ASSESSMENT OF INFANT AND YOUNG CHILD FEEDING PRACTICES AMONG MOTHERS OF CHILDREN AGED 0-23 MONTHS AND ASSOCIATED FACTORS IN BECHO DISTRICT SOUTH WEST SHOA ZONE OROMIA REGIONAL STATE, CENTRAL ETHIOPIA

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A thesis submitted to Jimma University, college of public health and medical sciences, department of epidemiology; in partial fulfillment for master's degree in General Public Health

JUNE, 2014

JIMMA, ETHIOPIA

JIMMA UNIVERSITY

COLLEGE OF PUBLIC HEALTH AND MEDICAL SCIENCES

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ABSTRACT

Introduction: *Despite its needs to child survival, growth and development many infants and children do not receive optimal feeding, Worldwide of 136 million babies born every year, as many as 92 million are not able to experience the WHO recommended optimal feeding practices. In Ethiopia only 52% are exclusively breast fed and only about half are eating complementary foods. Interrupted breastfeeding and inappropriate complementary feeding heighten the risk of malnutrition, illness and mortality.*

Objective :*To assess infant and young child feeding practice and associated factors among mothers of child age 0-23 month.*

Methods : *community based cross sectional study was conducted from* 25/03/2014 to 15/04/2014 *among 845 mothers who were living in Becho district, oromia , central Ethiopia. The study participants were recruited from all the Kebeles of the District using simple random sampling. Structured and semi-structured interviewer administered questionnaire were pre tested and used, Bi-variate and multivariable logistic regression were computed to see association and P<0.05 consider as statistically significant. Odd ratio and 95% CI were used to present the result.*

Results*: From 820 mothers participated in the study only 27.2% practiced age appropriate infant and young child feeding according to WHO recommendation. Early initiation of breast feeding was associated with mothers' good knowledge on infant and young child feeding practice (AOR=4.42, 95%CI=2.30, 8.524), attending antenatal care (AOR =3.03, 95% CI =, 1.48, 6.23), receiving child feeding advice (AOR =2.42, 95% CI = 1.29, 4.56), home delivery (AOR =.09, 95% CI = 0.05, 0.14) and living in rural area (AOR=0.41,95%CI=0.19,0 .86).Exclusive breast feeding was associated with mothers good knowledge on infant and young child feeding knowledge (AOR=11.13, 95%CI=3.27,37.88) preceding birth interval greater than 2 years (AOR=4.38,95% CI= 1.88, 10.31) , living in nuclear family (AOR=3.19,95% CI=1.25,8.17),having less than 4 children (AOR=2.86,95% CI=1.04,7.920 and living in rural area (AOR=0.22, 95%CI=0.05,0.89).Starting complimentary food at recommended time was associated with mothers good knowledge on infant and young child feeding (AOR=4.69, 95%IC=1.59, 13.86), child age 6 to 7 (AOR=0.03, 95% CI 0 .02, 0.08), having access to media (AOR=3.97,95%, 1.89, 8.35) attending antenatal care (AOR=3.15,95%CI=1.03,9.61) and institutional delivery (AOR=3.06,95%=1.23,7.65), living in rural area (AOR=0.29 95%CI=0.10, 0.81). Providing minimum dietary diversity was associated with mothers good knowledge on infant and young child feeding (AOR= 2.23, 95%CI =1.31, 3.79), father's educational status (AOR=1.69, 95%CI=1.11,2.55), receiving child feeding advice (AOR=1.81, 95%CI=1.09, 2.99) ,attending postnatal care (AOR=1.59, 95%CI=1.06, 2.34) and living in urban area (AOR=3.75,95%CI=2.33,6.03) providing minimum meal frequency was associated with mother's good knowledge on infant and young child feeding (AOR=2.92,95%CI=1 .50,5.60),attending antenatal care (AOR=3.07,95%CI=1.68, 5.61), receiving child feeding advice (AOR=2.43,95%CI=1.35, 4.38), child age 6-7(AOR=0.20, 95%CI=0.10,0 .37) mothers age less than 30 years(AOR=2.48, 95% CI=1.33,4.60) and having access to media (AOR=1.71,95%CI=1.08,2.71).*

Conclusion: *According to this study there is some improvement on infant and young child feeding practice in the study area than previous studies in the country, but still infant and young child feeding practice is unsatisfactory and needs special attention. Children in rural area, children age between 4-month and children belongs to older mothers are at high risk of inappropriate feeding practice. Improving mother's knowledge on infant and young child feeding, improving family access to media, improving utilization of health service and providing child feeding advice to mothers are factors found to be independently and significantly associated with appropriate infant and young child feeding practice in the area.*

Key words: *Infant and young child feeding, Breast feeding, complementary feeding, associated factors*

ACKNOWLEDGMENT

I would like to express my heartfelt gratitude to my advisors Mr.Tarku Dejene and Mr.Mohammed Taha for their indispensable guide and provision of subsequent comments through-out my thesis. My special thanks also extended to South West Shoa Zonal Health Department, Becho District Health Office, data collectors, supervisors & study participants for their cooperation during our study. Finally I would like to thank Jimma University for giving me this chance.

ABBREVIATIONS

BF Breastfeeding

BFHI Baby friendly hospital initiative

CI Confidence interval

CF Complementary feeding

IYCF Infant and young child feeding

UNICEF United Nations children emergency funds

WBT*i* World breastfeeding trend initiative

WHO World health organization

SPSS Statistical package for social sciences

E.C Ethiopian calendar

DHS Demographic and health survey

EDHS Ethiopian demographic and health survey

NNP National Nutrition Program

BF Breast feeding

EBF Exclusive breast feeding

CF Complimentary feeding

MDD Minimum dietary diversity

MMF Minimum meal frequency

MAD Minimum acceptable diet

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CHAPTER 1: INTRODUCTION

1.1. Back ground

Optimal infant and young child feeding (IYCF) is essential to child health. The growing evidences are underscoring appropriate IYCF as major factor to child survival, growth and development which includes the importance of breastfeeding as the preventive intervention with potentially the single largest impact on reducing child mortality and improvement of complementary feeding as to be most effective to improve child growth and to contribute to reducing stunting (1).

The critical time to improve child nutrition is from birth to 24 months of age. This period provides an important window of opportunity to build a strong foundation for future development, because young children have maximum plasticity of neuronal systems; they are not only vulnerable to environmental influences, but also capable of benefitting from interventions that mitigate risk and promote capacity and resilience (2).

To promote optimal infant and child feeding practice, improve nutritional status and decrease infant and child mortality in all countries World Health Organization and UNICEF have developed the Global Strategy for IYCF in 2002. It ranks among the most effective interventions to improve child health (3).

In Ethiopia also IYCF Strategy has been prepared in 2004, based on the national needs and commitments to improve IYCF practices following the WHO Global Strategy for IYCF (4). Promotion of IYCF has been recognized as a key priority of Ministry of Health and main objective of revised national nutrition program in Ethiopia (5).

This strategy recommends Optimal Infant and Young Child Feeding which includes; infants should be exclusively breastfed for the first six months of life to achieve optimal growth, development and health. Thereafter, to meet their evolving nutritional needs, infants should receive safe and nutritionally adequate complementary foods while breastfeeding continues for up to two years of age or beyond. In addition, recent evidences underscores that breastfeeding should be initiated within the first hour of birth (6).

1.2. Statement of the problem

Many studies confirm that infant and young child feeding practice remains unsatisfactory, worldwide of 136 million babies born every year, as many as 92 million are not able to experience the WHO recommended optimal feeding practices (7). More than half of newborns are not put to the breast within the first hour of birth, only 39% of infants less than 6 months of age were exclusively breastfed, only 58% of children continued breast feeding through the recommended duration of up to two years (8). In many countries only a third of breastfed infants 6–23 months of age meet the criteria of dietary diversity and feeding frequency that are appropriate for their age (9) only 60% of children aged 6 to 8 months receive solid, semi-solid or soft foods, highlighting deficiencies in the timely introduction of complementary foods(10).

Breastfeeding is initiated within one hour of birth for fewer newborns in South Asia than in any other region 39 per cent. Sub-Saharan Africa leads coverage of early initiation of breastfeeding; 48% of newborns are breastfed within one hour of birth. The regions with the highest exclusive breast feeding rates of infants under 6 months old were Eastern and Southern Africa 52 per cent and South Asia 47 per cent, coverage is lowest in sub-Saharan Africa, with 37 per cent of infants less than 6 months of age exclusively breastfed in 2011(11).

In Ethiopia also however breastfeeding is very common with 98% of children ever breastfed, Only about half (52%) of children under six months are being exclusively breastfed, only 32% of infants 4-5 months old age are exclusively breastfed and only half of children ages 6–9 months are eating complementary foods (12). Ethiopia is the least among the profiled countries, with only 4% the of children (6-8 month) receiving a minimum acceptable diet (11) .

Lack of appropriate breast feeding and complementary feeding practices leads to child malnutrition, many countries worldwide are experiencing a sharp increase in the prevalence of malnutrition and suffer from the double burden of both types of malnutrition(13). In 2012 about 99 million children under 5 years of age were underweight and 162 million stunted. At the same time, about 44 million children under 5 were overweight or obese .In the same year 67 percent of all underweight children lived in Asia and 29% in Africa (14**).** In Ethiopia 44 percent of children under age five were stunted, and 21 percent of children are severely stunted. Overall, 10 percent of Ethiopian children were wasted, and 3 percent were severely wasted. Wasting, or acute malnutrition, is highest in children age 9-11 months (19%) (12). According to June 2013 annual report of south west Shoa zone health department, from under 3 age children screened at health facilities 22 % were malnourished.

Woliso, Goro and Becho were the leading districts in the zone with malnutrition prevalence in under 3 year children screened at health facilities which accounts for 24%, 24% and 19% respectively (15).

The consequences of poor nutrition during the first 24 month include significant morbidity and mortality and delayed mental and motor development (16). Children who are not optimally fed are much more likely to suffer from serious infection and to die from common childhood illnesses such as diarrhea, measles, pneumonia and malaria (17) (12). Even if they survive undernourished children may become locked in a cycle of recurring illness and faltering growth, with irreversible damage to their development and cognitive abilities (18) putting them at a disadvantage for the rest of their lives (19)(20). In the long-term early nutritional deficits are linked to, work capacity, reproductive outcomes and overall health during adolescence and adulthood. Thus, the cycle of malnutrition continues, as the malnourished girl child faces greater odds of giving birth to a malnourished, low birth weight infant when she grows up (16). Malnutrition also harms national economies, World Bank estimates that low-income countries can lose 2 to 3 per cent of their annual GDP because of child malnutrition(21) (20) and 10 percent of Ethiopia's GDP is lost due to malnutrition (18).

Ethiopia started to promote IYCF but its implementation especially at community level it is not satisfactory(5) Enhanced Outreach Strategy and community based nutrition (CBN) are the main strategies being used in the south west Shoa zone to access all children and control child malnutrition. The gap seen in implementation of these strategies in south west Shoa zone are ,they are not integrated in routine activities, operated at small scale and usually through external donors or NGOs with fragmented activities which did not focus on all IYCF components and associated factors no coordination or less support from sectors other than health sector. In south west Shoa zone only 6 woredas were selected for CBN, Becho district is not CBN woreda however it ranks the 3rd with malnutrition among the 11 rural districts following the first 2 CBN woredas (15) .

Understanding the direct and indirect associated factors of IYCF in a given context is critical to deliver appropriate, effective and sustainable solutions and adequately meeting the needs of the most vulnerable people. Its successful control needs multi sectoral approach which should targeted at different causes to reach sustainable change. However most of factors are common the combination and relative importance of them associated with IYCF differ from area to area and needs comprehensive study that includes all IYCF components at local level.

But Practices of infant and young children feeding and associated factors has not been well studied in Ethiopia , Most of the studies conducted in Ethiopia were not comprehensive and focused mainly on the breastfeeding aspects and not the dietary diversity and meal frequency. EDHS provides valuable information on IYCF practice at national level but more general and unable to tell detail practice and associated factors at local level. Hence there are significant gaps in our knowledge as to what amount of optimal IYCF and specific factors related to specific area with suboptimal child feeding at individual, house hold and community level.

This study aimed to reveal the current practice of all IYCF components and associated factors which will be helpful for all sectors both government and NGO to have detail understand on magnitude of the child feeding problem and associated factors at all levels (from individuals to community level) in the area, this will enable stakeholders to clearly see the interventions need their effort to improve child nutrition practice and consider it during planning and play their role.

CHAPTER 2: LITERATURE REVIEW

The literature review begins with overview of IYCF followed by current status of IYCF practice starting with breastfeeding indicators and followed by complementary feeding indicators. The risk factors associated with breastfeeding and complementary feeding practices are also described at individual, house hold and community level from global to local.

Optimal nutrition during the first two years of child life is important, as it lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better development overall (9). In 2002 the World Health Organization and UNICEF adopted Global Strategy for infant and young child feeding(6), which 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 (3). The 2008 update of this guidelines includes, early initiation of breastfeeding with one hour of birth; exclusive breastfeeding for the first six months of life; and the introduction of nutritionally-adequate and safe complementary (solid) foods at six months together with continued breastfeeding up to two years of age or beyond (22). Of all proven preventive health and nutrition interventions, IYCF has the single greatest potential impact on child survival, it ensures a child is protected from both under- and over-nutrition and their consequences later in life (22) also could save about 220,000 lives per year(9).

2.1 Breast feeding

Breast milk is an important source of energy and nutrients in children aged 6 to 23 months. 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. Breast milk is also a critical source of energy and nutrients during illness, and reduces mortality among children who are malnourished (9). Children and adolescents that have been breastfed perform better in intelligence tests and less likely to be overweight or obese. Breastfeeding also contributes to the health and well-being of mothers; it reduces the risk of ovarian and breast cancer and helps space pregnancies ,the natural method of birth control known as the Lactation Amenorrhea Method (9,11).

2.1.1 Early initiation of breastfeeding

Breast feeding impacts growth in several ways, such as through reduction of morbidity due to infections, stronger immunological response to disease due to transfer of maternal antibodies and provision of the optimum balance of nutrients, growth factors, enzymes, hormones and other bioactive factors (22).

World Health Organization (WHO), global and national infant and young child feeding guidelines recommend that all newborns should start breastfeeding immediately (with in the first hour after delivery) and the feeding of colostrums be promoted (3,23). Early initiation of breastfeeding, within one hour of birth, protects the new born from acquiring infections and reduces newborn mortality. The risk of mortality due to diarrhea and other infections can increase in infants who are either partially breastfed or not breastfed at all. It is vital as it facilitates emotional bonding of the mother and the baby (3,23).

Despite these benefits, in many developing countries early initiation of breastfeeding rate is still unsatisfactory. According to study conducted in 33 developing countries from Asia, Africa and Latin America only 48 percent of mothers initiated breastfeeding within the recommended first hour of birth (24). In another study in Mauritius 60.6% of the participants initiated breastfeeding the same day after delivery, while 39.4% started to nurse their baby 24 hours after delivery(25). The other study conducted in Feira de Santana, Bahia, Brazil shows prevalence of breastfeeding initiation within the first hour of life is 47.1% (26).

Breastfeeding is very common in Ethiopia, with 98% of children ever breastfed (12) but early initiating of breast feeding is still very low. In one study conducted in Goba Woreda, among mothers who had ever breastfed, only about half(52%) initiated breastfeeding within one hour after delivery and 31.7% initiated breastfeeding within the period of 1 hour to 1 day. Among 99% of mothers had breastfeed at least once in their life time 35.0% of them squeezed out and discarded the colostrums(27). But it is high in another study conducted in north Ethiopia Bahirdar city Of those who had ever breastfed, 87.0% of the mothers initiated breastfeeding within one hour of birth and 83.3% had fed colostrums (28).

2.1.2 Exclusive breastfeeding

WHO recommends exclusive breastfeeding for the first six months of life and continued breastfeeding up to two years of age or beyond (6). If the breastfeeding technique is satisfactory, exclusive breastfeeding for the first 6 months of life can meet the energy and nutrient needs of the vast majority of infants (29) and no other foods or fluids are necessary. Several studies have shown that healthy infants do not need additional water during the first 6 months if they are exclusively breastfed, even in a hot climate(3) because breast milk itself is 88% water, and is enough to satisfy a baby's thirst (30) Extra fluids displace breast milk, and do not increase overall intake (3).

Exclusive breastfeeding for six months has many benefits for the infant and mother. Chief among these is protection against gastrointestinal infections which is observed not only in developing but also industrialized countries (9). The advantages of exclusive breastfeeding compared to partial breastfeeding were recognized in 1984, when a review of available studies found that the risk of death from diarrhea of partially breastfed infants 0–6 months of age was 8.6 times the risk for exclusively breastfed children. For those who received no breast milk the risk was 25 times that of those who were exclusively breastfed (31). An exclusive breast feeding infant is about 14 times less likely to die from diarrhea, nearly 4 times less likely to die from respiratory disease and almost 3 times less likely to die from other infections than the non-breast fed infants (32). According study in Dhaka, Exclusive breastfeeding for 6 months has been found to reduce the risk of diarrhea and respiratory illness (33,34). Diarrheal illness is also more common in artificially-fed infants even in situations with adequate hygiene, as in Belarus and Scotland (3,35).

Non–exclusive breastfeeding also has long term impact, including poor school performance, reduced productivity, and impaired intellectual and social development(3,6). Evidence shows that of the 60 percent of under-five mortality caused by malnutrition(directly or indirectly), more than two-thirds of those are associated with inappropriate breast feeding practices during infancy (36). It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first six months of life, results in 1.4 million deaths and 10% of diseases in under-fives (3,6).

The use of appropriate breast feeding and exclusive breast feeding practices can reduce malnutrition in children. Exclusive breast feeding for the first four to six months, with appropriate complementary feeding for at least the first year of life, could prevent the death of an additional estimated 1.3 million infant each year (3).

Exclusive breast feeding during the first 5 months of life has irreplaceable benefit for child health, water and teas are commonly given to infants, often starting in the first week of life. Not more than 35% of infants worldwide are exclusively breastfed during their first four months of life (37). In Mauritius only 17.9%(25) , In Bangladesh (64.1%), in Tanzania 49.9% of infants less than 6 months of age were exclusively breastfed (38,39).

In Ethiopia, 52% of infants were exclusively breastfed for the first six months, while only 32% of infants 4-5 months old are exclusively breastfed (12). According to the study conducted in south east Ethiopia Goba district 71.3% of children under 6 month age were breastfeed exclusively (40). Another study conducted in east Ethiopia Kersa District also show that the prevalence of non-EBF in infants aged under six months was 28.3% (41). In Bahirdar city according to the study computed using since birth dietary recall method only 45.3% of infants six months and above received EBF when asked retrospectively, Of mothers with infants aged less than 6 months during the study, 59.7% were exclusively breast feeding their infants, but a large number of mothers, 46.29% and 53% in this study provided cow's milk and yogurt before 6 months respectively. In-depth interview with mothers also showed that some mothers provided butter, tena-addam (rue) and fenugreek as preventive medicine against stomachache and other disease (28).

2.2 Complementary feeding

Around the age of six months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods (9).

Complementary foods are often of inadequate nutritional quality, or they are given too early or too late, in too small amounts, or not frequently enough. Premature cessation or low frequency of breastfeeding also contributes to insufficient nutrient and energy intake in infants beyond 6 months of age (3). If complementary foods are not introduced when a child has reached six months, or if they are given inappropriately, an infant's growth may falter(9) .

To provide guidance on the amount, consistency, frequency, energy density and nutrient content of foods WHO set guiding principles for appropriate complimentary feeding practice (3).

The guiding principles are: Start at six months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breast feeding, Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities (minimum acceptable diet), Increase the number of times that the child is fed complementary foods as

he/she gets older (meal frequency). Feed a variety of foods to ensure that nutrient needs are met (Dietary diversity), Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed. Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more (16). Reviews from different studies showed only few children worldwide are being fed according to these principles.

2.2.1 Introduction to complementary foods

In south India 77.5% mothers had started complementary feeding at the recommended time of six months (42) and majority (92.1%) of the infants aged between 6 and 8 months receive soft, semi-solid or solid foods in Tanzania (43). In Ethiopia according to EDHS 2011 about half of children age 6-8 months (49%) consume solid, semi-solid, or soft foods (44) and according to study conducted Mekelle town, the prevalence of timely initiated complementary feeding at the age of six months was 62.8% (45).

2.2.2 Dietary Diversity of complimentary food

According to different studies in developing world Overall, less than half of the children aged 6-23 months meet the minimum dietary diversity criteria, 38.2% in Tanzania (43) and 30.4% in Nepali (46) .In Ethiopia according to a secondary analysis of EDHS 2011, and survey conducted in Sidema, Ethiopia the proportion of children with adequate dietary diversity was 10.8% (47) and 16% (48) respectively.

2.2.3 Meal frequency of complimentary food

The prevalence of minimum meal frequency among children aged 6-23 month was 38.6% and 76.6% in Tanzania and Nepali respectively (43) (46). In Ethiopia according to a secondary analysis of EDHS 2011, nearly half of children (44.7%) practiced insufficient meal frequency for complementary foods(47) **.**

2.2.4 Minimum acceptable diet of complimentary food

Minimum acceptable diet' is a composite indicator that incorporates both meal frequency and dietary diversity. According to UNICEF 2013 report among the 8 profiled countries, the percentage of children receiving a minimum acceptable diet ranged from 24 per cent in Nepal to just 4 % in Ethiopia(11). According to EDHS 2011 also only 4% of breastfed children are given foods from four or more groups and also are fed at least the minimum number of times per day (44).

2.3 Factors associated with IYCF practices

Infant and young child feeding practice can be influenced by many factors, among them the main factors can be classified as individual level, household level, community level and health service related factors.

2.3.1 Individual-level factors influencing IYCF practices

Maternal age

Study showed a significantly lower rate of breastfeeding in the first hour after delivery among mothers older than 20 years (26). It was found that children, whose mothers were older, aged 35 or above at pregnancy, were more likely to be fed with diversity foods and hence, meet the minimum dietary diversity than those children whose mothers were 15–19 years at pregnancy. And also it was found that mother's age were the significant determinants of providing a minimum acceptable diet, after controlling for other predictors in model. The mothers who were 30–34 years at pregnancy were less to provide the recommended acceptable diet than the mothers who were >=35 years (46).

Maternal/Father education

Educated mother had high rate of ideal feeding than the uneducated mother and literacy of mother was found to have association with infant and young child feeding practices. Uneducated mothers were almost 2 times more likely to have inappropriate feeding practices whereas father's education was not found to be a factor (49).

