቅ ወደኋላ አይበሉ

**የዋና መርማሪ አድረሻ**

ጅም ዩኒቨርሲቲ የህ/ብ ጤና ኢንስቲትዩት ፣ የሰነ-ምግብ እና ሥነ-ምግባር ትምህርት ክፍል ።

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ጅም

**II. ጥያቄ የአማረኛ ስሪት**

ክፍል I. እናቶች መረጃ ጠቋሚቸው ከልጅ (ከ 24 ወር በታች) እና ህጻን ያላቸው ማህበራዊና የስነ ሕዝብ አወቃቀር ባህሪዎች			
ተ.ቁ	ጥያቄ	ምላሽ	ምርመራ
101	የእናት ዕድሜ	_____ (በአመት)	
102	የጋብቻ ሁኔታ	<ol style="list-style-type: none"> <li>1. ያገባች</li> <li>2. ያለገባች</li> <li>3. □□□ ች</li> <li>4. የሞተባት</li> </ol>	
103	ሃይማኖትዎ ምንድን ነው?	<ol style="list-style-type: none"> <li>1. ኦርቶዶክስ</li> <li>2. ሙስሊም</li> <li>3. ካቶሊክ</li> <li>4. ፕሮተስታንት</li> <li>5. ሌላ (ይግለጹ) _____</li> </ol>	
104	ብሔር	<ol style="list-style-type: none"> <li>1. □ምባሮ</li> <li>2. ሀዲያ</li> <li>3. ካምባታ</li> <li>4. አማራ</li> <li>5. ዶንጋ</li> <li>6. ሌላ (ይግለጹ) _____</li> </ol>	
105	□□ናትዬዎ ትምህርት ደረጃ	<ol style="list-style-type: none"> <li>1. መደበኛ ትምህርት የላትም</li> <li>2. የመጀመሪያ ደረጃ ትምህርት</li> <li>3. ሁለተኛ ደረጃ ትምህርት</li> <li>4. ከፍተኛ ደረጃ ትምህርት</li> </ol>	
106	□□ናትዬዎ ሥራ ሁኔታ	<ol style="list-style-type: none"> <li>1. የቤት እመቤት</li> <li>2. የመንግስት ሰራተኛ</li> <li>3. የንግድ ሴት/ነጋዴ</li> <li>4. የግል ድርጅት</li> <li>5. ዕለታዊ የጉልበት ሥራ</li> <li>6. ሌሎች (ይጥቀሱ) _____</li> </ol>	
107	□አባትዬዎ ትምህርት ደረጃ	<ol style="list-style-type: none"> <li>1. መደበኛ ትምህርት የላትም</li> <li>2. የመጀመሪያ ደረጃ ትምህርት</li> <li>3. ሁለተኛ ደረጃ ትምህርት</li> <li>4. ከፍተኛ ደረጃ ትምህርት</li> </ol>	
108	የቤተሰብ መዋቅር	<ol style="list-style-type: none"> <li>1. አያቶችን, ወላጆችን እና ልጆችን የያዘ ቤተሰብ</li> </ol>	

