KNOWLEDGE, ATTITUDE, AND PRACTICE OF WOMEN TOWARDS EXCLUSIVE BREASTFEEDING AND MIXED FEEDING IN GUBALAFTO WOREDA, AMHARA REGIONAL STATE, ETHIOPIA

BY

MITIKU GELLAW MENGESHA (BSc.)

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF MASTER IN PUBLIC HEALTH

Advisor:

Dr. Solomon Shiferaw

April 2014

Abstract

Background

World health organization (WHO) and United Nations Children's fund (UNICEF) recommends breastfeeding children exclusively the first six months, and continuing breast-feeding along with complementary foods up to 2 years or beyond is important. Despite the recommendations, national exclusive breastfeeding prevalence in many countries remained very law which ranges from 30%-67% only.

This study was intended to provide relevant information for government and nongovernmental organizations' (NGOs) officials on magnitudes and gaps on breastfeeding, exclusive breastfeeding in particular. This will help for appropriate and relevant interventions.

Objective

To assess knowledge, attitude, and practices of mothers on exclusive breast-feeding and mixed feeding and indicate areas of interventions for relevant stakeholders.

Methodology

This study was designed as an institution based cross-sectional study supplemented with qualitative method. A structured and semi structured questionnaires were used for quantitative and qualitative data collection respectively.

Results

Proportion of women with good knowledge and good exclusive breastfeeding practice was 259(65.1%) and 311(78.1%) respectively. Prevalence of mixed feeding practice was 73(18.3%). In the hierarchical analysis; their spouse being educated, maternal age >35 years, married mothers, being a housewife remained significant predictors of EBF knowledge. Mothers who were formally educated and being a housewife were significant predictors of good EBF practice.

Conclusions and Recommendations

Even though mothers who visit health clinics are expected to have better knowledge status, their knowledge status regarding EBF recommendations remained very low. Their EBF practice level was still unsatisfactory. Their spouse being educated, mothers being married, being a housewife and mothers' illiteracy negatively affected their knowledge and practice status on EBF. A

support from family, health care providers, health policy makers and health project implementers is imperative to improve appropriate breastfeeding practice among breastfeeding mothers.

Acknowledgement

First and foremost my heartily felt thanks go to the Almighty God for giving me strength to accomplish this task. I would also like to acknowledge Addis Ababa University School of public health for the privilege and all supports it offered me in accomplishment of this study. My sincere gratitude goes to my advisor Dr. Solomon Shiferaw for his unreserved assistance, timely comments and relevant guidance from the beginning of the research proposal to the final report.

I would like to pass my heartfelt gratitude to Gubalafto health office, Hara health center and Sanka health center officials at each level that had consented promptly to my study.
I would also like to thank all the Data collectors who participated in the study for having been responsible and for efficiently filling the questionnaire and study subjects for their participation and willing to be involved in the interview.

I am extremely grateful to my brothers Molla and Moges for their encouragement and support starting from the beginning of my study. Lastly but not the least I would like also to pass my gratitude to my friends Hailay and Haftay for sharing of their knowledge and skills in every aspect during the process of the study.

Acronyms

ART; Anti Retro Viral Therapy

CEO; Chief Executive Officer

CDC; Center for disease control

EDHS; Ethiopian Demographic and Health Survey

EBF; Exclusive Breast Feeding

ERF; Exclusive Replacement feeding

HIV; Human Immunodeficiency Virus

AIDS: Acquired immunodeficiency syndrome

HSDP; Health Service Development Program

IYCF: Infant and young child feeding

MBF; Mixed Breast Feeding

NGO; Non Governmental Organizations

PNT; Post Natal Treatment

PMTCT; Prevention of Mother to Child Transmission of HIV/AIDS

UNICEF; United Nation Children's Fund

WHO; World Health Organization

Table of Contents

1. Introduction

1.1 Background

World health organization (WHO) and United Nations Children's fund (UNICEF) recommends breastfeeding children exclusively the first six months, and continuing breast-feeding along with complementary foods up to 2 years or beyond, if the child and the mother demands. It had been confirmed that almost all mothers can successfully breastfeed their children except for those rare with defined maternal and child medical conditions [1]. Breast milk is superior in providing all nutrients for an infant. It avoids childhood morbidity and mortality, enhances mother-child attachment and serves as an effective family planning method for the mother [2]. A child who is exclusively breastfed is 14 times less likely to die in the first six months compared to its counterpart. Breastfeeding highly reduces deaths from the two famous child killer diseases; respiratory infections and diarrhea [3]**.**