In most studies, early initiation of breast feeding positively associated with higher educational level (26). According to study conducted in Goba Woreda ,south east Ethiopia Mothers who had formal education were 1.4 times as likely to initiate breastfeeding with in the first hour after delivery as compared to those mothers who had no formal education(27). But From study of community of Jimma Arjo Woreda mothers who had no education were 5% more likely to initiate breastfeeding after 1 h of child birth than those who attended formal education (50).

Concerning exclusive breast feeding (EBF), according to study conducted in Nairobi, Kenya ,Mothers with at least secondary level education had 10% lower hazards of introducing foods early(51)

In Ethiopia according to the result obtained from the Ethiopian demographic health survey, exclusive breastfeeding practice decline with the higher maternal education status, but maternal educational status

and exclusive breast feeding did not show any significant association in study conducted in Goba District south east Ethiopia (40) .

Children whose mothers were well educated and had a secondary level education or higher education were more likely to meet the minimum dietary diversity compared to children whose mothers did not have any formal education, indicating an increase in the odds of providing a diversity of foods with an increase in education level (46). Similarly, compared to no education, as the education level of the fathers increased, the children were more likely to get the recommended diversity of food. It was also found that mother's education, and father's education were the significant determinants of providing a minimum acceptable diet, after controlling for other predictors in model (52). Literate mothers were starting the complementary feeds at the recommended time compared to illiterate mothers with statistically significant association, but association of the practice of giving adequate quantity of complementary feeds and literacy was not statistically significant (42) .

Marital status

Marital status is another individual-level variable found to influence breastfeeding. This factor revealed inconsistent findings from both developed and developing countries. According to study in SNNP region Ethiopia ,mothers who were not married were 2 times more likely to exclusively breastfeed their infants for the period of 6 months than married women (53).

Maternal knowledge on optimal IYCF

In study in India the most common reason given for the delayed introduction of complementary feed was that mother felt their milk was enough for baby (42). In Ethiopia according to study conducted in Jimma Arjo Woreda , among under 6 month age child mothers 41.88% believed that complementary food provides more nutrients than breast milk and mothers who had knowledge about exclusive breastfeeding to six months were less likely early introduced additional food compared to who had no information about exclusive breastfeeding (54).

Maternal working status

In Ethiopia according to different studies maternal employment status is significant predictors of exclusive breast feeding. The adjusted odds of unemployed mothers practicing exclusive breastfeeding was 10.4 times the odds of employed mothers (40). Similarly in another study conducted in north Ethiopia Bahirdar city housewives had an adjusted odds of 2.2 of practicing EBF compared to other occupations(28). Field activities like keeping livestock was contributing factors to early introduction of

complementary food. Mothers who gave some of their time to keep livestock early introduced complementary food before 6 months (54).

Religion, ethnicity

However study include religion as a factor is not common, study conducted in Nepal showed, religion also had significantly affected the ideal feeding (2) According to study in Kenya ethnicity associated with early introduction of complementary foods (before the age of six months) (51) study in Jimma Arjo showed among mothers 43.3% provided butter and 53.2% gave rue("tena-addam") to infants to protect them against stomachache and common cold, respectively (50).

Child gender

According to study in Kenya boys were more likely to be introduced to foods early (51) but in another study conducted in Nepali district there was no association between sex and feeding practices of the infant and young child(49).

Child age

In many studies age of infant is significant predictors of exclusive breastfeeding. Those infants whose age was < 2 months were 5.6 times more likely to be breastfed exclusively compared with infants in the age range of 4 to 5 months (40). Also In another study conducted in Bahirdar city Children with an age interval of 0-1 month and 2-3 months had an adjusted odds ratio of about 3.8 and 2.8 respectively of receiving EBF compared to children aged 6 months and above (28),and in another study in Jimma Arjo woreda mothers who had 0-2 months old infants were 73% less likely to non-exclusively breastfeed than those who had 5-6 months old infants . Similarly, mothers who had 3- 4 months old infants were 57% less likely to nonexclusively breastfeed than those who had 5-6 months old (50). In secondary analysis of 2011 EDHS, age of child in months was significantly associated with dietary diversity. Children aged 12–17 and 18–23 months were 67% and 78% times less likely to practice adequate dietary diversity compared to children aged 6–11 months respectively. And also age of child in month was found to be important predictor for meal frequency (47). According to study in Tanzania risk of not meeting minimum dietary diversity consistently decreased with increasing age of the children, Older children (12-23 months) had a lower risk of not meeting minimum dietary diversity compared to younger children (6-11 months) (43).

Child birth order

The prevalence of minimum dietary diversity was significantly higher in children born first in Tanzania (43). In Ethiopia also according to secondary analysis of EDHS 2011 birth order is found as important determinant for dietary diversity, Children who were born third had nearly two times more risk to be feed inappropriately compared to children born first (47).

Preceding birth interval

According to study conducted in Tanzania the risk of infants being predominantly breastfed was significantly higher among mothers who had 0-23 months of preceding birth interval compared with mothers who had >= 24 months preceding birth interval (43).

2.3.2 Household-level factors associated with IYCF practices

Household wealth index

According to study in India the association of socio-economic status and initiation of complementary feeds at the recommended time was statistically significant, in the upper middle class, 87.5% mothers had started complementary feeding at the recommended time (42). In Tanzania also the adjusted odds for not meeting minimum acceptable diet were significantly higher among children from the poorest households compared to those from the richest households, but in contrast to these infants from the richest households were less likely to be exclusively breastfed in the first six months(43). Secondary analysis of 2011 Ethiopian DHS shows children born from the richest households had 74% less chance to have inadequate dietary diversity compared with children from the poorest household (OR = 0.256, 95% CI: 0.142, 0.459) (47).

Type of family

Type of family is not common in majority of the study and in most of the study included this predictor, it doesn't showed association ,but according to study in Nepal mothers from joint family had high chance of feeding their child appropriately than mother from nuclear family (2).

Number of children, Family size

In study conducted in India the mothers with a lesser number of children were starting the complementary feed at the recommended time of six months and the association of number of children and the practice of initiation of complementary feeding at the recommended time was statistically significant (42) . According to study in Ethiopia also having two children had 31% less chance of practicing adequate dietary diversity compared with having three children (OR=0.690, 95%CI: 0.481,

0.992)(47). According to study in Nigeria there was no significant association between family size or number of children under five and poor nutrition status(55)

Exposure to media radio/TV

According to study in Jimma Arjo woreda, Ethiopia, There was a negative association between ownership of radio and non-exclusive breastfeeding practices. Mothers (households) who had radio were 44% less likely non-exclusively breastfeed compared to those who had no radio (50). Ethiopian DHS 2011 also had released exposure to media was significantly associated with meal frequency. Mothers with satisfactory exposure to media had 29% less risk to practice inadequate meal frequency compared to mothers with unsatisfactory exposure to media (47). According to study in Tanzania Children whose mothers had limited access with mass media (radio and television) had lower prevalence of introduction to complementary foods at 6-8 months than children of mothers who had frequent access with mass media in 2010. There was no significant difference in the prevalence of introduction to complementary foods at 6-8 months across other individual, household and community level variables (43)

2.3.3 Community-level factors associated with IYCF practices

Area of residence urban/rural

A significant percentage of children who were non-exclusively breastfed had mothers with a rural background and (89.3%) in contrast to their counterparts (41). Study in Goba Woreda shows Urban mothers were more likely to initiate breastfeeding early as compared to their rural counterparts which was 73.5% and 47.3%, respectively (27).

2.3.4 Health service related factors associated with IYCF practices

Place of delivery, Type of delivery assistant

According the study conducted in India the association of place of delivery and initiation of complementary feeds at the recommended time was statistically significant. Higher deliveries in the institution, may lead to better feeding practices. And Only the place of delivery had statistically significant association with the practice of giving an adequate quantity of complementary feeds (42). Similarly in Ethiopia study in Goba Woreda shows Among the obstetric and health service related factors, place of delivery is significantly associated with timely initiation of breastfeeding, mothers who delivered in health institutions were twice as likely initiate breastfeeding as compared to those delivered at their home (27). According to the study in Bahirdar also mothers who delivered their last

child at a health facility had an adjusted odds 3 to practice EBF compared to those who delivered at home (28). In different studies mothers who were assisted by health professional had significantly higher rates of timely initiation of breastfeeding and exclusive breastfeeding than those assisted by TBAs or untrained person in India, Nepal and Nigeria (56–58).

Mode of delivery SVD/CS

According to the study in brazil the women who were more likely to initiate breastfeeding during the first hour after birth is vaginal delivery and cesarean section is a risk factor for delaying the first breastfeeding identified in the present study (26). Also in another study in Ethiopia Mothers who gave birth vaginally had an adjusted odds of 2.3 of practicing EBF (28).

Antenatal care

Study in Brazil shows the women who were more likely to initiate breastfeeding during the first hour after birth had prenatal guidance regarding the advantages of breastfeeding (26). And also in another study in Nepal mothers who attended ANC visits were more likely to meet minimum meal frequency requirements. In this study mothers with four or more ANC visits were more likely to provide the recommended minimum number of feeds and provide an acceptable diet to their children compared to mothers who did not attend any ANC visit (46). According to study in Bahirdar city , Ethiopia mothers who planned to provide EBF during their last pregnancy had an adjusted odds of 3.8 of practicing EBF compared to those who did not plan EBF(28). In secondary analysis of 2011 EDHS numbers of antenatal care visits were significantly associated with minimum meal frequency, mothers with 4 and above ANC visits had 28% less risk to practice inadequate meal frequency compared with mothers with no ANC (47) .

Postnatal care

According to study in Tanzania children whose mothers had made some postnatal check-ups were more likely to meet the requirements for minimum dietary diversity, minimum meal frequency and minimum acceptable diet compared to children whose mothers did not make any postnatal check-ups within 41 days after delivery (43).

Child feeding advice/counseling

Study in Nepal also found that the mothers who had received the feeding advice during immunization of her child had good feeding practice. Mothers who did not receive feeding advice in immunization clinic had 1.7 times more chance to have inappropriate feeding practices than the mothers who received advice in immunization clinic (49). According to study in Goba Woreda ,Ethiopia among the obstetric and health service related factors post natal information or advice on breastfeeding was significantly associated with timely initiation of breastfeeding and mothers who were counseled/advised on breastfeeding on postnatal were about 52% more likely to initiate breastfeeding within the first hour of delivery(27).Similarly in Bahirdar mothers who received counseling/advice on infant feeding had an adjusted odds of 5.2 of practicing EBF than those who had not(28).

Conceptual Frame Work

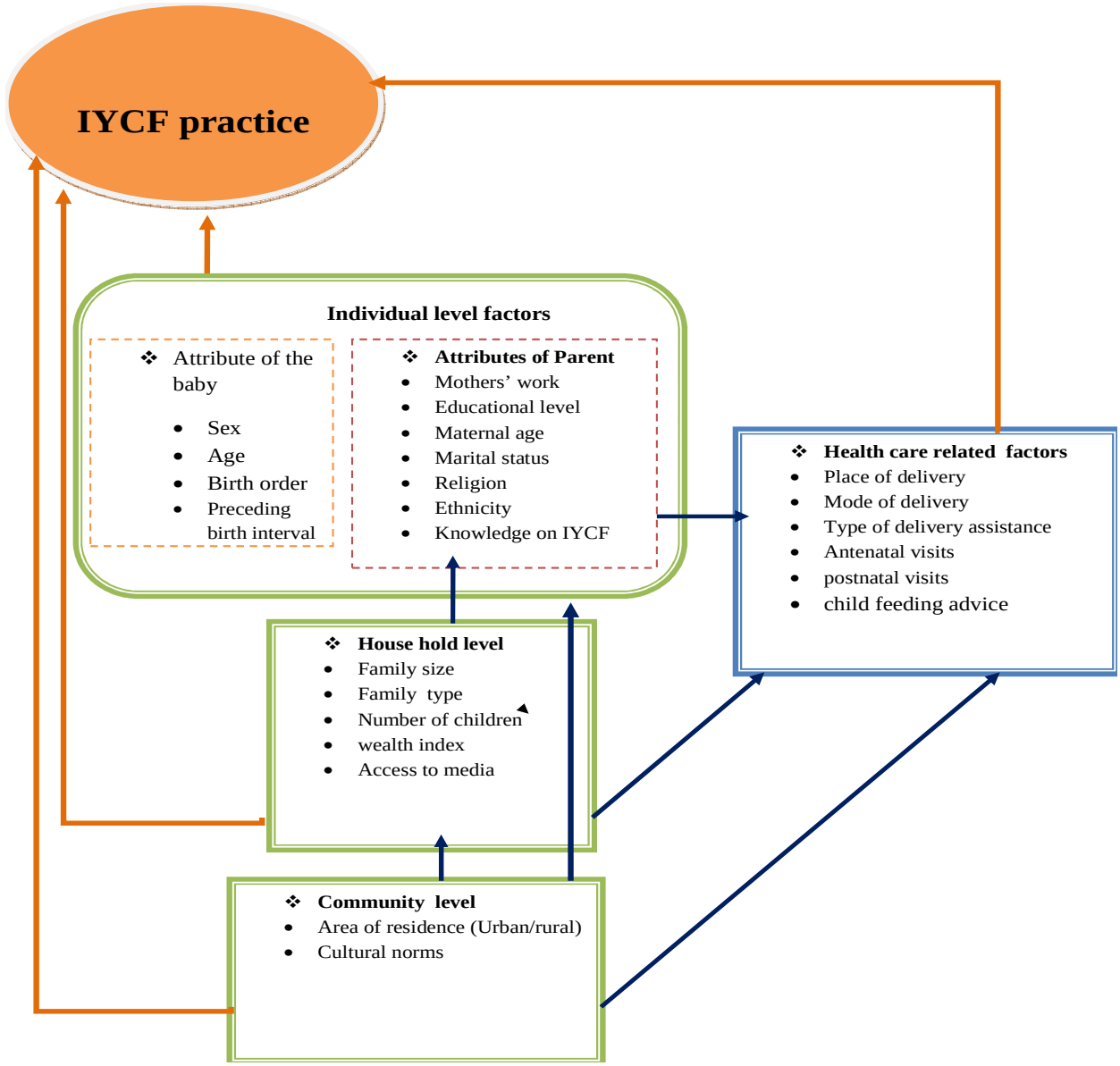

Figure 1: Conceptual frame work of factors associated with IYCF practice

2.4 Rationale of the study

To ensure that program strategies are effective in Ethiopia, a country with diverse cultures reflected by different food habits and traditional practices, information is needed to better understand various IYCF practices at local community and household levels as well as the factors which influence child feeding practices. Further research is needed to fully understand the IYCF practices and the barriers, facilitators, people, and approaches that can influence change for optimal IYCF practices at local level (59).

But previously limited study has been conducted in Ethiopia to assess IYCF practice and barriers to optimal child feeding practice including all indicators. To my knowledge, no study was conducted so far with this title in Oromia region as well as in southwest Shoa zone. Therefore this study can provide information on current status of implementation of optimal IYCF practice and factors influencing it to control malnutrition related morbidity and mortality of infants and children.

CHAPTER 3: OBJECTIVES OF THE STUDY

3.1. General Objective

To assess infant and young child feeding practices among mothers of children aged 0-23 months and associated factors in Becho district, south west Shoa zone Oromia.

3.2. Specific objectives

1. To asses infant and young child feeding practice
2. To asses factors associated with breast feeding practice
3. To asses factors associated with complimentary feeding practice

CHAPTER 4: METHODS AND MATERIALS

4.1 Study Area and Period

STUDY AREA

The study area was Becho district which is located in South west Shoa zone, Oromia Regional State, Central Ethiopia at a distance of 80 km away from Addis Ababa. Tullubollo is the town of the district and the district covers 44,775 km^2 and has an estimated population of 90953 in 2014. There were an estimated 20128 women of reproductive age, 5184 children in the age between 0-23 months and 14945 under five children in the district. The climatic condition of the district is 92% "winadega" 8% "dega " ,"Tef", wheat, barley and beans is some of the staple food used in the area .The District has a total of 20 kebeles one urban and 19 rural**.** Regarding health facilities , 1 district Hospital, 4 health centers and 19 health posts found in the district (60).

STUDY PERIOD:

The study was conducted from 25/03/2014, to 15/04/2014

4.2. Study Design

Community based cross sectional study was conducted among mothers of children aged less than two years at time of the survey.

4.3 Population

Source Population

All mothers of children aged 0-23 months residing in Becho District.

Study Population:

The study population was mothers of children aged 0-23 months during the study period in all kebeles of the District.

4.4. Eligibility criteria

4.4.1 **Inclusion criteria**:

- All of the mothers who had child in the age group between 0-23 months old.
- If the mothers have more than one under 2 years children, they were asked about the youngest child.

4.4.2. Exclusion criteria:

- Mothers whose child was acutely sick.
- Mothers of children with known anomalies.

4.5. Sample size determination

Sample size:

Firs sample size for all WHO core indicators were calculated and then the largest number was selected (the sample size for indicator of early initiation of BF and EBF). It was calculated using single population proportion formula i.e. n = $\mathbf{(Z\alpha/2)^2 (P)\ (1\text{-}P)/d^2}$

First sample size for all WHO core indicators were calculated and then the largest number was selected (the sample size for indicator of early initiation of BF p=52%) (44).

When **n**= the required sample size**, P**= 52%, proportion is used to get the maximum sample size**,** Zα/2= the value of **Z** in a standard normal distribution corresponding to a 95% significant level

1.96, and **d** = Margin of error (0.05)

n=.9604/ $(.05)^2$ =384

Because there are two age categories, children age less than 6 month and children age 6-23 month (for assessment of factors associated with complimentary feeding indicators and breast feeding indicators independently) the total number of sample size was multiplied by 2 as recommended by IYCF collecting and using data, step by step guide book (61)

n= (384)*2 =768

Adding 10% non-response rate, total sample size will be n= (768+77) = 845.

4.6. Sampling Procedure

The study units, 845 were proportionally allocated to all the kebeles in the district, based on the size of source population in the kebeles. To get the individual sample units (study subjects) list of each mothers of child 0-23 month were taken from health posts which were easily found from family folder at health posts. Once the mothers were listed, study participants were selected using the simple random sampling method.

The following figure shows the sampling techniques of the sample.

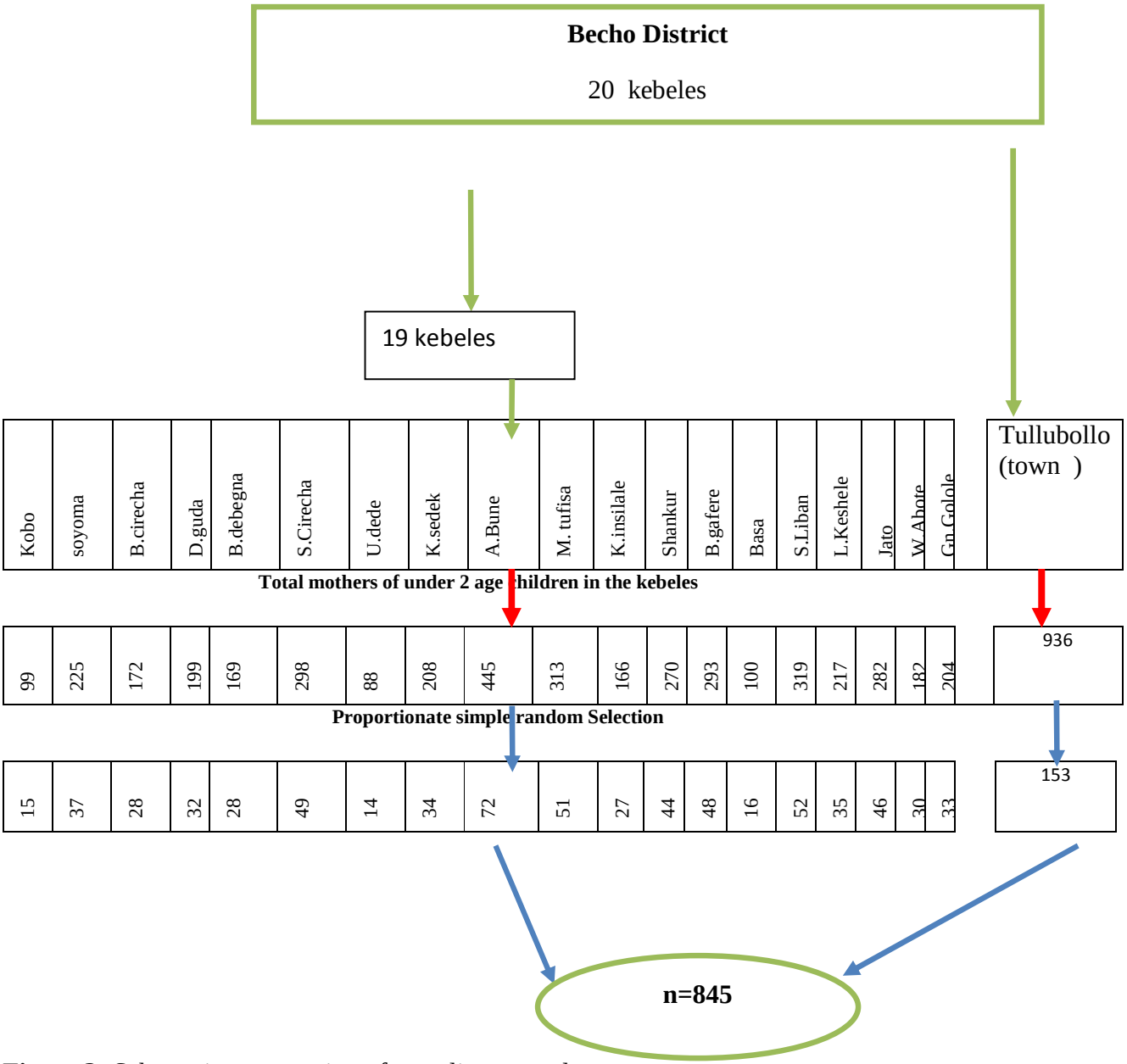

Figure 2: Schematic presentation of sampling procedure.

4.7 Study variable

Dependent variable:

Infant and young child Feeding practices (a composite variable computed from early initiation of breast feeding, exclusive breast feeding, feeding solid food at recommended time, feeding minimum dietary diversity, feeding with minimum meal frequency, and providing minimum acceptable diet)

Independent variables:

Individual level factors

Parents attribute

Age of mother, marital status, Education of mother, Education of father, Occupation of mother ,Ethnicity ,Religion and Mothers knowledge on optimal IYCF practice .