		2. ነጠላ ቤተሰብ 3. የቤተዘመድ ስብስብ 4. የእንጀራ ልጆች / ማየት የተሳናቸው ቤተሰቦች	
109	የልጁ/ቶ ዕድሜ	_____ (በወር)	
110	የልጁ/ቶ ፆታ	1. ወንድ      2. ሴት	
111	አለዎት-ሬዲዮ ቴሌቪዥን መጽሔቶችን ፣ ዜናዎችን ወይም መጻሕፍትን ያነባሉ?	1. አዎ      2. የለም 1. አዎ      2. የለም 1. አዎ      2. የለም	
112	ስንት ልጆች አለዎት	_____ (በቁጥር)	
113	የትውልድ ቅደም ተከተል	_____ <sup>th</sup>	ስንተኛ ልጅ ነዉ/ነት
114	በታላቁ እና በዚህ ህፃን መካከል የትውልድ ክፍተት	1. ይህ የእኔ የመጀመሪያ ነው 2. _____ ዓመታት	መልሱ 1 ከሆነ ወደ 201 ይሂዱ
115	የታላቁ ህጻን ዕድሜው/ዎ ስንት ነው?	_____ (በአመታት)	
116	ዕድሜያቸው ከ 15 በታች እና ከ 65 ዓመት በላይ የሆኑ ስንት የቤተሰብ አባላት ናቸው?	_____ -	
117	ከ 15 እስከ 65 ዓመት ባለው ዕድሜ ውስጥ ስንት የቤተሰብ አባላት አሉ?	_____	
<b>ክፍል II የወሊድ እና የእናቶች ጤና ነክ ጉዳዮች</b>			
201	ለቅርብ ጊዜ እርግዝናዎ ለ “ANC” የጤና ተቋማትን ጎብኝተዋል	1. አዎ 2. የለም	የለም ከሆነ ፣ ወደ 204 ይሂዱ
202	የ“ANC” አገልግሎት ያገኙት ከየትኛው ተቋም ነው	1 ጤና ኬላ 2. የመንግስት ጤና ጣቢያ 3. የመንግስት ሆስፒታል 4. የግል ክሊኒክ	

203	ለእዚህ ልጅ በእርግዝናዎ ወቅት ምን ያህል ጊዜ (የእናቶች ክብካቤ ብዛት) ተቀብለዋል?	<ol style="list-style-type: none"> <li>1-2</li> <li>3-4</li> <li>&gt; 4</li> <li>አታውቅም</li> </ol>	
204	በማንኛውም ጉብኝትዎ በጨቅላ ሕፃናት እና ህጻን መመገብ ላይ የጤና ትምህርት አግኝተዋልን?	<ol style="list-style-type: none"> <li>1. አዎ</li> <li>2. የለም</li> </ol>	የለም ከሆነ ፣ ወደ 206 ይሂዱ
205	በጉብኝትዎ ወቅት ያገኙት መረጃ ምን ነበር (ከአንድ በላይ መልስ መስጠት ይቻላል)	<ol style="list-style-type: none"> <li>1. በእናቶች ወይም በልጅ ህመም ጊዜም ቢሆን ጡት ማጥባቱን ይቀጥሉ</li> <li>2. የእናት ጡት ወታት ከተወለደ/ች በአንድ ሰዓት ውስጥ መጀመር አለበት</li> <li>3. ያልተለመዱ ምግቦች መሰጠት የለባቸውም</li> <li>4. የእናት ጡት ወታት ብቻ ለመጀመሪያዎቹ ስድስት ወራት ተግባራዊ መሆን አለበት</li> <li>5. ተጨማሪ ምግብ ከስድስት ወር በኋላ መጀመር አለበት</li> <li>6. በበሽታ ወቅት ቶሎ ቶሎ መመገብ አለበት</li> <li>7. አመጋገብ ከህመም በኋላ መቀጠል አለበት</li> <li>8. ጡት ማጥባት እስከ 2 ዓመት ድረስ መቀጠል አለበት ::</li> <li>9. ሌላ (ይግለጹ) _____</li> </ol>	
206	ይህን ልጅ እርጉዝ ስትሆኝ ፣ ፈልገሽ ነዉ ?	<ol style="list-style-type: none"> <li>1. አዎ</li> <li>2. አይ</li> </ol>	
207	ይህንን ልጅ/ልጅቷን የት ነዉ የወለድሽ/የወለደሻት	<ol style="list-style-type: none"> <li>1. ቤት</li> <li>ሆስፒታል</li> <li>ጤና ጣቢያ</li> <li>ሌላ (ይግለጹ) _____</li> </ol>	
208	በወሊድ ጊዜ ማን ይረዳዎታል?	<ol style="list-style-type: none"> <li>1. የልምድ አዋላጅ</li> <li>የጤና ኤክስቴንሽን ሠራተኛ</li> <li>የጤና ባለሙያ</li> <li>ዘመዶች</li> <li>ሌላ (ይግለጹ) _____</li> </ol>	