More than 9 million under five children die each year globally. Majority of these under five deaths are attributed by malnutrition, 70% of those deaths occur in the first year of life. Infant and young child feeding practice has direct impact on nutritional status and ultimately affects child survival under 2 year old children in particular. An estimated 1.30-1.45 million child deaths could have been prevented each year with improved breastfeeding practices globally. Early initiation of breastfeeding is also important in preventing neonatal deaths according a review mad by UNICE. In this report, breastfeeding within the first hour of birth could prevent 22% newborn deaths found in a research done in Ghana [2].

Exclusive breastfeeding in the context of HIV/AIDS

A study in Zimbabwie, indicated that, EBF might substantially reduce breastfeeding-associated Human Immunodeficiency Virus (HIV) transmission. In this study introduction before the age of 3 months of solid foods or animal milks to breastfeeding infants born to HIV-positive mothers was associated with a fourfold greater risk of post- natal transmission at 6 months compared with EBF. The protective effects of early EBF were still significant at 18 months post-delivery, with a 61% reduction in postnatal transmission (PNT) compared with mixed breastfeeding (MBF). This study concluded that, 'The more strictly HIV positive mothers are able to breastfeed exclusively, the lower the risks of HIV or death will be for their infants. Similarly prospective cohort study in

Uganda showed that infant mortality is six times higher in formula fed infants born to HIV infected mothers than to mortality of breast- fed infants. This study also suggested that formula-feeding might be hazardous even for HIV-infected infants, since all infants HIV infected by one month of age in the formula-feeding group died by twelve months, compared to none in the breast-feeding group [4,5].

Early cessation of breastfeeding has no significant benefit in HIV free survival to 24 months according to randomized trial of behavioral intervention study done in Zambia. Only 68.4% and 64% survived to 24 months without HIV infection in the intervention and control group respectively [6].

A cross sectional study done in 13 health institutions with anti-retro viral therapy (ART) and prevention of mother to child transmission (PMTCT) facilities in Addis Ababa, Ethiopia showed that nearly half of the study participants practice Exclusive replacement feeding while only a quarter of them practice EBF; 50%, 30-40% and 5% of HIV positive mothers used exclusive replacement feeding (ERF), EBF and practiced expressed breast milk feeding respectively. Exclusive replacement magnitude in this study is very high, which may associate with morbidities and mortalities in these study groups [7].

1.2 Statement of the problem

Despite EBF recommendations, exclusive breastfeeding prevalence in developing countries was only 39 per cent [3]. Similarly, exclusive breastfeeding prevalence in Ethiopia was very low. Post neonatal mortality and infant mortality in Ethiopia was still high which was 22 and 59 per 1000 live births respectively according EDHS report [8]. Infant mortality was associated with mothers' education and antenatal follow-up; this clearly determines mothers' knowledge and attitude in child caring practice which would in turn affect the level of infant mortality. Infant and young child feeding practice has direct impact on nutritional status and ultimately affects child survival under 2 year old children in particular [9].

Ethiopian ministry of health has widely recognized the need for breastfeeding promotion. The ministry took this initiative and planned to increase exclusively breastfeeding proportion to 70 percent by 2015 [10].

There are several reasons that affect the desire to practice exclusive breastfeeding shortly after delivery. Poor feeding, inadequate support from husband and conflicting positions from the significant others were dominant constraints in some African countries [11]. To design relevant strategies for appropriate breastfeeding promotion interventions, understanding magnitude of EBF practices and associated factors in this study area is important. I did a mixed quantitative and qualitative study on mothers' knowledge, attitude and practice towards EBF in Gubalafto woreda north wollo zone of Amhara regional state of Ethiopia.

1.3 Rationale of the study

The purpose of this study was to describe magnitudes of knowledge, attitude and practices of mothers towards EBF and identify factors that are associated with EBF knowledge, attitude and practice.