Baby attribute

Sex of child, Age of child, child birth order and preceding birth interval

House hold level factors

Family type, Family size, Number of children, Family Wealth index and Access to media

Community level factors

Area of residence, culture/norms .

Health care related factors

Place of delivery, Mode of delivery, Type of delivery assistance, Antenatal visit, PNC visits and Health education/advice on appropriate child feeding.

4.8. Data collection

4.8.1 Data collectors

Data collectors were grade $10^{th}/12^{th}$ complete and above who knows local language Afan Oromo and physically fit for field work. Supervisors were BSC nurse/health officer who knows local language, physically fit and experienced in data collection supervision.

4.8.2 Data collection procedure

After reviewing relevant literatures a structured Questionnaire was developed in English and translated into the local language (Afan Oromo) then back to English to check for its consistency. The data were collected using interview technique with Afan Oromo Versions of the questionnaires. The questionnaire were address all important variables of WHO core indicators of IYCF practice and associated factors such as socio economic, socio demographic, environmental and health service utilization related factors. Data were collected using since birth dietary recall method for breast feeding indicators and 24 hour dietary recall method for assessment of complimentary feeding practice.

Semi structured and unstructured questionnaire were prepared as a guide for in-depth interview with ten under 2 age children mothers, ten HEW one from urban kebele and 9 from rural kebeles and 4 family health care provider health professional one from each health centers and heads of all 4 health centers. The in-depth interview with mothers were focus to find out major barriers to optimal child feeding practice like, attitude, beliefs, and cultures or social influences. The in-depth interview with health professionals, health extension workers and health centers heads were also focused on the major challenges to improve child feeding practice and what actions being implemented to improve child feeding practice.

4.8.3 Pre test

Before the actual data collection process, the structured questionnaires were pre tested on 42 under 2 age child mothers using 5% of sample size from kebele of the adjacent District Woliso .The pretest were conducted by involving the data collectors, supervisors and the principal investigator. After pre testing, ambiguous and difficult questions to data collectors as well as the respondents were assessed and modification and correction before the actual data collection process were carried out.

4.9. Operational definitions and definitions of terms

4.9.1 Operational definitions:

Infant and young child feeding practice: It included the following practices: early initiation of breast feeding, exclusive breast feeding, introduction of complementary feeding, providing age appropriate meal frequency, providing recommended diverse diet of complimentary food and providing minimum acceptable diet.

Appropriate IYCF practice children aged between 0 and 23 months receiving appropriate infant and young child feeding was computed from 6 WHO IYCF core indicators (early initiation of breast feeding within one hour, exclusive breastfeeding, started solid or semisolid food at 6 month , fed with the minimum food diversity , fed with minimum meal frequency and fed with minimum acceptable diet. For children age 6-23 month they have to practice the entire 6 indicator to be considered as appropriately fed and for child age less than 6 month during the survey time if the child was early initiated to breast feeding and exclusive breast fed since birth he/she was considered as appropriately fed.

Early initiation of breastfeeding: children put to the breast within one hour of birth.

Exclusive breastfeeding: The infant has received only breast milk from the mother, and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements, or medicines since birth.

Meal frequency: It was defined as the number of times the child was fed per day. At least 4 meals per day for non breast fed children and 3 meals per day for breast feeding children 6 to 23 month.

Minimum Dietary Diversity: Children with 6–23 months of age who received foods from four or more food groups of the seven WHO food groups.

Minimum acceptable diet: Children with 6–23 months of age who received age appropriate meal frequency and minimum dietary diversity.

Knowledge of mother: Totally 21 question about appropriate IYCF were asked and mothers answer less than 50%, 50-75% and above 75% question were considered to have poor, satisfactory and good knowledge on IYCF respectively.

Age of child: Age of child was described as completed months as said by mother.

Occupation of mother: It included the major share of involvement of mother in activities like household (house wife), paid jobs, small scales business, and labor of earning and livelihood. It will be measured in nominal scale.

Wealth Index were constructed from indicators that are thought to be correlated with a household's economic status, Component indicators include, for example, possession of assets such as a television, radio, telephone or refrigerator, agriculture land, domestic animals and variables describing the dwelling, such as the type of flooring, water supply, sanitation facilities and number of people per sleeping room. Using SPSS factor analysis was computed and categorized into quintiles.

4.9.2 Definitions of terms

Infant and young children: Children less than two years of age (between 0-23 months)

Complementary feeding: It included feeding breast milk and solid and semi –solid foods.

4.10. Data quality control and analysis

4.10.1 Data quality control

Both data collectors and supervisors were trained for two days on study instrument, interview techniques, and sampling technique by using training guide. Supervisors were also trained on techniques of reviewing data quality and random observation of data collection.

Questionnaires were pretested and corrected. Data collectors were submitted the collected data daily to principal investigator and supervisors. The principal investigator followed the overall data collection activities closely. Data entering and was made using EPI data software.

4.10.2 Data analysis

Data were entered into computer using epi data software and analysis were done using SPSS Version 16 statistical package. Using SPSS computer software frequencies, crosstab, measures of central tendencies and variations were done to see the nature of the data. Frequency, proportion, summary statistics were used to describe the study population. Bi- variate and multivariate logistic regression were computed to see the presence and degree of association between independent and dependent variable. Factors with $p<0.25$ at bi-viriate analysis were candidate for multivariate and $p<0.05$ were considered as statistically significant for multivariate. The association between influencing factors and IYCF practice indicators were estimated using the odds ratio (OR) with 95% CI.

The qualitative data were analyzed using an open coding system which included note taking, coding, sorting, examining, comparing and categorizing data and writing the findings. On the completion of interview, participants were invited to provide comments on final narrative. Finally, these categories of data were presented in narrative in triangulation with the quantitative results using well-said verbatim of the study participants as illustrations.

4.11 Ethical consideration

Ethical clearance was obtained from post graduate coordinate of Jimma University College of public health and medical science. Official letter was written from south west Shoa zonal health department to the district. The kebeles and health facilities were notified in writing beforehand. Verbal consent of the study participants were obtained after explained about the purpose of the study. Confidentiality of the information collected was ensured as anonymity was maintained by giving code letters to study unit.

4.12 Dissemination plan

The final study report will be submitted to Jimma University, college of public health and medical science department of epidemiology, Oromia Regional Health Bureau, south west Shoa zonal health Department and Becho District Health Offices. The findings will also be sent for publication in reputable journals.

CHAPTER 5: RESULT

5.1 Individual level characteristics

Out of 845 sampled mothers 820 participated in the study, which makes the response rate 97%. The mean age of the mothers was 30 years (SD ± 6 years). Four in five (81.1%) of the mothers were from rural area, 750 (91.5%) were married, 667 (81.3%) were Orthodox by Christians, 757 (92.3%) were Oromo by ethnicity and 594 (72.4%) were house wives by occupation. Regarding educational status of the mothers 457(55.7) not attended formal education, 227(22.7%) attended elementary followed by 92(11. 2%) who attended secondary school and only 44(5.5%) of the mothers were able to attend college and above. Regarding mothers knowledge on appropriate IYCF practice, 73.6% of the mothers answered more than half of the appropriate IYCF questions and considered to have an above average of knowledge. More than three in ten (35.7 %) of the mothers answered more than three quarter (75%) of the appropriate IYCF questions and considered to have a good knowledge on IYCF practice.

Table 1: characteristics of parents with under 2 years children in BechoDistrict,April2014

	Category	Number	Percent
Area of residence	Rural	665	81.1
	Urban	155	18.9
Ethnicity	Oromo	757	92.3
	Amhara	41	5.0
	Gurage	22	2.7
Religion	Orthodox	667	81.3
	Protestant	90	11.0
	Wakefeta	38	4.6
	Muslim	25	3.0
Mothers' educational status	No formal education	457	55.7
	Elementary	227	27.7
	Secondary	92	11.2
	College and above	44	5.4
Mother's job	House wife	594	72.6
	Merchant	83	10.1
	Private work	59	7.2
	Employed	47	5.7
	Daily labor	35	4.3
Marital status	Married	750	91.5
	Divorced	36	4.4
	Widowed	22	2.7
	Single	12	1.5
Mothers knowledge on child feeding	Good	293	35.7
	Satisfactory	311	37.9
	Poor	216	26.3

From total participant, 432 (52.7%) were mothers with a male child while the rest 388(47.3%) had female child. The mean age of children was 10 months with (SD ± 7 months). Two hundred sixty one (31.8%) of the children were under 6 month and the remaining 559(68.2%) were 6-23 month. For 132(16.1%), 180(22.0%) and 124(15.1%) of the mothers, the birth order of current child is first, second and third and above, respectively. From 486 mothers had 2 and above children, 279(40.7%) gave birth of the current child with in 2 years and 407 (59.3%) after three years of the previous birth (Table2)

Table 2: characteristics of 0-23 month children in Becho District, April 2014

	Category	Number	Percent
Child sex	Male	432	52.7
	Female	388	47.3
Child age	under 6 months	264	32.2
	6-9 months	156	19.
	10-23 months	400	48.8
Birth order	First	132	16.1
	Second	180	22.0
	Third	124	15.1
	Fourth and later	384	46.8
Birth interval	1 to 2 years	279	40.7
	3 and above years	407	59.3

5.2 House hold level characteristics

More than 3 in 5 (62.0%) of mothers live only with their husband and/or children (nuclear family) whereas 312 (38.0%) live with grandparents and/or other relatives (extended family). The mean number of family member was 6 with SD ± 3 and 277(33.8%) of the mothers were from family having 4 and less members. From total households included in the study 348 (42.4%) have no radio or television which indicates no access to media (Table 3).

Table 3: House hold level characteristics of 0-23 month children mothers in Becho District,April 2014

	Category	Frequency	Percent
Family type	Nuclear family	508	62.0
	Extended family	312	38.0
Family size	4 and less members	277	33.8
	5 and above members	542	66.2
Access to media	Yes	472	57.6
	No	348	42.4

5.3 Health care related characteristics of the participants

Most of the mothers, 641(78.2%) had at least one ANC visit during their youngest child pregnancy and 449(54.8) delivered at health institutions. Majority of them (98%) delivered vaginally, 433 (52.8%) assisted by skilled attendants (health professionals) and 428 (52.2%) visited health institution at least once for PNC (Table 4)

Table 4 : Health care related characteristics of under 2 years children mothers in Becho District , April 2014

	Category	Number	Percent
Antenatal care	Yes	641	78.2
	No	179	21.8
Delivery assistant	Health professional	433	52.8
	Health extension worker	43	5.2
	TTBA	61	7.4
	TBA	191	23.3
	Relatives	92	11.2
Delivery mode	SVD	804	98.0
	CS	16	2.0
Place of delivery	At home	371	45.2
	At health facility	449	54.8
Postnatal visit	Yes	428	52.2
	No	392	47.8

Regarding appropriate child feeding advice 589 (71.9%) of mothers were responded that they have been advised or counseled on appropriate breastfeeding or child nutrition. Of them majority 437(74.2%), 392(66.6%) and 188(31.9%) responded they got this advice from health extension workers from health professionals and from mass media respectively. Only few mothers 112(19%), 112(19%), 56(9.5%) 51(8.7%) responded that they got advice, from community health workers, their husbands, friends and from other family members respectively (figure 3)

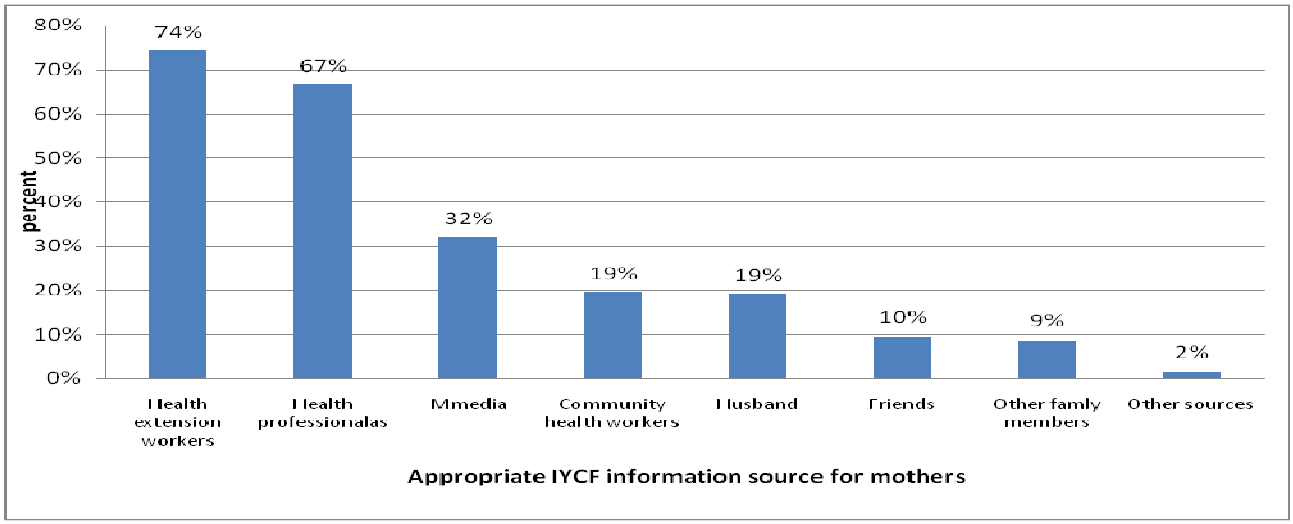

Figure 3: Appropriate IYCF advice source of under 2 years children mothers in Becho District ,April 2014

From total mothers who advice on appropriate child feeding practice by health workers, more than four in five (81%) responded they received this advice during child vaccination followed by during ANC (62%). The others responded they advice during PNC (46%) delivery (36%) and child growth monitoring (31%) (Figure 4).

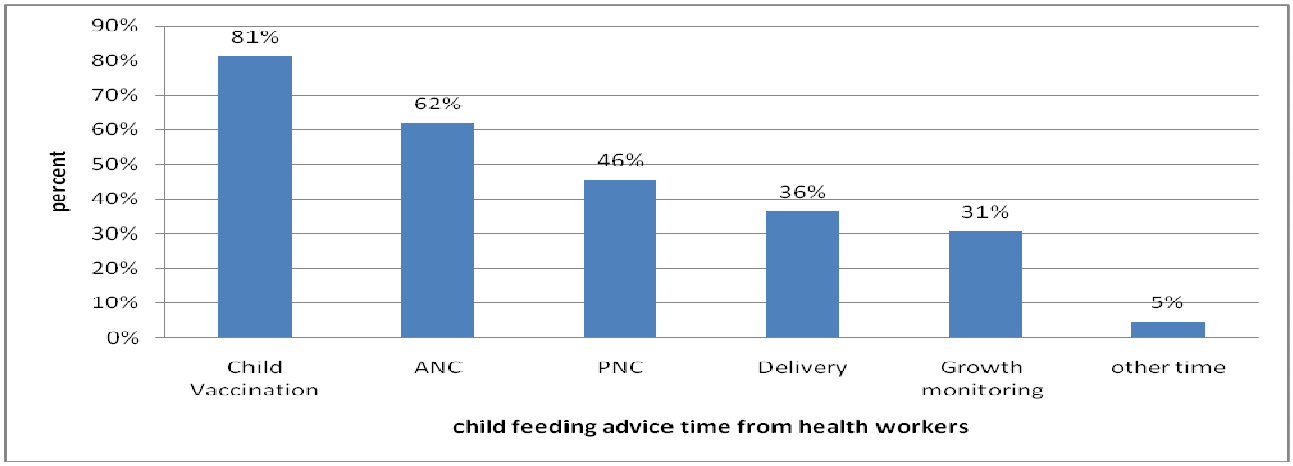

Figure 4: Mothers received appropriate IYCF advice from health workers by advice time in Becho District ,April 2014

5.4 Breastfeeding practices

Among all mothers participated in the study 803(97.9%) ever breastfed their youngest child in the past and of them 759(94.5%) still breast feeding during the survey. From children ever breast fed more than half [449(55.9%)] breast fed within one hour after delivery while 314(38.3%) initiated after 1 hour but within the first day of delivery, the remaining 40(5%) initiated breast feeding after one day of their age and 757(94.3) of them have been fed colostrums.

The prevalence of EBF computed using since birth dietary recall method, showed less than half 379(46.2%) of the mothers exclusively breast fed their child. Exclusive breast feeding was relatively high among children of age under 6 month during the survey time 150(56.8%) than among children already passed age of 6 month when asked retrospectively [229(41.2%)] (Table 5).

Table 5: Breast feeding practice of mothers in Becho District, April 2014

	Category	Number	Percent
Ever breast fed	Yes	803	97.9
	No	17	2.1
Still breast feeding	Yes	759	94.5
	No	44	5.5
Colostrums fed	Yes	757	94.3
	No	37	4.6
	Not remember	9	1.1
Early initiation of BF	Within one hour	449	55.9
	Within one day	314	39.1
	After one day	40	5.0
EBF in under 6 children	EBF	150	56.8
	Not EBF	114	43.2
EBF in above 6 children	Yes	229	41.2
	No	327	58.8
EBF in total children	EBF	379	46.2
	Not EBF	441	53.8
Appropriate breast feeding	Yes	122	46.2
	No	142	53.8

The mean age of EBF for children above 6 month was 121 days (SD±61) (around 2 month) and the practice of EBF decrease from 89.2% at month 1 of children ages to 47.5% at month 5 of children ages and to 41.2% at month 6 of children ages (figure 5).

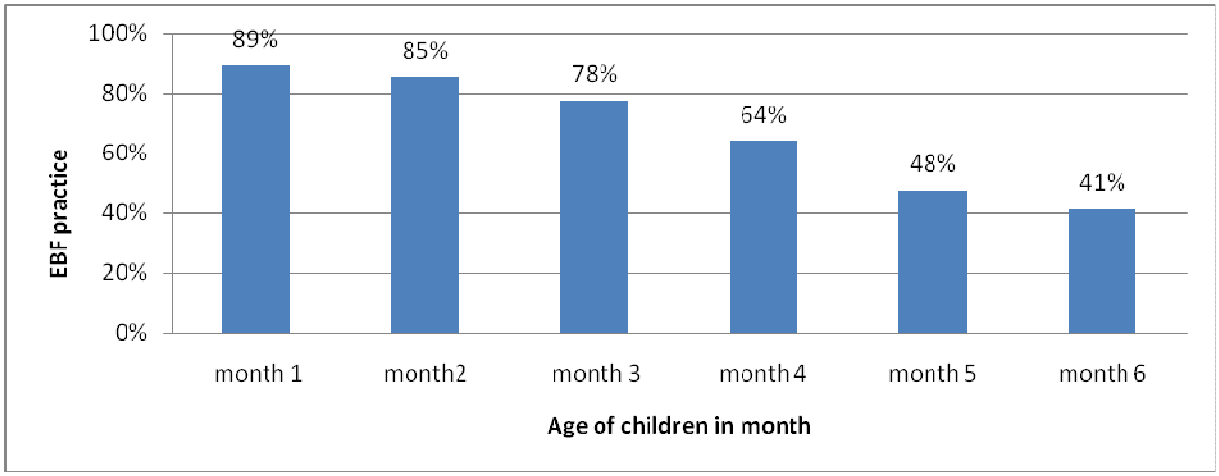

Figure 5: Exclusive breast feeding practice by age among children 6-23 months in ,Becho District ,April 2014

Almost two third of total mothers 64.1% fed their children with bottle at any time in the past when asked retrospectively. The common food given to children during under 6 month of age were, water, cow milk, butter, cereal based fluid, tea, powder milk and juice (figure 6).

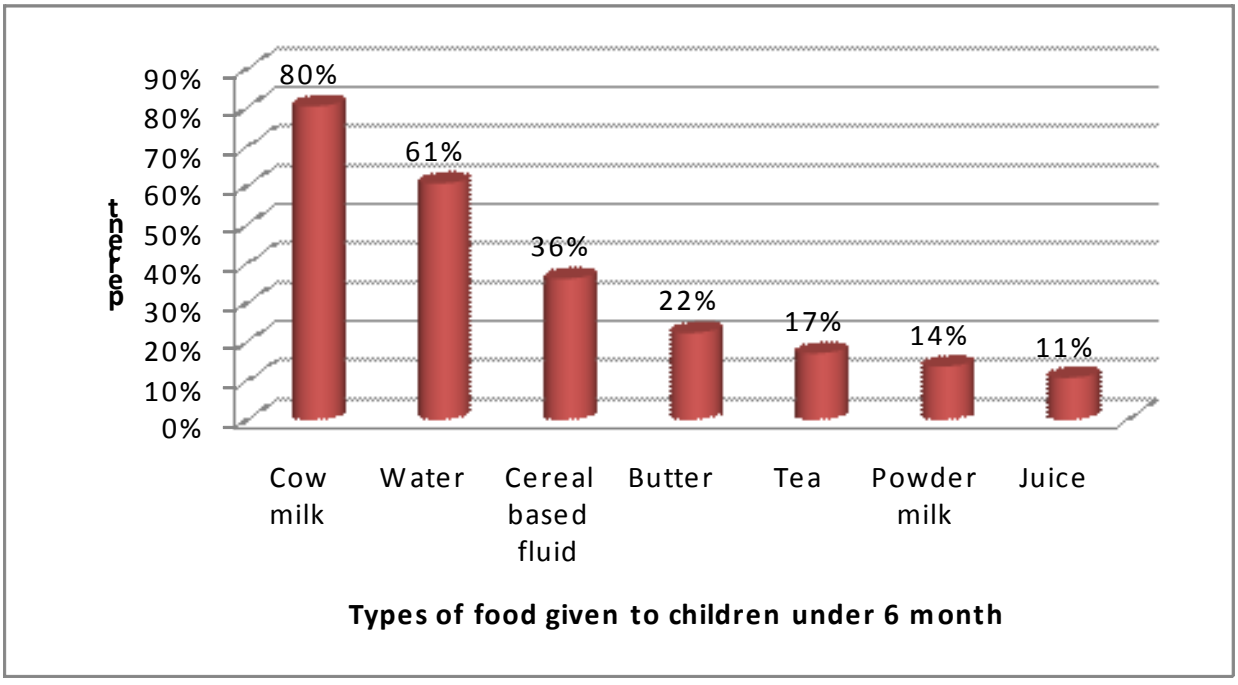

Figure 6: Common food given to children during under 6 month age in Becho District, April 2014

5.6 Complimentary feeding practices

From 556 children age 6 and above month during the study period 481(86.5%) already started feeding solid or semi solid food and out of them 191(34.4%) started at the recommended time of 6 month and 220(39.6%), 70(12.8%) started at 7 to 9 month and, after 9 month respectively when asked retrospectively. According to the result of 24 hour dietary recall, nearly half of children 258(46.4%) were fed from minimum acceptable food diversity (four and above from 7 food groups), 366(65.8%) practiced sufficient meal frequency and 218(39.2%) of the children were receiving minimum acceptable diet (table 6).