209	በድህረ ወሊድ እንክብካቤ ላይ ስለ ጡት ማጥባት ምክር / መረጃ አግኝተዋል	1. አዎ 2. የለም	
210	ልጅዎን ለምንድነው ወደ ጤና ማዕከል ያመጡት?	1, ሳል እና የመተንፈስ ችግር 2, ተቅማጥ 3, ትኩሳት 4, የጆሮ ችግር 5 ፣ ሌሎች (ይጥቀሱ) _____	
211	ልጁ ይህ ምልክት ከያዘው ለምን ያህል ጊዜ ነው?	1. አንድ ቀን 2. ያለፉት ሁለት ቀናት 3. ያለፉት ሶስት ቀናት 4. አራትና ከአራት ቀናት በላይ	
212	ልጅዎ ክትባት ወስደዋልን?	1. አዎ ፣ እሱ / እሷ ክትባት አጠናቅቀዋል/ለች 2. አዎ ፣ እሱ / እሷ የተወሰኑ ክትባቶችን ወስደዋል/ለች 3. በጭራሽ ።	

**ክፍል III. የሕፃናትን እና ትናንሽ ልጆችን የመመገብ ልምምድ**

301	ህፃኑን ጡት አጥብቀው ያውቃሉ?	1. አዎ 2. አይ	አዎ ከሆነ ወደ 303 ይሂዱ	
302	ማያጣቡ ከሆነ ምክንያቱ ምንድነው? (ከአንድ በላይ መልስ መስጠት ይቻላል)	1. ጡት ማጥባት ብዙ ጊዜ ይወስዳል ። 2. ጡት ማጥባት ማለት ወደ ሥራ ወይም ወደ ትምህርት ቤት መመለስ አይችሉም ማለት ነው ። 3. ጡት ማጥባት ጡቶቼ እንዲረግቡ ያደርጉታል 4. ጡት ማጥባት ህመም ያስከትላል 5. ጡቴ በጣም ትንሽ ነው 6. በጡጧ መመገብ ፣ ለህጻኑ በቂ እንደሆነ እናት ታውቃለች ። 7. ሌላ (ይግለጹ) _____		
303	ልጁ በቀን እና በሌሊት ጡት ታጠባለሽ?	1. አዎ 2. የለም		
304	ባለፉት 24 ሰዓታት ውስጥ ምን ያህል ጊዜ ጡት አጥብሽ ነበር?	_____ ( በቁጥር )		

305	ባለፉት 24 ሰዓታት ውስጥ ከጡት ወተት በስተቀር ሌላ ምግብ ወይም ፈሳሽ ለልጁ ሰጡት?	1. አዎ 2. የለም	የለም ከሆነ ፣ ወደ 307 ይሂዱ
306	ምን አይነት ምግብ ወይም ፈሳሽ ለልጁ ሰጡት?	1. ከጡት ወተት በስተቀር ሌላ የለም 2. ግሮች ፣ ሥሮች ፣ ድንች (እንጂራ ፣ ዳቦ ፣ ገንፎ ፣ ጣፋጮች ፣ ወዘተ.) 3. የወተት ተዋጽኦ ምርቶች ( ወዘተ.) 4. የሥጋ ምግቦች (ስጋ ፣ ዓሳ ፣ እርባታ) 5. ፍራፍሬዎች 6. አትክልቶች 7. ሌላ (ይግለጹ) _____	
307	ልጁን ማን ይመግብ?	1. እናት 2. አባት 3. የእሱ እህት 4. ሴት አያት 5. ሌሎች 6. (ይጥቀሱ) _____	
308	ተጨማሪ ምግብ እንዲሰጥ ምክንያት ምን ነበር?	1. ዕድሜው ከስድስት ወር በላይ ስለሆነ 2. እናቶች የጡት ወተት ብቻቸውን በቂ እንዳልሆኑ ተሰምቷቸው ነበር 3. እናት ታመመች 4. ልጁ ታመመ/ች 5. እናትዬዉ ለስራ ስለሄዱች 6. ሌላ (ይግለጹ) _____	
309	ጡት እንዴት ታጠብቷል?	1. በፍላጎት 2. ልጅ ሲጮህ 3. በመርሃግብር 4. ሲመቼኝ	
310	ልጅ ለምን ጡት አላጠባም?	1. ጡት ስለጣለ 2. እናትዬዉ ህመምተኛ ስለሆነች 3. ጡቱ ችግር ስለላበት 4. ሌላ (ይጥቀሱ) _____	
<b>ክፍል 4. በህመም ጊዜ እፃናትን እና ትናንሽ ልጆችን የመመገብ ልምምድ</b>			
401	ከጡት ወተት በስተቀር ማንኛውንም ዓይነት ምግብ ወይም ፈሳሽ _____ (ወር)		