The national demographic and health survey which is conducted every five years shows the national EBF practice level. This survey lacks to show significant factors that are associated with EBF. Researches were not also available that can show magnitude of gaps and specific factors affecting breast feeding practice in this Woreda. Understanding the magnitude of mother's knowledge, attitude, and practice and associated factors to develop area appropriate intervention strategies is important. By identifying these gaps, this study will be documented and provide relevant information for Government policy makers and NGOs to develop relevant interventional strategies. This will also help health care providers to understand gaps associated with breastfeeding awareness and behavior so that they are more focused to these gaps during their breastfeeding counseling.

2. Literature review

Knowledge and Attitude

Mothers' awareness and attitude regarding proper breastfeeding recommendations is important for proper breastfeeding practices. Exclusive breastfeeding knowledge and practice is also very low in most African countries. Knowledge of mothers in exclusive breastfeeding recommendations in Kware town of Sokoto, Nigeria for example is only 54(30%) [10].12 Similarly majority of mothers in Ethiopia lacks awareness regarding proper breast feeding practices. In Jima Arjo woreda, Ethiopia, the majority of mothers (67%) had no knowledge about exclusive breastfeeding [11].

Negative attitude and bad cultural beliefs affects mothers' compliance to the recommended breastfeeding practice. A study done in Kware, Nigeria showed that nearly half (47%) of this study participants have negative attitude towards first milk (colostrums) and they do not even initiate their breast milk the first 3days [12].

Exclusive breastfeeding prevalence and mal practices

Despite WHO/UNICEF exclusive breast feeding recommendations under 6 months, many researches are showing inadequate proper breastfeeding practice in many countries. A hospital based study in Pakistan showed that out of 125 study participants 81 (64.8%) of babies are exclusively breastfed until six months of life despite the tradition and religion in Pakistan supports and advocates the benefit of breast to the infant [11].

Exclusive breastfeeding among mothers at a Sub- District Hospital in Kenya exclusive breast feeding found being very low which was 33% only [13].Mixed feeding and mal practices of child feeding the first six months were also very high in these study participants. Less than three fourth (62.6%) breastfeeding mothers initiated breast milk to their neonate within one hour of post-delivery in this study and nearly three fourth (72.2%) of this study participants gave colostrum to their infants. Traditional mal practices were also dominant in this study. Half of mothers practice mixed feeding in this study for different reasons. About half of mothers provided butter (43%) and 53.2% gave rue ("tena-addam") for stomach ache and common cold treatments respectively [14].

Ethiopian Demographic and Health survey indicated that exclusive breast-feeding in Ethiopia was not widely practiced and currently only half of children were breast fed the first six months after birth (52%), while breast-feeding for some time is widely distributed 98% [9].

Additional national studies besides the EDHS 2011 regarding breastfeeding are still showing that exclusive breastfeeding prevalence was minimal (49.0%) [4].8Nearly half of children in some districts of Ethiopia were not exclusively breast fed the first six months of age. Two studies in Bahirdar city, Ethiopia indicated that EBF prevalence was nearly half (49%, 50.3%) [15,16]. Breastfeeding prevalence in Harer city, Ethiopia was also similarly very low which was only half (51.8%) [16].17 A better breastfeeding practice was shown in Goba district, south east Ethiopia which was nearly three fourth (71.3%) [18].

Determinants of breastfeeding

There are several reasons that determine mothers Knowledge, attitude and practice regarding breastfeeding, exclusive breastfeeding in particular. These determinants are different from place to place. Studies in Pensular Malaysia indicated rural residence, ethnicity, non-working and non-smoking mothers, multiparous mothers, term infants, mothers with husbands who support breastfeeding and mothers who practice bed-sharing are positively associated with exclusive breast feeding [19].

Longitudinal cohort study in Canada province of Novia Scotia, among mothers who initiated breast feeding significant predictors of early cessation of exclusive breastfeeding was less than high school education, lowest neighborhood income quintile, single motherhood, pregnancy, obesity, smoking throughout pregnancy, no early breast contact by the infant (<1hour after birth) and no intension to breastfeed[20].

A study by Li et al that investigated why mothers stop breastfeeding in united states stated indicated that the top three reasons for mothers stopped breastfeeding within first month and between first and second month after their child's birth include, "Baby had trouble sucking and latching on" (53.7% and 27.1%, respectively), "Breast milk alone didn't satisfy my baby" (49.7% and 55.6%), and "I didn't have enough milk" (51.7% and 52.2%) [21].