Table 6 complimentary feeding practice of less than 2 years children mothers in Becho District , April 2014

	Category	Number	Percent
Introduction to solid or semi solid food	At 6 month	191	34.4
	7 to 9 month	220	39.6
	After 9 month	70	12.6
	Not started	75	13.5
Minimum Dietary diversity	Yes	258	46.4
	No	298	53.6
Minimum meal frequency	Yes	366	65.8
	No	190	34.2
Minimum acceptable diet	yes	218	39.2
	No	338	60.8
Age appropriate complimentary feeding	yes	101	20.7
	No	388	79.3

The type of food not given for majority of children age 6-23 month in the last 24 hours during the survey time was meat (15%). One in four (25.5%) of mothers responded they didn't give meat to their children because children of this age cannot chew or digest meat. The second less practiced food was vitamin A rich fruits (38%) which they related with unavailability of this type of fruits in all season in the area. Type of food practiced by majority of the children were food made from grains (70%) followed by fruits which are not rich with Vitamin A (60) and milk and milk products (52%) (figure7).

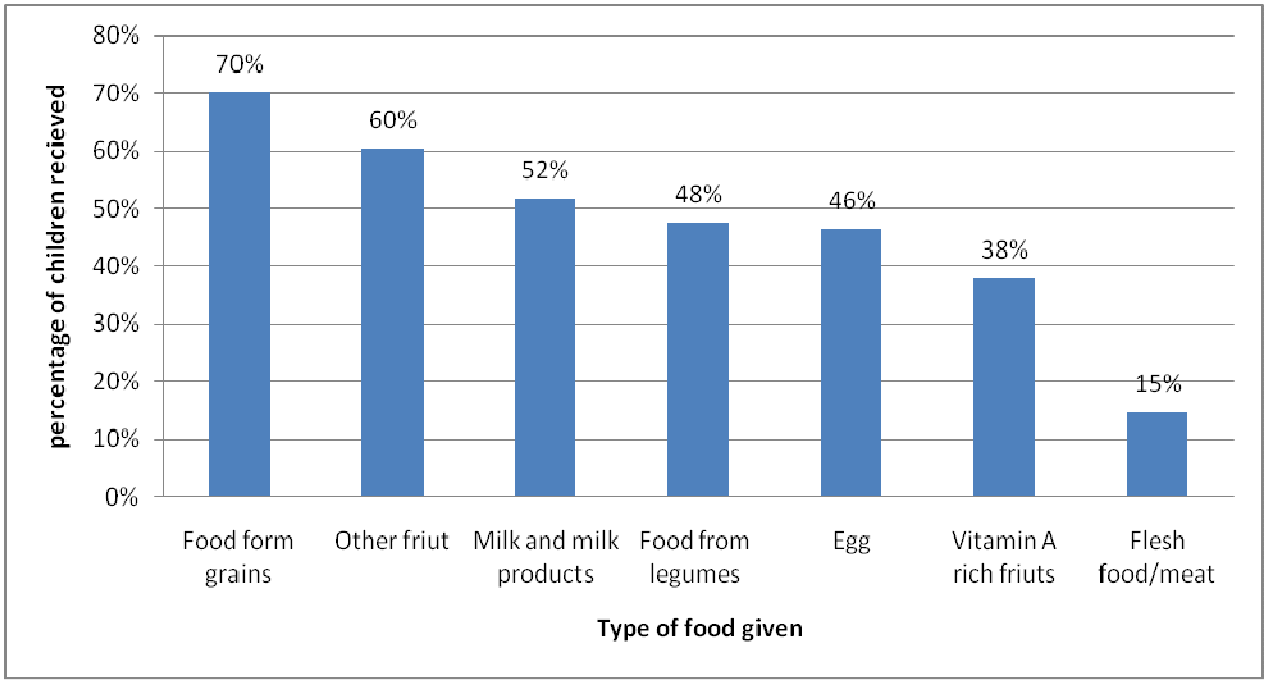

Figure 7: Types of food given to children age 6 to 23 month in the last 24 hour during survey time in Becho District ,April 2014

Regarding social influence on child feeding practice, according to our study still there is some wrong perception in the community on IYCF practice, of the mothers participated in the study 44.6% responded that the community doesn't support to feed child at public sites like wedding, or other social ceremony places. Also 34.4% of the mothers responded elders in the community advices not to feed children with colostrums and advice to give children first water 67.2% and butter 9.3%. The others 2.4% of mothers responded community doesn't support to feed child with porridge because it is thought that porridge makes child's abdomen big and also 1% responded if less than 2 years children given honey they will be dump or will not be able to speak.

Based on the result of breast feeding practice and complimentary feeding practice, 122(46.2%) of under 6 month children and 101(20.7%) of 6 and above month children practiced age appropriate feeding practice. Generally 223(27.2%) of the total mothers were feeding their children appropriately according to the recommendation of WHO guideline in our study area during the survey time (figure 8).

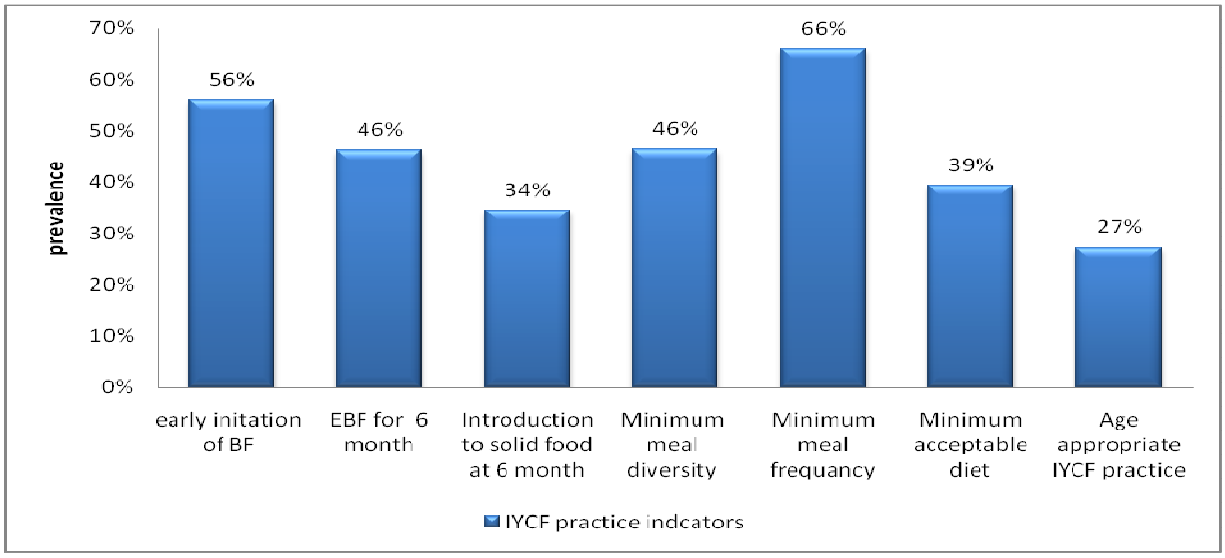

Figure 8: IYCF practice indicators among mothers of under 2 years children in Becho District April 2014

5.7 Factors associated with breast feeding practices

Ethnicity , religion , marital status ,sex of child , mothers type of work, ,family size , postnatal care ,type of delivery assistant , and mode of delivery were not included in multivariate analysis since this predictors were not significantly associated with early initiation of breast feeding at bivariate analysis and had p-value greater than 0.25 (P>0.25).

In bivariate analysis the factors found to be significantly associated with early initiation of BF were area of residence, educational status of mother, educational status father, age of mother, family type, number of children, birth interval, birth order, access to media, wealth index, knowledge of mothers on IYCF, ANC visit during pregnancy, place of delivery, PNC and receiving counseling/advice on infant feeding at a p-value<0.05.

From these variables, area of residence, ANC follow up, place of delivery, receiving counseling/advice on infant feeding and knowledge on appropriate IYCF were significantly and independently associated with early initiation of BF within one hour of birth in multivariate analysis. Mothers from rural area were 59% (AOR=0.41, 95%CI=0.19,0 .86) less likely to early initiate breast feeding within one hour of birth and mothers deliver at home were 91% less likely (AOR =.09, 95% CI = 0.05, 0.14) to early initiate breast feeding when compared to mothers from urban area and mothers deliver at health institutions respectively . Children born from mothers who attended ANC during pregnancy had an adjusted odds ratio of 3.03 (AOR =3.03, 95% CI =, 1.48, 6.23) and children born from mothers received child feeding advice during pregnancy were 2.42 (AOR =2.42, 95% CI = 1.29, 4.56) times more likely to initiate breast feeding early within one hour when compared to their counter parts. Mothers have good knowledge on appropriate IYCF were 4.42 (AOR=4.42, 95%CI=2.30, 8.52) times more likely to early initiate breast feeding when compared to mothers with poor knowledge on IYCF.

Table 7: Bivariate and multivariate analysis of factors associated with early initiation of breast feeding practice among mothers live in Becho District, April 2014

Predictors	Breast fed with in 1 hour		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Area of residence				
Rural	327(50.0)	327(50.0)	0.22(0.14,0.35)	0.41(0.19,0 .86)*
Urban	122(81.9)	27(18.1)	1.00	1.00
Age of mother				
Less than 30	304(71.0)	124(29.0)	7.73(4.96,12.04)	1.66(0.85,3.24)
30-35	112(47.1)	126(52.9)	2.80(1.76,4.47)	1.80(0.90,3.60)
36 and above	33(24.1)	104 (75.9)	1.00	1.00
Educational status of mother				
No formal edu.	171(38.4)	274(61.6)	1.00	1.00
Elementary	159(70.7)	66(29.3)	3.86(2.735,5.45)	1.33(0.69,2.57)
Secondary	79(86.8)	12(13.2)	10.55(5.58,19.94)	1.45(0.53,3.94)
College	40(95.2)	2(4.8)	32.05(7.65,134.31)	0,99(0.15,6.77)
Educational status of father				
Not formal edu.	149(42.3)	203(57.7)	1.00	1.00
Elementary	146(53.7))	126(46.3)	1.58(1.15,2.17)	0.82(0.49,1.38)
Secondary	91(82.0)	20(18.0)	6.20(3.65,10.51)	1.71(0.75,3.87)
College	62(92.5)	5(7.5)	16.89(6.63,43.05)	0.67(0.20,2.28)
Mothers' knowledge on IYCF				
Good	232(80.3)	57(19.7)	13.03(8.47,20.02)	4.42(2.30,8.52)**
Satisfactory	167(54.9)	137(45.1)	3.90(2.64, 5.76)	1.58(0.88, 2.84)
Poor	50(23.8)	160(76.2)	1.00	1.00
Family type				
Nuclear family	323(64.2)	180(35.8)	2.45(1.85,3.32)	0.73(0.43,1.23)
Extended family	126(42.0%)	174(58.0%)	1.00	1.00
Wealth index				
Highest	142(90.4)	15(9.6)	30.10(15.83,57.22)	2.34(0.96,5.70)
Fourth	120(74.1)	42(25.9)	9.08(5.49, 15.02)	1.67(0.79,3.54)
Middle	92(57.1)	69(42.9)	4.24(2.63, 6.83)	1.32(0.67,2.57)
Second	56(35.0)	104(65.0)	1.71(1.05, 2.78)	0.59(0.30,1.19)
Lowest	39(23.9)	124(76.1)	1.00	1.00
Number of children				
3 and less child	317(72.5)	120(27.5)	4.68(3.47,6.32)	0.97(0.52,1.80)
4 and above child	132(36.1)	234(63.9)	1.00	1.00
Child birth order				
First and second	251(73.4)	91(26.6)	3.66(2.71,4.96)	1.15(0.64,2.10)
Third and above	198(43.0)	263(57.9)	1.00	1.00

Predictors	Breast fed with in 1 hour		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Birth interval				
1 to 2 years	105(38.5	168(61.5)	0.46(0.338,0.64)	0.68(0.42,1.01)
3 and above years	228(57.4)	169(42.6)	1.00	1.00
Access to media				
Yes	307(66.7)	153(33.3)	2.84(2.13,3.79)	1.06(0.61,1.83)
No	142(41.4)	201(58.6)	1.00	1.00
ANC visit				
Yes	424(67.1)	208(32.9)	11.905(7.55,18.77)	3.03 (1.48, 6.23)*
No	25(14.6)	146(85.4)	1.00	1.00
Place of delivery				
At Home	66(18.2)	297(81.8)	0.03(0.02,0.05)	0.09 (0.05, 0.14)**
At health facility	383(87.0)	57(13.0)	1.00	1.00
Child feeding advice				
Yes	398(68.6)	182(31.4)	7.52(5.25,10.79)	2.42 (1.29, 4.56)*
No	50(22.5)	172(77.5)	1.00	1.00

**** p<0.05,*** ***** p< 0.001***

Ethnicity, religion, marital status, sex of child, and mode of delivery showed insignificant association with exclusive breast feeding practice with p- value greater than 0.25 at bivariate level and not included in multivariate analysis. Child birth order also had inflated standard error (SE > 2) in multivariate analysis and excluded from the final model.

The predictors significantly associated with EBF practice in bivariate analysis were area of residence, age of mother ,education of mother education of father, mother's job, wealth index, family type, family size ,number of children ,birth interval, child's birth order, child age, access to media, ANC follow up, nutrition advice, place of delivery, type of delivery assistant and PNC follow-up. On the contrary ethnicity, religion, marital status, child sex and mode of delivery didn't show any significant association with EBF practice in this study. From predictors significantly associated at bivaraite level, mother knowledge on IYCF, area of residence, family type, number of children in the house hold and birth interval were the significantly and independently associated predictors with EBF in multivariate analysis. Children from mothers who had birth interval of 3 and above years were 4.38 (AOR=4.38,95% CI= 1.88, 10.31) more likely to practice EBF when compared to mothers had birth interval of less than 3 years. Mothers who had good knowledge on IYCF were 11.13 (AOR=11.13, 95%CI=3.27, 37.88) times more likely to practice EBF when compared to mothers with poor knowledge on IYCF. Mothers from nuclear family were also 3.19(AOR=3.19,95% CI=1.25,8.17) times more likely to EBF when compared to mothers in extended family and mothers had less than four children were 2.86(AOR=2.86,95% CI=1.04,7.91) more likely to EBF when compared to mothers had four and above children. Children born from mothers live in rural area had 78% less of chance of exclusively breast feeding.

Table 8: Bivariate and multivariate analysis of factors associated EBF practices among under 2 years mothers live in Becho District ,April 2014

Predictors	EBF practice		Crude OR(95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Area of residence				
Rural	287(43.2)	378(56.8)	0 .52(0.36,0.74)	0.22(0.05,0.89)*
Urban	92 (59.4)	63 (40.6)	1.00	1.00
Age of mother				
less than 30	272(62.4)	164(37.6)	9.12(5.57,14.99)	0.93(0.21,4.24)
30-35	85(35.3)	156(64.7)	3.00(1.77,5.07)	1.63(0.40,6.67)
36 and above	22(15.4)	121(84.6)	1.00	1.00
Educational status of mother				
No formal edu	126(27.6)	331 (72.4)	1.00	1.00
Elementary	159 (70.0)	68(30.0)	6.14(4.33, 8.72)	2.37(0.49,11.50)
Secondary	74(80.4)	18(19.6)	10.8(6.20, 18.80)	4.48(0.31,65.7)
College	20 (45.5)	24(54.5)	2.19(1.17, 4.10)	2.46(0.05,119.57)
Educational status of father				
No formal edu	116(32.0)	246(68.0)	0.34(0.20,0.56)	1.04(0.45,7.38)
Elementary	142(51.3)	135(48.7)	0.76(.448,1.30)	4.27(0.57,32.21)
Secondary	80(72.1)	31(27.9)	1.87(0.99,3.52)	8.63(0.85,87.26)
College	40(58.0)	29(42.0)	1.00	1.00
Mothers' knowledge on IYCF				
Good	200(68.3)	93(31.7)	9.18(6.03, 13.97)	11.13(3.27,37.88)**
Satisfactory	138(44.4)	173(55.6)	3.41(.2.27,5.12)	10.68(3.78,30.11)*
Poor	41(19.0)	175(81.0)	1.00	
Mother work				
House wife	295(49.7)	299(50.3)	1.00	1.00
Employed	19(40.4)	28(59.6)	0.69(0.37,1.26)	0.43(0.01,26.13)
Merchant	35(42.2)	48(57.8)	0.74(0.47,1.18)	1.10(0.07,17.03)
Private e work	22(37.3)	37(62.7)	0.60(0.35,1.05)	0.19(0.01,4.16)
Daily labor	8(22.9)	27(77.1)	0.3(0.13,0.67)	0.70(0.02,22.86)
Family type				
Nuclear family	285 (56.1)	223(43.9)	2.96(2.20,4.00)	3.19(1.25,8.17)*
Extended family	94(30.1)	218(69.9)	1.00	1.00
Wealth index				
Highest	117(71.3)	47(28.7)	8.55 (5.19,14.09)	0.86(0.08,8.31)
Fourth	104(63.4)	60(36.6)	5.95(3.66, 9.66)	0.45(0.07,2.97)
Middle	70(42.7)	94(57.3)	2.56(1.58, 4.13)	0.99(0.22,4.38)
Second	51(31.1)	113(68.9)	1.55(0.95,2.54)	0.40(0.10,1.57)
Lowest	37(22.6)	127(77.4)	1.00	1.00
Family size				
4 and less	197(71.1)	80(28.9)	4.87(3.55,6.68)	0.34(0.10,1.15)
5 and above	182(33.6%)	360(66.4)	1.00	1.00

Predictors	EBF practice		Crude OR(95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Number of children				
3 and less child	281(63.3)	163(36.7)	4.89(3.62,6.60)	2.86(1.04,7.91)*
4 and above child	98(26.1)	278(73.9)	1.00	1.00
Child age* **				
0-2	92(84.4)	17(15.6)	11.68(5.51, 24.74)	2.28(0.69,7.58)
3-4	39(41.1)	56(98.9)	1.50(.76, 2.97)	0.94(0.32,2.79)
5	19(31.7)	41(68.3)	1.00	1.00
Birth interval				
1 to 2 years	71(25.4%)	208(74.6)	1.00	1.00
3 and above years	207(50.9%)	200(49.1)	3.02(2.18,4.23)	4.38 (1.88, 10.31)*
Access to media				
Yes	248(52.5)	224(47.5)	1.83(1.38,2.43)	1.81(0.77,4.30
No	131(37.6)	217(62.4)	1.00	1.00
ANC visit				
Yes	347(54.1)	294(45.9)	5.42(3.589,8.19)	2.72(0.72,10.28)
No	32(17.9)	147(82.1)	1.00	1.00
Place of delivery				
At Home	93(25.1)	278(74.9)	0.19(0.14,0.26)	0.79(0.29,2.14)
At H. facility	286(63.7)	163(36.3)	1.00	1.00
Delivery assistant				
Skilled attendants	284(65.6)	149(34.4)	5.63(4.11.7.705)	0.70(0.05,10.73)
Health E. workers	8(18.6)	35(81.4)	0.675(0.30,1.51)	1.07(0.07,16.76)
Others	87(25.3)	257(74.7)	1.00	1.00
Postnatal visit				
Yes	257(60.0)	171(40.0)	3.33(2.49,4.44)	0.76(0.2,2.07)
No	122(31.1)	270(68.9)	1.00	1.00
Nutritional advice				
Yes	335(56.9)	255(43.1)	5.58 (3.86,8.05)	1.35(0.35,5.17)
No	44(19.1)	186(80.9)	1.00	1.00

**** p<0.05, ** p< 0.001***

***Child age is only for less than 6 month of age children during the survey time, as it is not possible to associate child age with EBF for children age above 6 month.

5.8 Factors associated with complimentary feeding practice

Crude and adjusted odds ratios were calculated to estimate the effect of the independent variables on three complimentary feeding practice indicators, introduction to solid or semisolid food at recommended time, feeding with minimum acceptable dietary diversity and minimum acceptable meal frequency.

From factors selected to identify main predictors of initiation of complimentary food at recommended time ,ethnicity, religion ,age of mother ,marital status ,education of mother, education of father, occupation of mother, child sex ,child birth order , preceding birth interval, family type ,family size, number of children ,mode of delivery , type delivery assistant and postnatal care were not analyzed in multivariate level as they had p-value greater than 0.25 in bivariate analysis.

Bivariate analysis using binary logistic regression found that the practice of complementary feeding at the recommended time of six months was significantly associated with area of residence, child age, ownership of TV/Radio, child feeding advice during child vaccination and mothers knowledge on appropriate IYCF. These predictors were also significantly associated with introduction of complimentary food in multivariate analysis except child feeding advice .In addition ANC follow-up were also significantly associated with this outcome variable in multivariate analysis. This indicated ANC alone may have no impact on child feeding but it have impact when other child feeding service given together during ANC visit.

Children of age 6 to 9 month were at risk of not starting solid or semi solid complimentary food. For instance children of age between 6 to 7 and between 8 to 9 had an a smaller likelihood (AOR=0.03, 95% CI 0 .02, 0.08) and (AOR=.12, 95%CI=.04, .29) of starting solid or semi solid food at recommended time of 6 month when compared to children age 10 month and above respectively. Mothers from rural area were also 71% (AOR=0.29 95%CI=0.10, 0.81) less likely to start solid or semi solid food at recommended time. Mothers with access to TV/Radio , mothers attended ANC during pregnancy and mothers deliver their youngest child at health facility were 3.97(AOR=3.97,95%, 1.89, 8.35) , 3.15(AOR=3.15,95% CI=1.03,9.61) and 3.06(AOR=3.06,95%=1.23,7.65) times more likely to practice initiation of complimentary feeding at recommended time as opposed to their counters respectively. Children from mothers who had good knowledge on optimal IYCF practice were 4.69 times more likely (AOR=4.69, 95% IC=1.59, 13.86) to start solid or semi-solid food at 6 month when compared to children from mothers had poor knowledge on optimal IYCF.