	በየትኛው ዕድሜ ላይ አስተዋውቀዋል (ውሃን ጨምሮ)?		
402	ያለፉት 24 ሰዓታት ከጡት ወተት በስተቀር ሌላ ምግብ ወይም መጠጥ ይወስዳል ወይ?	1. አዎ 2. አይ	የለም ከሆነ ፣ ወደ 404 ይሂዱ
403	ከትናንት ጊዜ ጀምሮ [የሕፃን ስም] ከታሸገ ወይም ከፀዳ ምግብ ወይም ጠጣር ወይም ከፊል-ጠንካራ ምግብ እንደ ምግብ ወይም እንደ መክሰስ ስንት ጊዜ ተመገብ?	ስንት ጊዜ ተመገብ _____ (በቁጥር)	
404	ይህ ልጅ ትናንት በቀን እና በሌሊት ምን ዓይነት ፈሳሽ ተሰጠው?	1. ከጡት ወተት በስተቀር ሌላ የለም 2. ሽይታሚኖች ነጠብጠብ ወይም መድሃኒቶች እንደ ጠብታዎች 3. ORS 4. ንፁህ ውሃ 5. የሕፃን ሕፃን ቀመር (የአካባቢያዊ ምርት ስም ያክሉ) 6. ወተት (የታሸገ ፣ ዱቄት ወይም ትኩስ የእንስሳ ወተት) 7. ሌሎች በውሃ ላይ የተመሰረቱ ፈሳሾች 8. ቀጭን ገንፎ 9. ሌላ ይግለጹ	መልስ 1 ከሆነ ወደ Q406 ይሂዱ
405	ትናንት ማታ እና ማታ ለልጁ ምን ምግቦች ተሰጥቷቸው ነበር? ( መልስ ሰጪው እንደተጠቀሰው ብዙ አማራጮችን ይመዝገቡ )	1. ከጡት ወተት በስተቀር ሌላ 2. ግሮች ፣ ሥሮች ፣ ድንች (እንጆራ ፣ ዳቦ ፣ ገንፎ ፣ ጣፋጮች ፣ ወዘተ.) 3. የወተት ተዋጽኦዎች (ወተት ፣ ወዘተ.) 4. ሥጋዊ ምግቦች (ስጋ ፣ ዓሳ ፣ እርባታ) 5. ፍራፍሬዎች 6. አትክልቶች	
406	ካለፉት 24 ሰዓታት ውስጥ ህፃን በጠርሙስ(ጡጦ) ተመገቦ ያውቃል?	1. አዎ 2. አይ	
407	ትናንት ከዚያን ሰዓት ጀምሮ ህፃኑ/ኖ ምግብ ስንት ጊዜ በላ/ች (ቁጥር ያስገቡ)	_____ ጊዜያት	