Table 9 : Bivariate and multivariate analysis of factors associated with introduction to solid or semi-solid food at recommended time among under 2 years children mothers in Becho District, April 2014

Predictors	Start solid or semi solid food at recommended time		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Area				
Rural	366(85.1)	64(14.9)	0.55(.28,1.07)	0.29(0.10,0.81)*
Urban	115(91.3)	11(8.7)	1.00	1.00
Mothers' knowledge on IYCF				
Good	167(91.8)	15 (8.2)	2.25(1.11, 4.56)	4.69(1.59, 13.86)*
Satisfactory	210(84.3)	39(15.7)	1.09(.61, 1.94)	2.60(1..98,6.89)
Poor	104(83.2)	21(16.8)	1.00	1.00
Child age				
6-7	40(48.8)	42(51.2)	0.04(.02,0.07)	0.03(0.02, 0.08)**
8-9	57(77.0)	17(23.0)	0.14(.07,0.29)	0.12(0.04, 0.29)**
>10	384(96.0)	16(4.0)	1.00	1.00
Wealth index				
Highest	84(84.8)	15(15.2)	1.26(0.60, 2.67)	2.65(0.60,11.59)
Fourth	112(91.1)	11(8.9)	2.29(1.03, 5.11)	1.32(0.34(5.13)
Middle	111(88.8)	14(11.2)	1.78(0.84, 3.80)	0.91(0.24(3.41)
Second	94(84.7)	17(15.3)	1.24(0.60, 2.57)	0.87(0.27,2.81)
Lowest	80(81.6)	18(18.4)	1.00	1.00
Ownership of TV or radio				
Yes	301(93.8)	20(6.2)	4.60(2.67,7.92)	3.97(1.89,8.35)**
No	180(76.6)	55(23.4)	1.00	1.00
ANC follow-up				
yes	372(87.7)	52(12.3)	1.51(0.88,2.58)	3.15(1.03,9.61)*
No	109(82.6)	23(17.4)	1.00	1.00
Child feeding advice during vaccination				
Yes	294(87.8)	41(12.2)	1.35(0.70,2.70)	0.03(0.35,1.12)
No	64(84.2)	12(15.8)	1.00	1.00
Place of delivery				
At home	227(88.7)	29(11.3)	1.00	1.00
At health facility	254(84.7)	46(15.3)	0.71(0.43,1.16)	3.06(1.23,7.65)*

**** p<0.05, ** p< 0.001***

In bivariate analysis ethnicity , religion ,marital status ,occupation of mother, child sex, child age ,birth order, preceding birth interval, family type, family size, number of children ,mode of delivery and type of delivery assistant were associated with providing minimum dietary diversity with p- value greater than 0.25 and not applicant for multivariate analysis.

According to this study children whose mothers living in urban area (AOR= 3.75, 95%CI =2.33, 6.03), whose mothers visited health facility for PNC within 42 days after delivery (AOR=1.59, 95%CI=1.06, 2.34) and whose mothers received advice on child feeding at any time from pregnancy to child vaccination time (AOR=1.81, 95%CI=1.09, 2.99), were more likely to receive minimum type of recommended food when compared to their counterparts. Children whose fathers attended elementary education were also 1.69(AOR, 95%CI=1.11, 2.55) times more likely to fed minim type recommended of food when compared to children whose fathers have no formal education.

Mothers knowledge on IYCF also showed significant association with providing MDD to their children, mothers had good knowledge on IYCF were 2.23 (AOR= 2.23, 95%CI =1.31, 3.79) and mothers had satisfactory knowledge on IYCF were 2.28 (AOR= 2.28, 95%CI =1.39, 3.74) times more likely to fed their children with MDD when compared to mothers had poor knowledge on optimal IYCF.

Table 10 : Bivariate and multivariate analysis of factors associated with providing minimum dietary diversity among mothers of under 2 years children live in Becho District, April 2014

Predictors	Fed with MDD		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Area of residence				
Rural	174(40.5)	256(59.5)	1.00	1.00
Urban	84(66.7)	42(33.3)	2.94(1.93,4.47)	3.75(2.33,6.03)**
Age of mother				
less than 30	143(47.8)	156(52.2)	2.04(1.25,3.39)	1.27(0.72,2.22)
30-35	88(51.8)	82(48.2)	2.39(1.38,4.11)	1.79(1.00,3.24)
36 and above	27(31.0)	60(69.0)	1.00	1.00
Educational status of mother				
No formal edu.	125(39.8)	189(60.2)	1.00	1.00
Elementary	78(53.4)	68(46.6)	1.73(1.17, 2.58)	1.48(0.89,2.46)
Secondary	36(53.7)	31(46.3)	1.76(1.03, 2.99)	1.37(0.70,2.66)
College	19(65.5)	10(34.5)	2.87(1.29,6.38)	1.47(0.48(4.54)
Educational status of father				
No formal edu	99(38.2)	160(61.8)	1.00	1.00
Elementary	88(50.3)	87(49.7)	1.64(1.11, 2.41)	1.69(1.11,2.55)*
Secondary	41(56.2)	32(43.8)	2.07(1.22 ,3.50)	1.53(0.89,2.68)
College	30(62.5)	18(37.5)	2.6941.426,5.087)	1.05(0.51,2.15)
Mothers' knowledge on IYCF				
Good	98(53.8)	84(46.2)	2.88(1.78, 4.68)	2.23(1.31, 3.79)*
Satisfactory	124(49.8)	125(50.2)	2.45(1.55, .3.89)	2.28(1.39, 3.74)*
Poor	36(28.8)	89(71.2)	1.00	1.00
Wealth index				
Highest	58(58.6)	41(41.4)	3.21(1.78, 5.77)	1.02(0.47,2.19)
Fourth	70(56.9)	53(43.1)	2.99(1.71, 5.23)	1.56(0.81,3.02)
Middle	52(41.6)	73(58.4)	1.62(0.92, 2.82)	1.10(0.57,1.99)
Second	48(43.2)	63(56.8)	1.73(0.98, 3.06)	1.33(0.84,2.10)
Lowest	30(30.6)	68(69.4)	1.00	1.00
Access to media				
Yes	171(50.6)	167(49.4)	1.54(1.09,2.18)	1.09(0.70,1.71)
No	87(39.9)	131(60.1)	1.00	1.00
ANC visit				
Yes	215(50.7)	209 (49.3)	2.13(1.41,3.21)	0.96(0.55,1.67)
No	43(32.6)	89(67.4)	1.00	1.00
Place of delivery				
At Home	96(37.5)	160(62.5)	0.51(0.36, 0.72)	1.22(0.79,0.1.90)
At health facility	162(54.0)	138(46.0)	1.00	1.00

Predictors	Fed with MDD		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Postnatal visit				
Yes	152(54.7)	126(45.3)	1.96(1.40,2.75)	1.59(1.06,2.34)*
No	106(38.1)	172(61.9)	1.00	1.00
Nutritional advice				
Yes	215(51.1)	206(48.9)	2.29(1.51,3.45)	1.81 (1.09,2.99)*
No	42(31.3)	92(68.7)	1.00	1.00

**** p<0.05, ** p< 0.001***

In bivariate analysis ethnicity, religion, marital status, child sex and mode of delivery had p value greater than 0.25 (P>0.25) and not included in multivariate analysis. Meal frequency was positively associated with higher parent educational level, having access to media, high socio economic status, visiting health facility for ANC during pregnancy and receiving nutritional advice. Institutional delivery, skilled delivery attendant and postnatal visit were also positively associated with appropriate meal frequency. Mothers' working status, family type, family size, number of children and child age were the other factors significantly associated with MMF in bivariate analysis.

According to the result of multivariate analysis Children belonging to mothers age less than 30 years were 2.48(AOR=2.48, 95% CI=1.33, 4.60) times more likely to practice child feeding with recommended meal frequency when compared with children of older mothers 36 and above years. The result also showed children of age 6-7 month had 80% less chance to receive recommended meal frequency when compared with children age 10-23 month (AOR= .20, 95%CI=0.10, 0.37). Mothers who attended ANC, received child feeding advice and had access to media were more likely to fed their children with MMF with adjusted odds ratio of (AOR=3.07,95% CI=1.68, 5.61), (AOR=2.43,95% CI=1.35, 4.38) and (AOR=1.71,95% CI=1.08,2.71) when compared to their counter parts respectively. Mothers knowledge on IYCF was also showed significant and independent association with frequency of child feeding, mothers who had good knowledge on IYCF were 2.92 (AOR=2.92,95% CI=1 .50,5.60) times more likely to fed their children with MMF when compared with mothers categorized as poor in optimal IYCF knowledge.

Table 11 :Bivariate and multi variate analysis of factors associated with MMF practice among mothers of under 2 years children live in Becho District, April 2014

Predictors	Fed with MMF		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Area of residence				
Rural	270(62.8)	160(37.2)	0.527(0.34,0.83)	0.60(0.327,1.09)
Urban	96(76.2)	30(23.8)	1.00	1.00
Age of mother				
less than 30	221(73.9)	78(26.1)	3.49(2.13,5.72)	2.48(1.33,4.60*
30-35	106(62.4)	64(37.6)	2.04(1.21,3.44)	1.65(0.88, 3.07)
36 and above	39(44.8)	48(55.2)	1.00	1.00
Educational status of mother				
Not formal edu.	186(59.2)	128(40.8)	0.55(0.24,1.21)	1.97(0.36,10.71)
Elementary	109(74.7)	37(25.3)	1.12(.46,2.75)	2.65(0.46,15.26)
Secondary	50(74.6)	17(25.4)	1.12(.42,2.99)	2.20(0.35,13.76)
College	21(72.4)	8(27.6)	1.00	1.00
Educational status of father				
No formal educat	155(59.8)	104 (40.2)	0.44(0.22,.91)	1.41(0.44,4.54)
Elementary	116(66.3)	59(33.7)	0.58(0.28,1.23)	2.10(0.63,6.83)
Secondary	58(79.5)	15(20.5)	1.15(0.48,2.77)	3.35(0.89,12.84)
College	37(77.1)	11(22.9)	1.00	1.00
Mothers' knowledge on IYCF				
Good	149(81.9)	33(18.1)	4.04(2.41, 6.76)	2.92(1.50, 6.00)*
Satisfactory	151(60.6)	98(39.4)	1.38(0.89, 2.13)	1.11(0.65, 1.92)
Poor	66(52.8)	59(47.2)	1.00	1.00
Mother work				
House wife	253(70.5)	106(29.5)	1.00	1.00
Employed	27(73.0)	10(27.0)	1.13(0.53,2.42)	1.47(0.47,4.62
Merchant	38(50.7)	37(49.3)	0.43(0.26, .71)	0.58(0.29,1.14)
Private e work	35(66.0)	18(34.0)	0.82(.44,1.50)	1.71(0.73,3.97)
Daily labor	13(40.6)	19(59.4)	0.29(0.14,0.60)	0.67(0.23,1.96)
Family type				
Nuclear family	248(70.7)	103(29.3)	1.78(1,24,2.54)	1.03(0.5 9,1.92)
Extended family	118(57.6%)	87(42.4)	1.00	1.00
Wealth index				
Highest	74(74.7)	25(25.3)	3.35(1.83, 6.11)	0.89(0.30,2.61)
Fourth	95(77.2)	28(22.8)	3.84(2.15, 6.84)	1.24(0.49,3.15)
Middle	84(67.2)	41(32.8)	2.32(1.34, 3.99)	1.16(0.53,2.55)
Second	67(60.4)	44(39.6)	1.72(0.99, 2.98)	0.82(0.40,1.70)
Lowest	46(46.9)	52(53.1)	1.00	1.00
Family size				
4 and less	126(72.8)	47(27.2)	1.59(1.070,2.352)	0.81(0.38,1.71)
5 and above	240(62.8)	142(37.2)	1.00	1.00

Predictors	Fed with MMF		Crude OR (95% CI)	Adjusted OR (95% CI)
	Yes n (%)	No n (%)		
Number of children				
3 and less	220(72.6)	83(27.4)	1.94(1.36,2.77)	.93(0.50,1.72)
4 and above	146(57.7)	107(42.3)	1.00	1.00
Child birth order				
First and second	168(72.7)	63(27.3)	1.71(1.19,2,47)	1.12(0.66,1.99)
Third and above	198(60.9)	127(39.1)	1.00	1.00
Birth interval				
1 to 2 years	109(58.3)	78(41.7)	0.63(0.429,0.926)	1.03(0.63,1.68)
3 and above years	195(68.9)	88(31.1)	1.00	1.00
Child age				
6-7	36(43.9)	46(56.1)	0.31(0.192,0.51)	0.20(0.10,0 .37)**
8-9	44(59.5)	30(40.5)	0.59(.35,.98)	0.55(0.29, 1.05)
10-23	286(71.5)	114(28.5)	1.00	1.00
Access to media				
Yes	242(71.6)	96(28.4)	1.91(1.34,2.73)	1.71(1.08,2.71)*
No	124(56.9)	94(43.1)	1.00	
ANC visit				
Yes	314(74.1)	110(25.9)	4.39(2.91,6.63)	3.07(1.68, 5.61)*
No	52(39.4)	80(60.6)	1.00	1.00
Place of delivery				
At Home	147(57.4)	109(42.6)	0.50(0.35,0.71)	1.60(0.92,2.77)
At health facility	219(73.0)	81(27.0)	1.00	1.00
Type of delivery assistant				
Skilled	210(73.7)	75(26.3)	2.13(1.48,3.07)	1.43(0.33,6.28)
HEW	18(64.3)	10(35.7)	1.37(0.607,3.09)	1.28(0.33,4.98)
Others	138(56.8)	105(43.2)	1.00	1.00
Postnatal visit				
Yes	198(71.2)	80(28.8)	1.62(1.138,2.31)	0.86(0.5,1,50)
No	168(60.4)	110(39.6)	1.00	1.00
Nutritional advice				
Yes	313(74.3)	108(25.7)	4.57(3.03,6.89)	2.43(1.35, 4.38)*
No	52(38.8)	82(61.2)	1.00	1.00

**** p<0.05, ** p< 0.001***

Major barriers of appropriate IYCF practice claimed by mothers during in-depth interview were Influence of community especially grandmothers and elders. According to mothers' response, even if they don't want to feed their children with prelactal feeding grandmothers enforce them to give or themselves give water or butter especially when delivery is at home. The other stated barrier to appropriate child feeding was work load on mothers, most of the mothers responded they cannot exclusively breast feed because they go to work and not at home the whole day.

Government employed mothers participated in in-depth interview also claimed because maternity leave is only 2 month they cannot exclusively breast feed for 6 months. A 4 month age child mother from Tullubollo town working in Government organization said " *even though health professionals and media had told me to feed my child only with breast milk for 6 month, after 2 month of my delivery I had go back work and my child fed with powder milk when was at office*" .

Other mothers also sated less commitment and support from fathers especially to give priority and avail appropriate food to child as a major barrier to appropriate child feeding practice. Mother from sinbro kebele said" *my husband didn't receive any child feeding advice and think family food is enough to our child"*

Unavailability of some type of food especially fruits and vegetables in all season even to buy especially in rural areas was also reason raised from mothers during in-depth interview. In-depth interview with service provider and health center heads showed currently different strategies are being implemented to improve child feeding practice. Health extension worker from Batu Cirrecha kebele said , " *I had received training on child feeding practice and now I advice pregnant mothers as well as mothers had child every time I meet them*".

CHAPTER 6: DISCUSSION

Appropriate infant and young child feeding (IYCF) practices remain low and the major cause of child malnutrition in developing countries .Better understanding of the factors associated with IYCF practice is critical for identifying possible causes, population at risk and plan effective interventions. This thesis examined the prevalence of appropriate IYCF and factors associated with optimal breastfeeding and complementary feeding practices among children aged 0-23 months in Becho district. According to our study only 223(27.2%) of children of age under 2 years were received age appropriate feeding. This composite indicator was computed from 6 WHO IYCF indicators, early initiation of BF, EBF, introduction to solid or semi solid food at recommended time, feeding child with MDD, MMF and MAD. Among these indicators introduction to complimentary food was the most inappropriately practiced indicator and MMF was relatively practiced in a better way when compare other indicators in our study area. Knowledge of mothers on appropriate IYCF practice, age of children, age of mother , access to media, area of residence, ANC, place of delivery, PNC and Child feeding advice ,birth interval ,family type and father education were the main predictors independently and significantly associated with most of the IYCF indicators. In contrary to the result of previous different studies, Wealth index and educational status of mothers didn't show significant association with any of IYCF indicators in this study.

Appropriate breast feeding practice especially early initiation of breastfeeding within one hour of birth and Exclusive breastfeeding for six month protects the children from acquiring infections, improve child nutrition status, reduces newborn mortality and facilitates emotional bonding of the mother and the baby (3)(23) (9) (33)(34).Our study showed that, breastfeeding is common in Becho District as majority of mothers (97.9%) ever breast fed their youngest child at any time in the past when asked retrospectively. From these 449 (55.9%) were breast fed within one hour of birth, this shows early initiation of breast feeding practice is still low in the study area as other part the country in line with Ethiopian DHS 2011(52%) and study conducted in Goba Woreda, Ethiopia 52.4%(25).

In this study the prevalence of EBF computed using since birth dietary recall method and of total mothers 46.2% responded they fed their child with only breast milk since birth. For mothers had children under 6 month during the survey time, they were asked whether exclusively breast fed from birth to the time of survey and 56.8% answered they are exclusively breast feeding. Among mothers had children of age 6-23 months, 41.2% responded they exclusively breast fed their children for 6

month when asked retrospectively. This was almost similar to the result of study conducted in Bahirdar city in which 45.3% and 59.7% of mothers with infants aged less than 6 months and above 6 month during the study were EBF since birth respectively when asked retrospectively (26). But this result was high when compared to other study conducted in Mauricious which used the same dietary recall method and only 17.9% the mothers exclusively breast fed their children for 6 month when asked retrospectively(25). This difference may be due to the difference between culture and norms between the study populations or may also be due to the current effort of government and NGO to improve child feeding practice in our study area.

Around the age of six months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods (9). If complementary foods are not introduced when a child has reached six months, or if they are given inappropriately, an infant's growth may falter(9). In current study mothers fed their children with solid or semisolid food at recommended time of age of 6 month were only 191(34.4%) when asked retrospectively. Among children age between 6 to 8 month during the survey time 64(55.2%) started feeding solid or semi solid food. This result showed slight improvement when compared to result of Ethiopian DHS 2011 (49%) (44), But very low when compared to other studies conducted in south India in which 77.5% mothers had started complementary feeding at the recommended time of six months (42) and study in Tanzania in which 92.1% of the infants aged between 6 and 8 months receive soft, semi-solid or solid foods (43).
The reason for late introduction of solid or semi solid food to children mentioned by mothers during in-depth interview indicates there is wrong perception in the community. A 29 years old mother of 4 children from Chirrecha kebele said*" health workers told me to give solid food to my child at 6 month but I don' believe that infant without teeth can feed solid food and afraid to give to my baby"*

Nearly half of the children 258(46.4%) age 6 to 23 month were fed with different type of food containing minimum acceptable dietary diversity in the last 24 hour during the survey time. This result was high when compared to previous studies, 10.8% in secondary analysis of EDHS 2011 (47), 16 % in survey conducted in Sidema Ethiopia (59) and in different studies from developing world 38.2% in Tanzania (43) and 30.4% in Nepali (46) . This difference may be due to the difference in time of study and current focus of governmental and NGO organizations to improve complimentary feeding practice in our study area. During in-depth interview with health service providers and health centers heads we

noticed, currently government and NGO working together to improve child feeding practice, all of health workers and health extension workers interviewed stated that, they got training on appropriate IYCF and demonstrating to mothers how to prepare appropriate food for their children.

From IYCF core indicators assessed in this study, feeding children with appropriate frequency was relatively practiced in a better way than other indicators. Almost two in three 366(65.8%) of children aged 6-23 month were fed with minimum meal frequency in the last 24 hour during the survey time. This result was also high when compared to other studies conducted in Ethiopia and in developing countries, 55.3% in secondary analysis of EDHS 2011 (47) and 38.6% in Tanzania (62).

Children received minimum acceptable type of food with minimum acceptable frequency (minimum acceptable diet) was 218(39.2%) in our study. This was high when compared EDHS 2011 in which only 4% children were given foods from four or more groups and fed at least the minimum number of times per day (44) This difference may be due to the fact that our study covers small area where relatively there is good house hold food security or due to deference in time of study. It may also be related to the current focus of governmental and NGO organizations to improve complimentary feeding practice in our study area.

The main predictors of IYCF practice in this study were examined and identified from individual level, family level, community level and health care related for two breast feeding indicators and three complimentary indicators independently. From individual level factors mothers' knowledge was the main independent predictor of appropriate IYCF and significantly associated with all of IYC indicators included in this study. Mothers have good knowledge on appropriate IYCF were 4 times more likely to early initiate breast feeding, 11 times more likely to practice EBF, 5 times more likely to start solid or semi –solid food at recommended time of 6 month, 2 times more likely to feed with MDD and 3 times more likely to fed their children with MMF when compared to mothers have poor knowledge on appropriate IYCF. In line with this result in study in India the most common reason given for the delayed introduction of complementary food was mother felt their milk was not enough for baby (42), in study conducted in Jimma Arjo Woreda , Ethiopia mothers who had knowledge about exclusive breastfeeding to six months were less likely to early introduced additional food compared to who had no information about exclusive breastfeeding (54).

The other mother's characteristics independently associated with child feeding practice was mother's age , it was independently associated with meal frequency. Younger mothers age less than 30 years were 2 times more likely to feed their children with MMF when compared to mother's age above 35 years. In contrary to this finding previous study in Nepalese showed mothers age 30–34 years at pregnancy were less likely to provide the recommended acceptable diet than the mothers who were >=35 years (46). This difference may be due to the fact that young mothers are ready to change their feeding practice following the new interventions in our study area, in-depth interview supplement this idea, health extension worker from kobo kebele said " *young mothers try to feed according to our advice but the older ones are not ready to accept our advice and replied nothing was happen to my previous baby and I have no reason to change my practice".*

Children whose fathers attended elementary education were also about 2 times more likely to feed with recommended minimum type of food when compared to children whose fathers have no formal education. Similarly study in Nepalese showed as the education level of the fathers increased, the children were more likely to get the recommended diversity of food, children fathers attended primary education were 2.6 times more likely to fed with minimum dietary diversity(52).

From child characteristics age of child in months was found to be important predictor of IYCF practice in our study. It showed significant association with complimentary feeding practice and children age 6-9 month were at high risk of not receiving appropriate complimentary feeding. For instance children age between 6 to 7 and between 8 to 9 had 97% and 88% less chance to receive solid or semi solid food when compared to children age 10 month and above respectively. Children ages 6-7 month were also 80% less likely to receive recommended meal frequency when compared with children age 10-23 month. In line with this result in secondary analysis of EDHS,2011 children age 12-17 month were 1.4 times more likely to practice appropriate meal frequency when compared to children age 6-11 month (47).

The other child character significantly associated child feeding was preceding birth interval, children from mothers who had preceding birth interval of 3 and above years were 4 times more likely to practice EBF for 6 month when compared to children from mothers who had preceding birth interval of less than 3 years. This was also similar to the finding of study in Tanzania ,which showed the risk of

infants being predominantly breastfed was significantly higher among mothers who had 0-23 months of preceding birth interval compared with mothers who had >= 24 months preceding birth interval (62)

From house hold level predictors, access to media positively associated with most of IYCF indicators, but independently associated with initiation of complementary feeding at the recommended time of 6 month and providing minimum meal frequency. Mothers from family had access to media (TV/Radio) were 4 times more likely to practice initiation of complimentary feeding at recommended time of 6 month and 2 times more likely to provide minimum meal frequency in our study. In consistent to this result in study in Tanzania Children whose mothers had limited access with mass media (radio and television) had lower prevalence of introduction to complementary foods at 6-8 months than children of mothers who had frequent access with mass media (62). This may related with current dissemination of information through media on appropriate child feeding practice rather than only market promoting on artificial feeding.

Type of family and number of children in the house hold associated with child feeding practice, mothers from nuclear family were 2.3 times and mothers had more than 3 children were 2.86 more likely to EBF when compared to mothers from extended family and mothers had more than three children respectively.

In contrary to different studies (44,47,62), there was no significant association between wealth index and child feeding practice in this study. This difference may be due to the large proportion of farmer house-holds from rural area and high crop productivity in our study area. Mother education also didn't show significant association in with child feeding practice. This may be due to the low proportion of mothers attended higher education in this study.

Among health service related factors, increasing ANC follow up among pregnant mothers , increasing institutional delivery , increasing PNC follow-ups, and increasing mothers advice/counseling on appropriate child feeding practice during these services showed positive, significant and independent association with appropriate child feeding practices.

Children born from mothers who followed **ANC** were 3 times more likely to initiate breast feeding early within one hour of birth, 3 times more likely to practice initiation of complimentary feeding at recommended time of 6 month, and 3 times more likely to feed their child with recommended

minimum meal frequency. These results were consistent with different studies conducted in different areas, in Ethiopian DHS 2011 ANC associated with meal frequency (47) and in study in Nepal (49) ANC associated with MMF and MAD.

Children born from mothers received child feeding advice during pregnancy were 2.4 times more likely to early initiate breast feeding within one hour of birth when compared to children born from mothers didn't receive this advice. Mothers got child feeding advice during child vaccination was almost, **2** times more likely to feed their child with recommended MDD and recommended MMF. This was consistent with study in Nepal ,mothers who did not receive feeding advice in immunization clinic had 1.7 times more chance to have inappropriate feeding practices than the mothers who received advice in immunization clinic (49).

Mothers deliver their baby at home were 91% less likely to early initiate breast feeding within one hour of birth when compared to mothers deliver at health facilities. This was similar to study in Goba Woreda ,Ethiopia in which place of delivery associated with early initiate breastfeeding (27) .

Mothers who attended PNC after delivery were 2 times more likely to feed their children with minimum dietary diversity. In line with this finding according to study in Tanzania children whose mothers had postnatal check-ups were more likely to meet the requirements for minimum dietary diversity, minimum meal frequency and minimum acceptable diet compared to children whose mothers did not make any postnatal check-ups within 41 days after delivery. (62). These results could be due to fact that exposure to health professionals during these service provisions increases the chances of mothers to receive appropriate child feeding counseling/advice to take appropriate action.

From community level factors identified in different previous studies (area of residence, religion and ethnicity), only area of residence associated with appropriate child feeding practice in this study and children live in rural area were still at high risk of inappropriate feeding practice. According to multivariate analysis children whose mothers live in rural area were 59%, 78%, 71%, less likely to early initiate breast feeding within one hour of birth, to exclusively breast fed and to start solid food at recommended time when compared to children mothers from urban area respectively. Mothers live in urban area were also 4 times more likely to fed their children with minimum type of recommended food when compared to those live rural areas. Similar to this in EDHS 2011 ,mothers live in urban area were better in practicing appropriate IYCF than children mothers from rural area(44) This may be

due to high utilization of health care service in urban area and availability of different type of food constantly in urban area. During In-depth interview, Mother live in rural kebele (Dega gudda) said "*even though I need to feed my child with all type of food I cannot easily find all type food in my area every day"*

STRENGTH AND LIMITATION OF THE STUDY

Strength

- Triangulated with qualitative method
- Include WHO core IYCF indicators

Limitation

- Being a cross-sectional survey, causality cannot be inferred from these findings.
- The study depends on the information provided by mothers subject to recall bias.
- There may be social desirability bias.

CHAPTER 7: CONCLUSIONS AND RECOMMENDATION

7.1 Conclusion

Many studies confirm that infant and young child feeding practice remains unsatisfactory in developing countries ,in this study also evidence indicated only about one in four (27%) of children under age 2 years were appropriately fed according to WHO recommendation. However this result indicates some improvement in child feeding in the study area when compared to previous studies in the country, still it is unsatisfactory and needs especial emphasis from government and other stake holders.

This study indicated children in rural area, children age between 4-6 month, children age between 6-8 and children belongs to older mothers are at high risk of inappropriate feeding practice. Improving mother's knowledge on IYCF, improving family access to media, improving utilization of health service and providing child feeding advice to mothers is found to improve appropriate IYCF practice in the area.

7.2 Recommendation

1. South west shoa zonal health department , Becho District and concerned body should strengthen IEC/BCC on appropriate child feeding practice to avoid some misunderstanding and bad practice in the community, to increase culture of gardening verity food like fruits and vegetables at house hold level.
2. South west Shoa zonal health department, woreda health office and NGOs working in family health should strengthen family health service
3. Health facilities should strength and continue provision of child nutrition advice to mothers starting from ANC to child immunization period .
4. Program planners at Regional ,Zonal and District level should consider & strengthen program that focus on neglected key role players in child feeding practice like grandmothers and husbands, especially in rural area.
5. Program planners at Regional ,Zonal and District level better to focus to children at high risk like ,children in rural area, children age between 4 to 6 month at high risk of receiving additional food and children 6-9 month at high risk of not receiving appropriate complimentary feeding.

6. Program planners at Regional ,Zonal and District level better to design and implement strategy used to improve most inappropriately practiced indicator like starting solid food at recommended time of 6 month

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APPENDICES

Appendix I. Participant Information Sheet and Consent

Greeting, How are you, I am----------. I am working with Mr. Sultan Ebrahim, who is Master Degree student in Jimma University. The main objective of this study is to assess infant and young child feeding practice and associated factors among mothers of child less than two years in Becho district. To this effect, your involvement in the study has of great importance to the research's output. Your name will not be written in this form and will never be used in connection with any information you tell us. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obligate to answer any question you do not wish to answer. If you fill discomfort with the interview, please fill free to drop out any time you want. Could I have your permission to continue?

Title: Infant and young child feeding practice and associated factors among mothers of child 0-23 months in Becho, district central Ethiopia, 2014.

Name of Principal investigator: Sultan Ebrahim

Name of the organization: Jimma University College of public health and medical science.

Introduction

This information sheet and consent form is prepared to explain the study you are being asked to join. Please listen carefully and ask any questions about the study before you agree to join. You may ask questions at any time after joining the study.

Purpose of the Study

The main aim of the project will be to assure Master degree in General Public Health from Jimma University**.** The purpose of this research title is to assess practice and associated factors with infant and young child feeding among mothers in Becho district. The study will be helpful in determining current practice and factors contributing to appropriate or inappropriate feeding practice. Knowing these contribute much to plan appropriate intervention and strategies for optimal infant and young child feeding.

Procedure

To assess individual level, house hold level, community level and health service related factors associated with infant and young child feeding practice in Becho district. We invite you to take part in this project. If you are willing to participate in this project, you need to understand and sign the agreement form. After that, you will be interviewed by the data collector to give your response. You do not need to tell your name to the data collector and all your responses and the results obtained will be kept confidentially by using coding system whereby no one will have access to your response.

Risk/ Discomfort

By participating in this research project, you may feel that it has some discomfort especially on wasting time about 30 minutes. We hope you will participate in the study for the sake of the benefit of the research result. There is no risk in participating in this research project.

Benefits

If you participate in this research project, there may not be direct benefit to you but your participation is likely to help us in determining practice and associated factors of infant and young child feeding in less than two year age children. **The finding of a study serves as an input for improving child nutrition.**

Compensation

You will not be provided any incentives or payment to take part in this project.

Confidentiality:

The information collected from this research project will be kept confidential and information about you that will be collected by this study will be stored in a file, without your name, but a code number assigned to it. In addition, it will not be revealed to anyone except the principal investigator and will be kept locked with key.

Right to Refuse or withdraw:

You have full right to refuse from participating in this research. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish, without losing any of your right. **If you face any problem**, please contact:

Address of the PI: Sultan Ebrahim Mob. 0911829252

E-mail sultebro@gmail.com

I thank you in advance for taking your time to answer questions.

Would you be willing to participate in the study?

If yes, proceed for the voluntary signature for consent below.

If no, please stop here

Consent of the Participant:

I the undersigned have been informed that the purpose of this research project. Based on the above information I agree to participate in the research voluntarily.

_____ _____

Signature of Participant Date

_____ _____ _____

Name of data collector Signature Date

_____ _____ _____

Name of supervisor Signature Date

Appendix II. Questionnaire with English version

Questionnaire identification number ----------

Address: kebele ----------

House number ----------

Instruction: Encircle the response of the respondents for multiple choice questions and for short answers write on the space provided.

S.N	Questions	Response
PART I:Now I would like to ask you some questions about your background.		
101	Area of residence	1. Rural 2. Urban
102	How old are you?	_____
103	What is your marital status?	1. Married 2. Unmarried 3. Divorced 4. Widowed
104	What is your ethnicity?	1. Oromo 2. Gurage 3,Amahra 4,Others_____
105	What is your religion?	1. Muslim 2. Orthodox 3. Protestant 4. Others
106	What is your level of education?	1.Able to read and write 2.Unable to read and write 3. 1-4 4. 5-8 5. 9-10 6. 11-12 7. College and above
107	What is Father's current level of Education	1.Able to read and write 2.Unable to read and write 3. 1-4 4. 5-8 5. 9-10 6. 11-12 7. College and above
108	What is your occupation?	1.Farmer 2, Government employee 3, Merchant 3, Private 5, Daily labor 6. Hose wife 7 .Others__
PART II: Now I would like to ask you some questions about your family.		
201	Who live with you in your home with your family	1. Only husband and children 2. Your parents or your husband's parents 3. Other relatives 4. Other_____
202	What is the size of your family including relatives living with you?	_____
PART III: Now I would like to ask you some questions about your maternity experiences and your children		
301	How many children are born alive?	Number of children born alive_____
302	How many children do you have now?	Number of children _____
303	What is the order place of the current	Order_____

	child	
304	What was the gap between birth of the previous child and this one	Years_____
305	What is the age of this child (in month)	In months ---------
306	What is sex of this child	1, Male 2,Female
307	Have you attended Antenatal clinic in any health facility while you were pregnant with this child?	Yes 2. No
308	If the answer of Q-307 is yes, how many times (visits) have you attended?	1, Number of attended Antenatal follow up_____ 2,Don't know_____
309	Where did you give birth?	1, At home 2, At health post 3, At health center or Hospital
310	Who assisted with your last delivery?	1.HealthProfessional 2.Health extension workers 3.Trained Traditional birth Attendant 4.Non trained Traditional birth attendant 5. Relatives/friends/neighbors Other(Specify)_____
311	What was your mode of delivery?	1. Normal 2. Caesarian section
312	Following your last delivery have you attend postnatal clinic in any health facility?	1. Yes 2. No
313	Did you get any advice on child feeding during and after pregnancy?	1, Yes 2. No
314	If the answer of Q 313 is yes, who gave you advice? Encircle all response mentioned by respondent	1. Mass media 2. Mother in law 3. Husband 4. Health professional 5. Health extension workers 6. Community health worker 7. Family member **8.** Friend **9.** others
315	If you get advice from health workers/health extension workers, When did get? Encircle all response mentioned by respondent	1. During ANC 2. During delivery 3. During postnatal 4. During immunization 5. During growth monitoring 6. Other…….
	PART IV: Now I would like to ask you some questions about feeding of your child.	
401	Have you ever breast fed your child?	1. Yes 2. No

402	If the answer for Q. No. 401 is no, why?	1. No breast milk 2. Mother sick 3. Child sick 4. Breast disease 5. No response 6. Other (Specify)_____
403	How long after birth did you first put your child to the breast?	1. Immediately after birth 2. Within _____ hour/s 3. Within _____day/s 4. Don't know 5. Other(specify)_____
404	Within the first three days after delivery, before your milk began flowing regularly, did you feed the child the fluid (colostrums) that came from your breasts	1. Yes 2. No. 3. Don't know
405	If the answer for Q. No. 404 is no, why?	_____
406	If the answer for Q. No. 404 is no, then what did you then feed the child?	_____
407	Are you still breastfeeding?	1.Yes 2. No
408	If the answer of Q 207 is yes,When did you usually breast feed the child?	1. When the child likes to have 2. When the child cries 3. On schedule 4. When breast engorged 5. Other (Specify)_____
409	If the answer of Q 207 is yes, How often do you give breast milk per 24 hours (day and night)?	----------times
410	If the answer of Q 202 is no, what is the reason? Encircle all response mentioned by respondent	1. Baby health problem 2. Maternal health problem 3. Breast disease 4. Baby refusal 5. No enough breast milk 6. New pregnancy 7. Reported barrier from peer 8. Worry for their physical appearance 9. Mother return to work 10. Not mentioned 11. Others specify_____

411	Did you drink your child anything from a bottle with a nipple?	Yes 2. No 3. don't know
412	If the child was sick any time before, what medication you gave him at that time?	1, Form health facility/worker 2, Traditional(specify)_____
	Q.No 413 -416 Only for mothers of children age <6 month age	
413	Starting from the date of birth up to now, what do you feed your child? Except medicine /ORS	1. Only breast milk 2. Water/tea 3. Cow's milk 4. Powdered milk 5. butter 6. Cereal based fluid 7. Juice 8. Adult food 9. Other(Specify)____
414	At Q,No 413 if some thin was given other than breast milk, At what age you started this additional food	Hours_____ Days_____ In month_____
415	At Q,No 413 if some thin was given other than breast milk, why you gave this food?	Justfy _____
416	At Q,No 413 if some thin was not given other than breast milk, Why you didn't gave additional food during this time?	Justfy ___
	Q.No 417-421 Only for mothers of child age 6-23 month	
417	Starting from the date of birth up to the age of 6 months, which of the following items this child has fed ?	1. Only breast milk 2. Water 3. Tea 4. Cow's milk 5. Powdered milk 6. butter 7. Cereal based fluid 8. Juice 9. Adult food 10. Other(Specify
418	For how many days/months did you feed this child with breast milk only?	1. Hours_____ 2. Days_____ 3. In month_____ 4. Don't know_____
419	Did you start offering the child additional solid or semi solid diet besides your breast milk?	1. Yes 2. No
420	If answer for Q.No 419 is yes at what age did	In month_____

	you start offering the child with additional solid or semi solid diet besides your breast milk?	Don't know_____			
121	How many times did you feed your child with additional solid or semi solid diet besides your breast milk in last 24 hours	_____			
422	Please describe everything that ***your child*** ate yesterday during the day or night, whether at home or outside the home.	Type of food	Last 24 hours		How many times in the Las 7 days
			yes	no	
		1. Any food made from grains roots and tubers such as maize, millet, wheat, barley, sorghum, rice, tef, kocho, potato(porridge, bread)			
		2. Any food made from legumes such as lentils, beans, guaya, peas, nuts (lewz), sesame(selyit), chickpea			
		3. Any milk or milk products(powder milk, animal milk, yogurt, cheese)			
		4. Flesh foods (meat, fish, poultry and liver/organ meats)			
		5. Any food made from eggs			
		6. vitamin-A rich fruits and vegetables (carrot, mango ,papaya			
		7. other fruits and vegetables (tomato, onions, avocado, lemon, , banana, garlic, cabbage (tikil gomen), gishta			
PART V: **Societal factors**					
501	Do you give breast for your child at public place, like at ceremony, health facility etc?	1.Yes 2, No			
502	I your area what should be given first to the child after birth	_____			
503	Does colostrums feeding is recommended in your area	1.Yes 2, No 3, Don't know			
504	What type of food is not recommended for child less than 2 years in your area? Why?	Type of food_____			
505	If any food not recommended is mention in Q.No 505 , why?	Reason_____			
	PART VI: Knowledge part				
601	In what duration should the child be on breast after birth?	1,Hours___ 2, Days_____ 3. I don't			

		know
602	Is colostrums feeding is necessary	1. Yes 2. No 3. I don't know
603	In your opinion for how long breast feeding alone is adequate for the child?	1, months____ 2. Year___ 3, I don't know
604	In your opinion for how long the child breast feed?	1, months____ 2. Year___ 3, I don't know
605	When the child should be breast fed?	1,when the child shows 2. On schedule 3. If he cry only 4. I don't know
606	How did you let your child stop breast feeding?	1, suddenly 2, gradually
607	Does medications transfers from the mother to the infants by breastfeeding?	1. Yes 2. No 3. I don't know
608	Do you think that breast feeding protects the infant from diarrhea?	1. Yes 2. No 3. I don't know
609	Do you think that breast milk have complete form of nutrient for infants	1. Yes 2. No 3. I don't know
610	Do you think that breast feeding Helps as family planning method	1. Yes 2. No 3. I don't know
611	Does breastfeeding strengthens the bonding between the mother and her infant?	1. Yes 2. No 3. I don't know
612	Do you think that it is necessary to give solid or semi-solid food to a child ate age of 6 month?	1. Yes 2. No 3. I don't know
613	What do you think appropriate child feeding is necessary ?	1. For body growth 2. For mental growth 3. For Healthy life 4. I don't know
614	Do you think that it is necessary to give a child age less than 2 years any food made from grains roots and tubers such as maize, millet, wheat, barley, sorghum, rice, teff, kocho, potato(porridge, bread) every day?	1. Yes 2. No 3. I don't know
615	Do you think that it is necessary to give a child age less than 2 years any food made from legumes such as lentils, beans, guaya, peas, nuts (lewz), sesame(selyit), and chickpea every day?	1. Yes 2. No 3. I don't know
616	Do you think that it is necessary to give a child age less than	1. Yes 2. No 3. I don't

	2 years any milk or milk products(powder milk, animal milk, yogurt, cheese) every day?	know
617	Do you think that it is necessary to give a child age less than 2 years any flesh foods (meat, fish, poultry and liver/organ meats) every day?	1. Yes 2. No 3. I don't know
618	Do you think that it is necessary to give a child age less than 2 years any food made from eggs every day?	1. Yes 2. No 3. I don't know
619	Do you think that it is necessary to give a child age less than 2 years fruits and vegetables	1. Yes 2. No 3. I don't know
620	How many times a child age under 2 year should be fed with in 24 hour(during the day and night)	_____
	PART VII: Wealth index questions	
701	Type of Flooring	1, Earth 2,Dung 3,Cement 4,Carpet 5,others
702	Type of Roofing	1, Thatch /Leaf/Mud 2,Wood 3,Corrugated Iron 4,Blocket 5, others
703	Wall material vehicle	1,Cane/Bamboo 2,Wood With Mud 3,Stone With Mud 4, Cement Blocks(blocket)
704	Does any member of this household own:	1,Bicycle 2, Motorcycle 3, Animal-Drawn Cart 4, Car/Truck
705	How many hectare of agricultural land do this household own?	_____ hectare
706	How many of the following animals does this household own?	Cows/Bulls/Oxen_____ Horses/Donkeys/Mules_____ Goats/Sheep _____ Chickens _____
707	What type of fuel does your household mainly use for cooking?	1,Electricity 2, Kerosene 3,Charcoal Wood 4, Animal Dung 5,Biogas
708	What is the main source of drinking water for this household	1,Piped Water 2,Borehole 3,Dug Well 3,Water From Spring 4,Surface Water 5,Rainwater
709	What kind of toilet facility does this household have?	1, Flush Or Pour Flush Toilet 2, Pit Latrine 3,No Facility/Bush/Field

710	Persons per sleeping room				
		Yes/no			Yes/no
711	Do you have a separate room which is used as a kitchen?	1,yes 2, no	721	Refrigerator	1,yes 2, no
712	Electricity	1,yes 2, no	722	washing machine	1,yes 2, no
713	Generator	1,yes 2, no	723	Table	1,yes 2, no
714	A kerosene lamp?	1,yes 2, no	724	Chair	1,yes 2, no
715	Radio	1,yes 2, no	725	Bed with cotton/sponge/spring mattress?	1,yes 2, no
716	watch/clock	1,yes 2, no	726	Bank account	1,yes 2, no
717	Television	1,yes 2, no	727	Domestic servant	1,yes 2, no
718	Cassette/CD player, VCR/DVD player	1,yes 2, no			
719	Computer	1,yes 2, no			
720	Telephone (fixed and mobile)	1,yes 2, no			

Appendix III. In-depth interview Questionnaire English version

In-depth interview to health center head

Profession _____ Responsiblity _____

1. Is children malnutrition a health problem in your area?

   1. yes 2. No

2. Do health professionals working in family health area ever trained on child feeding?

   If yes, how many? M----------F----------T--------

3. Does your health facility provide child feeding advice for mothers?

   If yes, how? ----------

   If No, why? ----------

4. What types of service are being implemented to improve child nutrition?
   - Primitive
   - Supportive care
   - Curative care

5. Does the facility have any link, associations & support from NGO who are working on child nutrition

   1. Yes 2.No If Yes, types of support, activities etc.

   ----

6. What governmental sectors are working with your facility to improve child nutrition?

   what activity?

   What sector do you think should be participated? On what activity?

7. What challenges have faced during implementing activities concerning child nutrition

   -Community related - Mothers related

   -Provider related -Health facility related

8. What are the main constraints to implement child neutrino programs/activities? (different type of resource, IEC/BCC materials etc)

   - How did you tried to solve this problem?