408	ህፃኑ ስታመም ጤነኛ ከሆነው ጋር ሲነፃፀር ሲታመም ምን ያህል ፈሳሽ ይሰጡታል?	<ol style="list-style-type: none"> <li>1. ምንም ፈሳሽ አይሰጠውም</li> <li>2. ከመደበኛ በጣም ያነሰ</li> <li>3. በመጠኑ ያነሰ</li> <li>4. ተመሳሳይ መጠን</li> <li>5. ከተለመደው በላይ</li> </ol>	
409	ህፃኑ ስታመም ጤነኛ ከሆነው ጋር ሲነፃፀር ሲታመም ምን ያህል ምግብ ይሰጡታል?	<ol style="list-style-type: none"> <li>1. ምግብ በጭራሽ አይሰጥም</li> <li>2. ከመደበኛ በጣም ያነሰ</li> <li>3. በመጠኑ ያነሰ</li> <li>4. ተመሳሳይ መጠን</li> <li>5. ከተለመደው በላይ</li> </ol>	Q409 መልስ (5) ከሆነ ወደ 411 ይሂዱ
410	ለምን ይህን ያህል ምግብ ይሰጣሉ? (ከአንድ በላይ መልስ መስጠት ይቻላል)	<ol style="list-style-type: none"> <li>1. ልጄ ለመመገብ ታምሟል(ስለተማመ)</li> <li>2. ልጄ ፈቃደኛ አይደለም</li> <li>3. ከመጠን በላይ መመገብ ለታመመ ልጄ ጥሩ አይደለም</li> <li>4. ብዙ እና የተለያዩ ነገሮችን ለማዘጋጀት አቅም የለኝም</li> </ol>	
411	ከተለመደው በላይ ለምን ይሰጣሉ?	<ol style="list-style-type: none"> <li>1. ተጨማሪ ምግብ በመስጠት የሕፃናትን ጤና ለማጎልበት</li> <li>2. የበሽታውን ጉዳት በልጄ ላይ ለመከላከል ::</li> <li>3. በህመም ጊዜ የክብደት መቀነስን ለማካካስ</li> <li>4. ሌላ (ይጥቀሱ) _____</li> </ol>	
412	በበሽታው አይነት የመመገብን ድግግሞሽ ይቃይራሉ(ይጨምራሉ)?	<ol style="list-style-type: none"> <li>1. አዎ</li> <li>2. አይ</li> </ol>	መልሱ የለም ከሆነ ፣ ወደ 501 ይሂዱ።
413	መልስዎ አዎ ከሆነ ፣ ለየተኞቹ በሽታዎች ድግግሞሹን ይጨምራሉ? (ከአንድ በላይ መመለስ ይቻላል)	<ol style="list-style-type: none"> <li>1. ትኩሳት</li> <li>2. ሳል</li> <li>3. አስቸጋሪ ወይም ፈጣን መተንፈስ</li> <li>4. ተቅማጥ</li> <li>5. ማስታወክ</li> <li>6. ሌሎች (ይጥቀሱ) _____</li> </ol>	
414	የመመገብን ድግግሞሽ የሚቀነሱት ለየተኞቹ በሽታዎች ነው? (ከአንድ በላይ መመለስ ይቻላል)	<ol style="list-style-type: none"> <li>1. ትኩሳት</li> <li>2. ሳል</li> <li>3. አስቸጋሪ ወይም ፈጣን መተንፈስ</li> <li>4. ተቅማጥ</li> </ol>	

		5. ማስታወክ 6. ሌሎች (ይጥቀሱ) _____	
<b>PART V. ስለታመሙ ሕፃናት መመገብ መረጃ</b>			
501	በህመም ጊዜ ስለ ህጻን አመጋገብ በተመለከተ መረጃ ሰምቶዉ ያዉቀሉ	1. አዎ 2. አይ	
502	በሕመም ጊዜ ስለ አመጋገብ የሳሙት መረጃ ምንድነዉ?	1. መመገብን ይጨምሩ (ቶሎ ቶሎ ይመግቡ) 2. መመገብን ቀንስ	
503	ይህንን መረጃ ከየት ነዉ የሰማችሁት መረጃ (ከአንድ በላይ መልስ ሊሆን ይችላል)	1. ከጤና ባላሙዪ በቅደም-ወላድ ክትትል እና ምክር ወቅት 2. ከጤና ኤክስቴንሽን ሠራተኞች 3. ከቴሌቪዥን 4. ከሬዲዮ 5. ከሌሎች(ይጣቃስ)_____	

ለትብብር እናመሰግናለን።

DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis have been fully acknowledged.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Name of the institution: \_\_\_\_\_

Date of submission: \_\_\_\_\_

This thesis has been submitted for examination with my approval as University advisor

Name and Signature of the first advisor

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\_\_\_\_\_

Name and Signature of the second advisor

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