9. What should be done to feed children as per WHO recommendation? ----------

Name of interviewer _____ signature _____ Date_____

In-depth interview to health workers/health extension workers

Profession _____ Responsibility _____

1. Have you ever trained on child feeding /child nutrition?

   1. Yes 2. No

   If yes when? For how long?

2. what service are being implemented to improve child feeding practice in your catchment area/kebele

3. why do you think mothers fail to feed their children appropriately?

   Regarding breast feeding practice

   Regarding complimentary feeding

4. Do you provide child feeding advice for mothers during pregnancy, delivery ,child immunization and child growth monitoring period?

   1. Yes 2. No

   If no, why?

5. If answer for Q.No 4 is yes, do you think that you bring an improvement on child feeding practice? On what ?

6. what do you think should be fulfilled to improve child feeding practice in your area?

7. what are the main challenges/bottlenecks in your area to improve child feeding practice in your area?

8. What do you think should be done in your area to feed children as per WHO recommendation? ------

Name of interviewer _____ signature _____ Date_____

In-depth interview to mothers of infant 0 –23 months

Kebele: _____

Background information	
1. Mother and child socio demographic	1. No. of living children____ 2. Sex ____ 3. Age of the infant_____ 4. Age of the mother_____ 5. Education of mothers_____ 6. Mother work_____
Knowledge on Breastfeeding	
When the infant should start breastfeeding? Why?	
Whether pre-lacteal feeding should be given to babies, If yes why?	
For how long infant should be Only breast milk? Why?	
Complementary feeding should be started at what age, why? What do you say to mothers start to feed their children with solid food at 6 month?	
The complementary feeding should consist of what items, why? The frequency of these items, why?	
What advantage does breast feeding have? For children? For mothers?	
What do you think feeding child with balanced diet helps for?	
Child feeding practices	
Breast feeding practices	
When you started breastfeeding? If delayed, why? If at desired time, who advised for this?	
Whether faced any problems in initiation and continuation of breastfeeding? What problem? What support was needed to overcome the problem?	
Did you gave any additional thing or food to this child since birth? If yes why? What was given?	
Did anything given to baby other than breast milk since birth? If yes, what, why? What was the first thing you gave your baby to eat? □ Why did you decide to start with this particular food? How old was your baby when you gave her/him this particular food for the first time? Who gave you advice on this?	
Do the amount of milk is perceived to be sufficient? If no, perceived corrective action by the mothers? Whether mother has been advised on breastfeeding practices	

by anyone? If yes, from whom and type of advice received from each one of them?	
Is there any change in the breastfeeding practices adopted for older siblings? If yes, what changes and why?	
ASK IF CHILD WAS FED BEFORE 6 MONTHS) If you knew that "to exclusively breastfeed for six months" would make "the child get sick less often and grow up more," and that "to give other liquids and solid food before 6 months" would make "the child get diarrhea and cough more often and s/he would remain small and thin," would you be willing to change your practice? Is there something that would make you carry out this change? □ How could this change be easier for you?	
Complementary feeding practice ,6-23 month	
Begin complementary feeding at 6 months of age with semi-solid foods	
Did you gave thicker, more solid foods to a this child? At what age you start giving this food? Why you start at this age? Who advice you on this?	
(ASK IF CHILD WAS FED AFTER 6 MONTHS) If you knew that "to exclusively breastfeed for six months and to initiate semi-solid foods at that age" would make "the child grow up more," and that "to give other liquids and semi-solids until the child is older than 6 months" would make "the child remain small and thin," would you be willing to change your practice if you had another child? □ Is there something that would make you carry out this change?□ How could this change be easier for you?	
Feeding children with recommended daily frequency of complimentary food	
How many times a day do you feed your child? (ASK ABOUT MAIN MEALS AND SNACKS) □ If a health professional asked you to increase the number of times you feed your child each day, would you be able to do this? Why? Why not?	
Feeding children with different type of foods.	

Do you feed your child every day with different type of food including meat, fruits, milk and milk products and legumes? IF NO: What conditions would have to be present for you to serve these foods to your child per day?	
Support and motivate the child to eat	
What is advised to be given to child first after born in your area? Why ?	
What food is not recommended for age less than 2 years in tour area? Why?	
Is feeding the child with colostrums recommended in your area? If no Why?	
Is feeding breast at public recommended I your area? If no, Why?	
Did you hear from your community, saying breast feeding affect mothers health or beauty	
Does your husband help you to feed tour child appropriately? Is there anything he advice no to do regarding appropriate child feeding?	
Motivating child to eat	
If your child stops eating, and you think she is still hungry or did not eat enough, what do you do? □ How do you motivate her/him to eat? □ What could you do so that the child has someone to help her/him at every meal?	
If child is sick	
If your child is ill, how do you feed your child differently? How do you feed the child? □ What special foods do you feed your child when she/he is ill?	
Strengthening capacity of the mother for optimal breastfeeding practices	
What sort of information regarding child feeding may be helpful for the mother? Who would be the appropriate person to provide the information on breastfeeding?	
What help/support is needed by mother to follow appropriate breastfeeding practices?	

Appendix IV. Participant Information Sheet Afan Oromo Version

Foormii Hayyamaa

Akkam jirtu, ani maqaan koo ----------. Ani miiltoo barataa digrii lammaffaa Unvarsiitii Jimmaa kanta'e obboo Sulxaan Ibraahimiti. Kaayyon qorannoo kanaa wantoota sirna nyaata daa'immani irratti dhiibba qaban Aanaa Bachoo keessatti gaggeefamaa jiran adda baasuuf.Qorannoo kana irratti hirmaachuun keessaniin bu'aa argamuuf gumaachu olanaa qaba. Maqaan keessan kan hin katabamnee fi yaadni isin asirratti kennitan kammiyyuu maqaa keessan waliin hidhata tokkollee hin qabu.Yaadni isin kennitan hundi iccitiin isaa kan eeggameedha. Hirmaannan keessan fedhii irratti kan hundaa'eefi gaaffii yaada itti kennuu hin barbaanneirratt dirqisiifamuu hin qabdu.Miirri gaariin yoo isinitti dhaga'amuu baatee yeroo kammiiyyuu hirmaannaa keessan addaankutuuf mirga guutuu qabdu. Gaaffii Koo itti fufuu danda'aa?

Waraqaan kun haadhota daa'ima waggaa lamaa gadi qaban qorannicha irratti hirmaataniif hubannoo uumuuf kan qophaa'ee dha.

Mata duree qorannoo: Gochoota sirna nyaata daa'imaaniin walqabatee haadholiin daa'imman jia'a 0-23 qaban gochaa jiran adda baasuu fi wantoota gochoota kanaan walqabatani Aanaa Bacho, Jiddu gala Itoophiyaa keessa jiran adda baasuuf.
Maqaa Nama qorannoo gaggeessuu : Sulxaan Ibraahim

Maqaa dhaabbataa:Unvarsiitii Jimmaa Damee Kolleejjii Saayinsii Fayyaa hawaasaa fi saayinsi meedikaalaa .

Seensa Waraqaan hubannoo kun kan qoophaayeef qorannoo kana irratti akka hirmaattaniif odeeffannoo gahaa ta'e isiniif kennuuf. Qorannoo kanarratti osoo hin hirmaatin dura Sirritti qalbeefachuun waan isiniif hin galle gaafadhaa.Erga qorannoo kana irratti hirmaachuu jalqabdanis gaaaffii kamiyyuu gaafachuu ni dandeessu.

kaayyoo Qorannoo Kaayyon qorannoo kanaa inni ijoon digrii lammaffaa fayyaa hawaasatiin unvarsiitii Jimmaa irraa ittin eebbifamuuf .Mata dureen qorannoo kanaa Gochoota sirna nyaata daa'imaaniin walqabatee haadholiin daa'imman jia'a 0-23 qaban gochaa jiran adda baasuu fi wantoota gochoota kanaan walqabatani Aanaa Bacho, Jiddu gala Itoophiyaa keessa jiran adda baasuuf. Qorannoon kun wantoota sirna nyaata daa'immani irratti dhiibbaa qaban adda baasuu keessatti qooda olaanaa qaba.Wantoota kana adda baasuun tarkaanifii barbaachisa ta'e fudhachuuf baay'isee gargaara.

Adeemsa Dhimmichi wantoota sirna nyaata daa'immanii irratti dhiibbaa qaban kanneen akka hawaas-diinagdee,aadaa fi beekumsa haadhotaa kkf aanaa Bacho keessatti raawwataman qorachuuf. Qorannoo irratti akka hirmaattan afeeramtaniirtu.Yoo irratti hirmaachuuf fedhii qabaattan kaayyoo qoranichaa erga hubattaniin booda foormii waliigaltee kana mallatteessitu.Namoota ragaa kana funaananitti maqaa keessan ibsuun kan hin barbaachifne ta'uufi deebiin isin kennitanii fi bu'aan qoranichaa qaama biraatti kan hin ibsamneef iccitiin isaa guutumaan guututti kan eeggamee dha.

Miidhaa Qorannoo kanarratti hirmaachuu keessanin itti gammaduu dhiisuu dandeessu, keessyyuu sa'a hojii keessan daqiiqaa 30 si jalaa waan fudhannuuf.Bu'aa qorannoo kanaatiif jettee qoranicha irratti akka hirmaattu abdii qabna.Qorannoo kanarratti hirmaachuun miidhan sirra gahu tokkollee hin jiru**.**

Fayyidaa Qorannoo kanarratti hirmaachuu keetiin bu'aan ati kallattidhaan arggattu hin jiru.Garuu hirmaannan kee wantootata sirna nyaata daa'immani waggaa lamaa gadi jiran irratti dhiibbaa qaban

adda baasuuf nu gargaara.Dhumarrattis bu’aan qorannoo kanaa wantoota sirna nyaata daa’immanii irratti dhiibbaa qaban irratti hubannoo hawaasaf kennuufi tarkaanfii barbaachisa ta’e fudhachuuf gargaara.

Iccitii eeguu: Infoormeeshiniin qorannoo kana irraa funaaname maqaa nama qorannicha irratti hirmaatetiin osoo hin taane koodiin itti kennemee faayila keessa kan taa’u ta’a. Dabalataan bu’aan qorannichaa qaama qorannoo gaggeessun alatti nama birootti dabarfamee kan hin kennamneedha.

Mirga diduu/addaan kutuu: Qoranno kana irratti hirmaachuu diduuf mirga guutuu qabdu.Gaaffiwwan yaadaa kee irratti kennuu hin barbaanne keessaa filattee diduu mirga qabda.Yeroo barbaaddetti hirmaannaa kee addaan kuttee deemuuf mirga guutuu qabda.Rakkoon kamiiyyu yoo si mudate teessoo armaan gaditiin nu qunnamuu ni dandeessa:

Qorannoo kan gaggeessu : sulxaan Ibraahim Mob 0911829252

E mail sultebro@gmail.com

Qornnoo irratti hirmaachuuf fedhii qabdaa?

Eeyyee yoo ta’e ,foormii walii galtee mallateessi.

Yoo fedhii qabaachuu baatte,asumatti dhaabi.

Walii galtee hirmaattotaa

Ani kanin asii gaditti mallateesse kaayyoo qorannichaa hubadheera.Odeeffannon asii oltti argadheen fedhii kootiin qoronnoo kana irratti hirmaachuuf murteessera.

_____ _____

Mallatto hirmaattotaa Guyyaa

_____ _____ _____

Maqaa nama daataa funaanuu Mallattoo Guyyaa

_____ _____ _____

Maqaa to’ataa/suuparvaayizaraa Mallattoo Guyya

Appendix V. Questionnaire with Afan Oromo version

Koodii Gaaffichaa---------- Teessoo: Ganda---------- Lakk.manaa ----------

Qajeelfama: Gaaffiiwwan filannoo qabaniif deebii kennanamanitti mari, kanneen hirmaattotaan ibsaman bakkee duwwaa jirurratti guuti.

S.N	Gaaffiiwwan	Deebii
	Kutaa I: Amma haala waligala kee ilaalchisee gaafii tokko tokko si gaafadhNow I would like to ask you some questions about your background.	
101	Bakka jireenyaa	2. Baadiyyaa 2. Magaalaa
102	Umriin kee meeqa?	_____
103	Haalli fuudhaf heeruma kee akkami?	1, Heerumte 2, Hin heerumne 3, Walhiikan 4, Abbaan warraa kan du'e
104	Subummaan kee maal?	1,Oromo 2, Gurage 3,Amara 4,Kan biroo_____
105	Amantaan kee maali?	1, Muslima 2, Ortodoksi 3,Pirotestaanti 4, Kan biroo
106	Sadarkaa barumsa kee kam keessatti ramadama?	1, Barreessuf dubbisuu kan danda'u 2, Barreessuf dubbisuu kan hin dandenye 3, 1-4 4, 5-8 5, 9-10 6, 11-12 7,Kolleji fi sanaa ol
107	Sadarkaa barumsa abbaa mucaa kam keessatti ramadama?	1, Barreessuf dubbisuu kan danda'u 2, Barreessuf dubbisuu kan hin dandenye 3, 1-4 4, 5-8 5, 9-10 6, 11-12 7,Kolleji fi sanaa ol
108	Hojiin kee maali?	1, Qonna 2, Hojji mootummaa 3, Daldala 4, Hojii dhuunfaa 5,Hojii guyyaa 6, Haadha manaa 7.Kan biro_____
	Kutaa II: Amma maati keessan ilaalchisee gaafi tokko tokko si gaafadhaa	
201	Maati keessan keessa eenyu fa'atu si wajjiin jiraata?	5. Abbaa warraa fi daa'imman qofa 6. Haadha fi abbaa kee ykn kan abbaa manaa kee 7. Fira biroo
202	Fira isin bira jiraatu dabalatee ,Walumagalatti maatiin keessan meeqa?	_____
	Kutaa III: Amma haala ulfaa fi da'umsaa akkasumas daa'imman keetii gaafi tokkpo tokko si gaafadha.	
301	Daa'imman lubbuun dhalatan meeqa deesse?	_____
302	Amma ijoollee meeqa qabda (kan ati deesse qofa)?	_____
303	Daa'imni kun meeqaffaa dha?	_____
304	Daa'ima kana duraa erga deessee waggaa meeqa booda inni dhumaa kun dhalate?	waggaa_____
305	Umriin daa'ima kanaa meeqa?(ji'aan kaa'i)	Ji'a_____
306	Saalli daa'ima kanaa maali	1, Dhiira 2,Dhalaa

307	Yeroo daa'ima kana garatti baattu hordofii tajaajila da'umsa duraatiif gara dhaabbilee fayyaa deemte beeytaa?	1, Eeyyen 2. Lakki
308	Deebiin lakkoofsa 307 eeyyen yoota'e, yeroo meeqaaf ?	Yeroo _____ Hin yaadadhu_____
309	Daa'ima kana eessatti deesse?	1, Manatti 2, keellaa fayyaatti 3, Buufata fayyaatti ykn Hospitaalatti
310	Eenyutu si deessise?	1.Ogeessa fayyaa 2.Hojjattuu ekistenshini fayyaa 3.Deessiftu aadaa leenji fudhatte 4.Deessiftu aadaa leenji hin qabne 5. Fira/hiriyaa/olla 6.kan biraa (ibsi)_____
311	Haalli dahumsa keetii akkam ture ?	1, Karaa qaama walhoormat saala 2, Garaa baqaqsuudhaan/Opreeshinii/
312	Erga daa'ima kana deesse booda gara dhaabbata fayyaa deenuudhaan hordoffii da'umsa boodaa goote beeytaa?	1, Eeyyen 2,Lakki
313	Yeroo ulfaa taatee ykn erga deessee booda sirna nyaata daa'immanii irratti gorsa argattee beeytaa?	1, Eeyyen 2. Lakki
314	Gaaffiin 313 eeyyen yoo ta'e, gorsa kana eenyu irraa argatte? (Deebii hunda irra mari)	1, Mas mediya irraa 2, Haadha ishe/Haadha abbaa manaa irraa 3, Abbaa manaa irraa 4, Ogeessa Fayyaa irraa 5, Hojjatoota ekistenshini fayyaa irraa 6, Hojjataatoota fedhii fayyaa hawaasaa irraa 7, Miseens maatii biroo irraa 8,Hiriyaa irraa 9,kan biroo ibsi_____
315	Gorsa kana ogeessa fayyaa/Hoj.EF irraa argattee jirta yoo ta'e , yeroo kami? (Deebii hunda irra mari)	1. Yeroo hordoffii tajaajila da'umsa duraa 2. Yeroo da'umsaa 3. Yeroo hordoffii tajaajila da'umsa boodaa 4. Yeeroo tajaajila talaalli 5. Yeroo hordoffii tajaajila guddina daa'immani 6. yeroo biroo (ibsi)…….
	Kutaa IV: Ammaa haala harma hoosisuu fi nyaata daa'ima kanaa ilaalchisee gaafiwwan tokko tokko sigaafadha.	
401	Daa'ima kana harma hoosifte beeytaa?	1. Eeyyen 2.Lakki
402	Gaafin 401 lakki yoota'e , maaliif?	1, Harmi aannan hin qabu 2, Haati waan dhukkubsatteef 3, Daa;imni waan dhukkubsateef 4, Harmi haadha waan dhukkubsateef 5,Hin ibsine 6, Kan biraa (ibsi)_____
403	Daa'imni inni dhumaa kun dhalatee yeroo meeqa keessatti harma hoosifte?	1, Battalumatti 2, Sa'aati _____tti 3, Guyyaa_____tti 4,Hin yaadadhu 5,kan biroo (ibsi)_____

404	Deeesse guyyaa sadeen jalqabaa keessatti oso aannan harma sirritti bu'uu hin jalqabin dura, annan duraa ykn silga hoosiftee jirtaa?	4. Eeyyen 5. Lakki 6. Hin Yaadadhu
405	Deebiin gaafii 404 lakki yoo ta'e maaliif	_____
406	Deebiin gaafii 404 lakki yoo ta'e ,yeroo sanatti daa'imaaf maal laataa turte?	_____
407	Hanga ammaatti harma hoosisaa jirtaa?	1, Eeyyen 2, Lakki
408	Deebin gafi 407 eeyye too ta'e,Yeroo baay'ee daa'ima harma kan hoosiftu yeroo akamiti?	1, Yeroo daa'imni barbaadu 2, Yeroo daa'imni booyu 3, Sagantaadhaan 4, Yeroo aannan harma guututti 5,Yeroo biraa(ibsi)_____
409	Deebin Gafi 407 eeyye too ta'e ,Sa'aatii 24 (halkan fi guyyaa) keessatti yeroo meeqaaf hoosifta?	Yeroo_____
410	Deebiin gaafii 407 lakki yoo ta'e? sababni kee maali? (Deebii hunda irra mari)	12. Rakkina fayyaa daa'imaa 13. Rakkina faayaa haadhaa 14. Rakkina fayyaa harma haadhaa 15. Daa'imni waan dideef 16. Harmi aannan ga'aa waan hin qabneef 17. Waan ulfoofteef 18. Hiriyaan hin hoosisin waan jetteef 19. Midhaagina qaamaa hir'isa jedhanii waan sodaataniif 20. Gara hojiitti waan deebiteef 21. Hin ibsine 11,Kan biroo_____
411	Daa'ima kanaaf harmoo ykn xuuxxoodhaan nyaata/aannan kenniteefi beeytaa?	1. Eeyyen 2. Lakki 3. Hinyaadadhu
412	Daa'imni dhukkubsatee yoo turte,yero sanatti qoricha akamiittu kennameef	1, Kan mana yaalaa 2, kan aadaa (ibsi)_____
	Gaafin 413- 416 Haadha daa'ima **ji'a 6 gadi qofaaf** (haadha daa'iama ji'a jahaa oliitiif gara gaafii 417 deemi)	
413	Daa'imni kun yeroo dhalatee jalqabee hanga ammaatti maal fa'atu laatameef? (Qoricha ykn ORS hin dabalatu) (Deebii hunda irra mari)	1, Aannan harmaa qofa 2, Bishaan 3, Shaayi 3, Annan sa'aa 4, Annan daaku daa'imaaf qophaa'e 5, Dhadhaa 6, muuqii 7, Jusii 8, Nyaata maatii/kan nama guddaaf qophaaye irraa 9,Kan biroo/ibsi_____
414	Gaafi 413 iraati aanaan harmaatiin ala wanni biraa laatamefi jira yoo ta'e, umri meeqaatti laatameef?	1.Saa'aati_____ 2.Guyyaa_____ 3.Jia'a _____ 4.Hin yaadadhu
415	Gaafi 413 iraati aanaan harmaatiin ala wanni biraa laatamefi jira yoo ta'e maaliif laachuun barbaachise?	Sababa ibsi _____

416	Gaafi 413 iraati daa'imni harma haadhaa qofa hodha yoo ta'e, maaliif dabalataan wanni biraa laatamuufi baate?	Sababa ibsi _____			
	Gaafi 417-421 Haadha daa'imman **umri ji'a 6-23** qofaaf				
417	Daa'imni kun dhalatee hamma umriin isaa ji'a jaha qaqabutti maal fa'a soorataa ture? (deebii hunda irra mari)	1, Aannan harmaa qofa 2, Bishaan 3, Shayi 3, Annan sa'aa 4, Annan daaku daa'imaaf qophaa'e 5, Dhadhaa 6, muuqii 7, Jusii 8, Nyaata maatii/kan nama guddaaf qophaaye irraa 9,Kan biroo/ibsi_____			
418	Da'imi kun umri ji'a/guyyaa meeqaaf aannaan harmaa qofa soorataa ture?	1.Saa'aati_____ 2.Guyyaa_____ 3.Jia'a _____ 4.Hin yaadadhu			
419	Yeroo ammaa daa'ima kanaaf aannan harmaan alatti nyaata dabalataa daakame bulbulame ykn jajjaboo kennuufi jalqabde jirtaa?	1. Eeyyen 2. Lakki			
420	Gaaffiin 418 eeyyen yoo ta'e , nyaata akkasi kana dabalataan laachuufi kan jalqabde daa'imichi umri ji'a meeqaa ta'eeti?	1, Ji'a_____ 2, Hin yaadadhu_____			
421	Gaaffiin 418 eeyyen yoo ta'e daa'ima kanaaf sa'aatii 24 darban (halkani fi guyyaa) keessatti yeroo meeqa nyaanni daakame bulbulame ykn jajjaboon kennameef?	1, Hin nyaanne 2,yero tokko 3,yeroo lama 4, yero sadi 5,yero afuri fi sana ol 5,Hin yaadadhu			
422	Amma nyaata daa'imni kee kaleessa guyyaa fi halkan sa'aati 24 keessatti soorate (manattis haata'uu bakka biraati) akkasumas torbaan darebe keessa soorate tokko tokkoon naaf ibsita.	Gosa nyaataa	Kaleessa guyyaa fi halkan (sa'aati 24 keessatti)		Guyyaa 7 darban keessa
			Eyyen	Lakki	Guyyaa meeqaf soorate?
		Daa'imichi nyaata midhaan adda addaa kan akka misira ,qamaddii garbuu,bisinga,ruzi xaafii , boqolo, qoocco ykn dinnicha irra qopha'e (marqa, bullaa ,daabboo,biskuti fi kkf) nyatee jira?			
		Daa'imichi sooratoota akka baaqelaa, ataaraa, gwwaayyaa, loozii, saliixii, ykn shumburaa nyaateeraa?			

		Daa'imichi aannan ykn wantoota aannan irraa qophaawwaan kan akka (aannan daakuu,aannan sa'aa, itittuu, ykn aybee) fayyadameeraa?			
		Daa'imichi nyaata fooni (foon sangaa, llukuu, , re'ee, gogorrii, daakiyyee kkf fi foon qaama keessaa kanneen akka tiruu, kalee, onne,fi kkf nyaateeraa?			
		Daa'imichi nyaata hanqaaguu irra qophaa'an nyaateeraa?			
		Kudura fi mudura vitamin-A qaban kan akka burtukaaana,karootii paapaayya ,mango fi kkf nyaateeraa?(Jusi dhugeeraa)			
		Nyaata Kuduraa fi muduraa kanneen biro kan akka timaatimaa,shinkurtaa,abukaadoo,loomi, muuzii,goommana,gishtaa of keessa qabu nyaateeraa?			

	Kutaa V: Amma Barmaatilee hawaasaan walqabatee gaafiwwan tokko tokko sigaafadha	
501	Naannoo keessanitti bakka namni walga'ee jiru kanneen akka mana yaalaatti,iddoo cidhaatti, iddoo warra du'aatti harma hoosisun safu qabaa?	1.Eeyyen 2. Lakki
502	Naannoo keessanitti daa'imni jalqaba akka dhalateen maaltu kennamuufi qaba jedhama?	_____
503	Naannoo keessanitti aannan duraa ykn silgi harma haadha daa'imaaf gaari miti jedhamaa	1.Eeyyen 2. Lakki 3,Hin beeku
504	Naanno keessanitti nyaata akkamiittu daa'ima waggaa lamaa gadiitiif kennamuu hin qabu jedhama?	Gosa nyaataa_____
505	Deebi gaafi 505 irratti nyaanni dhoowwame yoo jiraate ,maaliif?	Sababa_____
	Kutaa VI: Gaaffiiwwan beekkumsa haati nyaata daa'imaa irratti qabduu	
601	Daa'imni dhalatee yeroo meeqa keessatti harma hodhuu qaba ?	1, Sa'aatii____ 2, Guyyaa____ 3. Hin beeku
602	Annan duraa ykn silga harma haadhaa daa'imaa hoosisuun fayyaa daa'imaaf ni gargaaraa?	1.Eeyyen 2. Lakki 3. Hin beeku
603	Daa'immaniif aannan harma haadhaa qofti hanga ji'a/waggaa meeqaatti gahaadha?	1,Ji'a_____ 2, Wagga_____ 3,Hin beeku_____
604	Daa'imni tokko hanga ji'a/waggaa meeqaatti harma haadhaa hodhuu qaba?	1, Ji'a____ 2,Wagga_____ 3,Hin beeku
605	Daa'imni yeroo kam harma hodhuu qaba?	1.Yeroo barbaadetti 2. Sagantaadhaan

		3.Yeroo boo'e qofa 4.Hin beeku
606	Yeroo harma hoosisuu dhaabuu barbaadde haala kamii ta'uu qaba?	1, Yero tokkoon 2, Suuta suutaan 3, Hinbeeku
607	Qorichi haati fudhattu karaa aannan harmaattin gara daa'imaatti darbuu danda'aa?	1.Eeyyen 2. Lakki 3. Hin beeku
608	Daa'ima harma hoosisuun dhibee garaa kaasaa irraa ni ittisaa ?	1.Eeyyen 2. Lakki 3. Hin beeku
609	Annan harma haadhaa qabiyyee nyaataa daa'imaaf barbaachisu hunda of keessaa qabaa ?	1.Eeyyen 2. Lakki 3. Hin beeku
610	Harma hoosisuun ulfa ittisuudhaaf ni gargaaraa?	1.Eeyyen 2. Lakki 3. Hin beeku
611	Harma hoosisuun hariiroo haadha fi daa'ima jidduu jiru cimsuu danda'aa?	1.Eeyyen 2. Lakki 3. Hin beeku
612	Umri ji' meeqaatti daa'imaaf nyaata bulbulamaa ykn jajjaboo dabalataan kunnuun barbaachisa ?	Ji'a_____
613	Nyaata madaalama (annan harmaa fi nyaata dabalataa) da'imaaf kennuun maaliif fayyda? (Deebi hunda irra mari)	1,Guddina qaamaa daa'imaniif 2,Guddina sammu da''imanniif 3,Dhibee adda addaa irraa ni ittisa 4,Hin beeku
614	*Daa'ima waggaa lamaa gaditiif nyaanni akka marqaa, bullaa ,daabboo,biskuti fi kkf guyyaa hunda ni barbaachisaa?*	1, Eeyyen 2. Lakki 3. Hin beeku
615	*Daa'imni waggaa lamaa* gadi sooratoota akka , baaqelaa, ataaraa, guwaayyaa, loozii, saliixii, ykn shumburaa irraa hojjataman *guyyaa hunda* nyaachuu qabaa?	1, Eeyyen 2. Lakki 3. Hin beeku
616	*Daa'imni waggaa lamaa* aannan ykn wantoota aannan irraa qophaawwaan *guyyaa hunda* nyaachuu qabaa	1, Eeyyen 2. Lakki 3. Hin beeku
617	*Daa'imni waggaa lamaa gadi* nyaata fooni irraa hojjatame *guyyaa hunda* nyaachuu qabaa?	1, Eeyyen 2. Lakki 3. Hin beeku
618	*Daa'imni waggaa lamaa gadi* nyaata hanqaaguu irrafophaa'an *guyyaa hunda* nyaachuu qaba jedhama?	1, Eeyyen 2. Lakki 3. Hin beeku
619	*Daa'imni waggaa lamaa* gadi Kudura fi mudura adda addaa ykn kuduraa fi muduraa irraa hojjatame *guyyaa hunda* nyaachuu qabaa?	1, Eeyyen 2. Lakki 3. Hin beeku
620	Daa'imni waggaa lamaa gadi guyyatti(sa'aati 24 keessatti) yoo xiqaate yeroo meeqa soorachuu qaba?	1,Yeroo_____ 2,Hin beeku
	Kutaa VII: Gaffiiwwan Qabeenya waligalaa	

701	Walaliin manaa maaliin hojjatame?		1, lafa duwwaa 2,Dhoqqon kan laqalaqame 3,siminto 4,Afata/minxaafi 5,kan bira(ibsi)		
702	Xaaraan manaa maal irraa hojjatame?		1, Citaa/maarga 2,Muka 3,Qorqoorroo 4,Bilokeeti 5, kan bira(ibsi)		
703	Girgiddaan manaa maal irraa hojjatame?		1, Shanbaqo /qarkaa 2, Mukaa fi dhoqqee 3, Dhakaa fi dhoqqee 4, Bilookeeti		
704	Miseensa maati kanaa keessa namni wantoota geejibaaf gargaaran kanneen qabu jira?		1,Saaykili 2, Motora 3, Gaari fardaa 4, Makina		
705	Maatiin keessan walumagalatti lafa qonnaa hektaara meeqa qaba?		Hektar_____		
706	Beelladoota kanneen maatiin keessan **meeqa qaba?**		1,Sa'a/sangaa_____ 2,Farda/Harree/Gaange_____ 3,Re'ee/hoolaa_____ 4, Handaaqqoo_____		
707	Maatiin keessan nyaata qopheessuf yeroo baay'ee maalitti fayyadamu?		1,Elektiriki 2, Gaazii 3,Kasala 4, Kuboota 5,Bayogasii 6,kan biro(ibsi)__		
708	Bishaan dhugaatii eessaa argattan?		1,Boonbaa 2,kan boollaa 3,Burqaa 4,Bishaan lagaa 5,kan roobaa		
709	Mana fincaani gosa akkami qabdan?		1,kan bishaaniin deemu 2,Boollaa gogaa (pit) 3,Hin qabnu		
710	Kutaa tokko keessa nama meeqa taatanii ciiftu/raftu?		_____		
		1,eeyyen 2,lakki			1,eeyyen 2,lakki
711	Kushiinaa kophatti qabdu?	1,eeyyen 2,lakki	720	Silki qabdu (kan manaa ykn mobayili)	1,eeyyen 2,lakki
712	Maabraatii qabdu?	1,eeyyen 2,lakki	721	Firiijii qabdu?	1,eeyyen 2,lakki
713	Jenireetara qabdu?	1,eeyyen 2,lakki	722	Maashini uffata miicu qabdu?	1,eeyyen 2,lakki
714	Faanosa qabdu?	1,eeyyen 2,lakki	723	Minjaala qabdu?	1,eeyyen 2,lakki
715	Raadiyoonii qabdu?	1,eeyyen 2,lakki	724	Teesso (chair) qabdu?	1,eeyyen 2,lakki
716	Sa'aatii qabduu manaa qabdu?	1,eeyyen 2,lakki	725	Algaa firaasha ispoonji fi tiraasi ispoonji qabdu?	1,eeyyen 2,lakki
717	Televishiinii qabdu?	1,eeyyen 2,lakki	726	Lakkoofsa herrega Banki qabdu?	1,eeyyen 2,lakki
718	Teeppii/CD player, /DVD qabdu?	1,eeyyen 2,lakki	727	Isin biratti namni qacaramee hojjatu jiraa?	1,eeyyen 2,lakki
719	Kompiitara qabdu	1,eeyyen 2,lakki			

Xumureera waan hirmaattaniif galatoomaa!!!

Appendix VI. In-depth interview Questionnaire Afan Oromo version

GAAFFII ITTI GAAFATAMAA BUUFATA FAYYAATIIF

Ogummaa_____ Gahee hojii_____

1. Hanqinni nyaata daa'imana rakkina fayyaa naannoo keessan irratti mul'atu keessaa isa tokko jettee yaadaa? 1. Eeyyen 2. Lakki
2. Ogeessotni fayyaa fi HEF naannoo kana irratti hojjatan leenjii argatani beekuu?
   Eeyyen yoo ta'e, lakkoofsaan meeqa? Dhiira ---------- Dhalaa ----------
3. Buufanni fayyaa keessan nyaata daa'immani irratti haadholiif gorsa kennaa jiraa?

   Eyyen yoo ta'e haala kamiin? Lakki yoo ta'e maaliif?

4. Sirna nyaata daa'immani fooyyessuudhaaf naannoo keessanitti maaltu hojjatamaa jira?
   - Nyaata daa'immani jajjabeessuun walqabatee (Promotive)
   - Gargaarsa adda adaa kennuun walqabatee (Supportive care)
   - Yaalii daa'imman hanqina nyaataan miidhamaniin walqabatee (Curative care)
5. Buufanni fayyaa keessan dhaabbata NGO sirna nyaataa irratti hojjatu waliin walitti dhufeenya qabaa? 1.Eeyyen 2.Lakki
   Eyyen yoo ta'e malirratti waliin hojjattu hojjatu?
   Haala kamiin gargaarsa isiniif godhu?

6. Sektaroota mootummaa keessaa kan sirna nyaata daa'immani irratti hamma ammaatti isin wajjiin hojjataa jiru jiraa?
   Eyyen yoo ta'e sektara kami? Malirraatti?
   Lakki yoo ta'e sektara kamtu malirratti hojjachuu qaba jettee yaadda?
7. Sirna nyaataa daa'immanii fooyyessuuf hojiin hojjattamu hamma barbaadame akka hin hin milkoofneef wanti hudhaa guddaa isinitti ta'e maali?
   - Karaa ummataa irraa
   - Karaa haadholiitiin
   - Karaa namoota tajaajila kana kennaniitiin
   - Akka biifata fayyaatti
8. Hojii sirna nyaata daa'immani fooyyessuu keessatti dhiheessi adda addaatiin walqabatee rakkoon isin qunname jiraa? (human namaa, meeshaalee IEC/BCC fi kkf and)

   Rakkinni yoo jiraate haala kamiin hiikuuf yaaltan?
9. Daa'mti haala qajeelfama WHO tiin soorata akka argattuuf naannoo keessanitti maaltu hojjatamu qaba jettee yaadda? ----------

Maqaa gaaffataa _____ Mallattoo _____
Guyyaa _____

GAAFFIIWWAN OGEESSOTA FAYYAA FI HOJJATOOTA EKISTENSHINI FAYYAATIIF

Ogummaa_____ Gahee hojii_____

1. Sirna nyaata daa'immani irratti leenjii argattee beeytaa? 1. Eeyyen 2. Lakki
   - Eyyen yoo ta'e yoom? ----------
   - Guyyaa meeqaaf ? ----------
2. Sirna nyaata daa'immani ganda keessani fooyyessuudhaaf wanti hojjataa jirtu jiraa?
   - Jira yoo ta'e maal hojjataa jirta?
3. Sababni haadholiin daa'imman isaaniitiif haala qajeelfamaatiin harma haadhaa fi soorata dabalataa kennuufi dhiisaniif maal sitti fakkaata?
   - Harma hoosisuun walqabatee
   - Nyata dabalataan walqabatee
4. Haadholiidhaaf yeroo hordoffii ulfaa , talaallii daa'immani fi yero hordiffii guddina daa'immani gorsa nyaata daa'immani irratti ni kennituufi? 1. Eeyyen 2.Lakki
   - Lakki yoo ta'e maaliif? ----------
5. Deebiin gaafii lak.4 eeyyen yoo ta'e sirna nyaata daa'immani irratti jijjiiramni isin finne jettanii yaaddan jiraa?Maal?
6. Sirna nyaata daa'immani kana fooyyessuudhaaf maaltu yoo ta'e nu gargaaruu danda'a jettanii yaaddan?.....
7. Sirni nyaata daa'immani akka hin fooyyofneef hudhaa kan isinitti ta'e maali jettee yaadda?
   ----
8. Hojii kana galmaan ga'uu keessatti akka rakkina guddaatti wanti ati kaaftu maali?

_____

8. Daa'mti haala qajeelfama WHO tiin soorata akka argattuuf naannoo keessanitti maaltu hojjatamu qaba jettee yaadda? ----------

_____

Maqaa gaaffataa _____ Mallattoo _____

Guyyaa _____

GAAFFII HAADHOLI DAA'IMA UMRI JI'A 0-23 QABANIIF

Maqaa Gandaa: _____

	Haala Waligalaa	
9	Haala waligala haadhaa fi daa'imaa	7. Baay'ina daa'immani_____ 8. Saala daa'ima kanaa ____ 9. Umrii daa'ima kanaa(ji'aan)_____ 10. Umrii haadhaa_____ 11. Sadarkaa barumsa haadhaa_____ 12. Hojii haadhaa_____
	Beekumsa haati nyaata daa'immani irratti qabdu	
	Daa'imni dhalatee yeroo meeqa keessatti harma hodhuu qaba? Maaliif?	
	Daa'imni akka dhalateen oso harma hin hodhin dura wanti kennamuufi qaba jettee yaaddu jiraa? Maaliif ?	
	Daa'imni dhalatee hamma umri meeqaatti aannan harma haadhaa qofa soorachuu qaba? Maaliif?	
	Nyaanni dabalataa (jajjaboon) daa'imaaf umri meeqatti kennamuufi qaba? Maaliif? Haadhota da'imni umrii ji'a jahaa irratti nyaata jajjaboo nyaachuu qaba jedhaniin maal jetta?	
	Nyaanni dabalataa daa'imnii gosa nyaataa kan akkami of keessaa qabaachuu qaba? Maaliif?	
	Nyaanni olitti ibsitan kun daa'imaaf yero meeqatti kennamuu qaba? Maaliif?	
	Harma hoosisuun faaydaa maali qabaa? Daa'imaaf? Haadhaaf ?	
	Nyaata ga'aa daa'imaaf lachuun faaydaa maali qaba?	
	Gochaa haadhaa nyaata daa'immani irratti (Child feeding practices)	
	Harma hoosisuu	
	Daa'imni kun dhalatee yeroo hammamitti harma hoosifte? Ture jira yoo ta'e maaliif? Yeroodhaan yoo ta'e gorsa kana eessaa argatte?	
	Harma hoosisuu jalqabsiiisuu ykn itti fufiinsaan hoosisuu irratti rakkinni si qunname jiraa? Yoo jiraate maali? Akka furmaataatti maal goote?	
	Daa'imni kun erga dhalatee jalqabee aannan harma haadhaatiin alatti wanta biraa sooratee jiraa? Eeyyen yoo ta'e, Maal soorate ? Maaliif??	
	Yeroo jalqabaaf daa'ima kanaaf akka dhugu ykn nyaaatu	

maaltu kennamef?	
Soorata kana yeroo jalqabaaf laachuu maaliif filattee ?	
Yeroo jalqaba soorata kana kennituuf daa'imni kun umri meeqa ture? Gorsa kana eessaa argatte?	
Harmi kee aannan ga'a qaba jettee yaaddaa? Lakki yoo ta'e srreeffama maal fudhattee? Harma hoosisuu irratti gorsa argattee beeytaa? Eeyyen yoo ya'e eeynutu si gorse? Maal si gorsan?	
Haala nyaata ykn harma hoosisuu walqabatuu daa'ima kanaaaf warreen isa dura jiran irra wanti jijjiirame jiraa? Eeyyen yoo ta'u, maaltu jijjiirame? Maaliif?	
(Yoo daa'imichi ji'a jaha dura aannan harma haadhaan ala soorata qofa gaafadhu) Hamma ji'a 6tti daa'ima harma haadhaa qofa hoosisuun daa'imichi akka hin dhukkubsannee fi haala gaariin akka guddatuuf kan gargaaru ta'uu akkasumas ji'a 6 dura daa'imaaf nyaat harma haadhaan ala kennuun dhibee akka garaa kaasaatiif kan saaxilu ta'uu osoo bartee gochaa kee kana ni jijjiirtaa? Jijjirama kana akka gootuuf wanti si dirqamsiisu jiraa? Jijjirama kan fiduuf maaltu siif guuttamu qaba?	
Nyaata dabalataa daa'immanii (complementary feeding practice ,6-23)	
Daa'omaaf nyaata jajjaboo ykn kan bulbulame yeroon laachuu	
Daa'ima kanaaf nyaata dhangala'oo moo jajjaboo ykn kan bilbulame laattaafi jirta?	
Nyaata jajjaboo ykn kan bulbulame kennuu fi jalqabde jirta yoo ta'e daa'imichi umri ji'a meeqaa ta'ee kennuufi jalqabde? Maaliif? Gorsa kana eessaa argatte?	
(Daa'imichi nyaata jajjabo ykn bulbulamaa kan hin jalqabin ykn yoo ta'e qofa gaafadhu) Daa'imaaf ji'a 6 irraa jalqabee nyaata jajjaboo ykn kan bulbulame kennuufiin daa'imicha akka fayya qabeessa ta'uu fi haala gaariin akka guddatu kan godhu ta'uu osoo bartee nyaata kana ni laattaafi? Jijjirama kana akka gootuuf wanti si dirqamsiisu jiraa? Jijjirama kan fiduuf maaltu siif guuttamu qaba?	
Daa'imaaf nyaata si'a barbaachisu kennuu(recommended daily frequency)	
Guyyatti daa'ima kanaaf nyaata si'a meeqa laattaaf? Osoo ogeeyyonni fayyaa daa'ima keetiif guyyaatti si'a amma laachaafi jirtu kana irra dabalataan akka laattuuf si gorsani laachuufi dandeessaa? Lakki yoo ta'e maaliif?	

Daa’imaaf nyaata gosa adda adda kennuu	
Daa’ima keetiif nyaata akka foonii,aannanii fi wantoota aannan irraa hojjataman , hanqaaquu akkasumas kuduraa fi muduraa adda addaa guyyaa hunda ni kennitaafi? Lakki yoo ta’e : Nyaata gosa adda addaa kana daa’ima keetiif guyyaa hunda laachuuf maaltu siif sirrachuu qaba jettee yaadda?	
Dhiibbaa hawaasaa	
Naannoo keessaanitti daa’imni jalqaba akka dhalateen maaltu kennamufi qaba jedhama? Maaliif?	
Naannoo keessanitii daa’ima waggaa lamaa gadiitiif nyaata akkamiitti kennamufi hin qabu jedhama? Yoo jiraate, maaliif?	
Naannoo keessanitti daa’ima silga hoosusuun sirrii dha jedhamee yaadamaa? Lakki yoo ta’e maaliif?	
Naannoo keessanitti daa’ima bakka namni walgahetti harma yoo hoosisan rakkoo qabaa? Eeyyen yoo ta’e maali?	
Naannoo keessanitti harma hoosisuun midhaagina hadhaa ykn fayyaa haadhaa irratti dhiibbaa maal fida jedhamee dubbatama?	
Abbaan warraa kee daa’ima harma hoosisuun ykn nyaata ga’aa akka laattuf wanni si gargaaru jiraa? Wanni si dhoowwu hoo jiraa?	
Gargaarsa gochuu fi daa’imni akka nyaata fudhatu kakaasu	
Daa’imni kee nyaata fudhachuu osoo dhiise fi garuu beela’ee jiara jettee osoo yaaddee maal goota? □ Daa’imni nyaata akka siif fudhatuuf maal goota? □ Daa’imnni yeroo hunda namni nyaata laatuuf akka jiraatuuf maal goota?	
Daa’imni yoo dhukkubsate	
Yero daa’imni dhukkubsatitti haala akkamiin soorata laattaaf? □ Nyaata addaa maal kennitaaf ?	
Gargaarsa haadholiif godhanuu qabu	
Haati nyaata daa’imaaf kennitu akka fooyyesituuf gorsa akkamiittu kennamuufi qaba jettee yaadda? Gorsi kun eenyuun yoo kenname irra gaarii dha jettee yaadda?	
Haati daa’imaniif nyaata sirrii akka kennitu fi harma yero hunda akka hoosiftuuf gargaarsa akkkamiittu godhamiifi qaba jettee yaadda?	

Maqaa gaaffataa _____ Mallattoo _____

Guyyaa _____