Factors associated with sub-optimal infant breastfeeding and feeding practices in Nairobi Kenya include child's sex; perceived size at birth; mother's marital status, ethnicity; education level; family planning (pregnancy desirability); health seeking behavior (place of delivery) and; neighborhood (slum of residence) [22].

In addition, a cross-sectional study in Jima Arjo Woreda of Ethiopia showed that thirty-seven percent of mothers initiated breastfeeding later than one hour after delivery and indicted that not attending formal education and painful breast-feeding experiences has significance association [14].Optimal breastfeeding knowledge in Arba minch, Ethiopia has positive association with paternal education level, total number of births, attending antenatal care, having radio access, using family planning and giving birth by health provider [23]. A study done in Bahirdar city Ethiopia showed, independent predictors for exclusive breastfeeding practice were Mothers education, child sex, parity, family size and time of post natal care in this study area [15].

A national study done by Tedros Alemayehu et al depicted exclusive breastfeeding prevalence at 49.0% and independently associated to marital status, wealth index and child age 0-1 and 2-3 months [24]. Non married mothers, mothers who has no access to health service and mothers who has no knowledge about infant and young child feeding practices was low became more likely a significant factor for no exclusive breastfeeding(28.3%) predictor indicated; a study done in east Ethiopia [25].

Exclusive breastfeeding practice in Harar, Ethiopia was associated with an average monthly income of less than Ethiopian birr (ETB) 1000. Mothers who delivered in a health institution had 3.9 times more practice with exclusive breastfeeding than those who delivered at home. The complementary feeding practice was 54.4% and was associated with a monthly income of less than ETB1000 ($p=0.003$) and ETB1000-1999 ($p=0.007$). Mothers who followed antenatal care (ANC) were 2.8 times more likely to practice timely complementary feeding than those who did not follow the ANC service [17].

3. Objective

- To assess knowledge, attitude, and practice and associated factors of mothers on exclusive breast-feeding and mixed feeding.

3.1 Specific objectives

- Assess knowledge of mothers about exclusive breastfeeding in the first six months.
- Assess mother's attitudes towards exclusive breastfeeding.
- Assess respondent's practices on exclusive breastfeeding and mixed feeding.
- Assess determinant factors associated with exclusive breastfeeding

4. Methodology

4.1 Study Design

An institution based descriptive cross-sectional study method employed for quantitative data collection. Methods employed for qualitative data collection was mainly grounded theory with some phenomenology features. Mainly, grounded theory with some of phenomenology characteristics of qualitative study method was employed during qualitative data collection.

4.2 Study area

The study was conducted in 2 health centers (Hara and Sanka health center) in Gubalafto district, North Wollo zone of Amhara regional state of Ethiopia. Gubalafto district comprises around 139,825 populations and more than 95% of the population lives in rural areas. There were 11 health centers in this Woreda, and one zonal hospital in Woldiya town of the district, which serves more than 43,139 populations of Woldiya town and Gubalfto woreda as a whole [26]. This study was conducted from September to December 2013.

4.3 Study population

The study population were mothers paired with their child of age less than or equal to 12 months who came to Hara and Sanka health centers for different reasons. Multi-Para (mothers who had at least 2 live births) paired with their child of age less than or equal to 12 months were a qualitative study participants.

4.4 Sample size determination

A total sample size of 422 was determined using a single sample proportion formula. Knowledge and practice proportions were used during samples size determination separately and the later chosen. Practice proportion (from EDHS 2011) yielded higher sample size in the calculation and taken for the sample size determination. The following assumptions were considered and 10% of the sample was added considering possible non response during the actual data collection process.

$$n = \frac{(Z\,\alpha/2)2 * p\,(1-p)}{d^2}$$

n= sample size

p = taken as 0.52 a prevalence exclusive breastfeeding practice from EDHS 2011 [8].

Z (α/2) = 1.96 at confidence level of 95% and

d = Margin of error (5%)

4.5 Sampling procedure

Two health centers with higher client flow were selected based on high client flow to achieve the estimated sample size in the allotted time. Respondents who fulfilled the inclusion criteria were included in the study and interviewed consecutively until the desired sample size was attained for the study. Purposively selected Multi-Para mothers were used as key informants and included in the qualitative study and interviewed consecutively until new ideas were saturated from coming.

Inclusion criteria:

- All mothers paired with their child of age less than or equal to 12 months were included in the quantitative data collection process.
- Mothers paired with their child of age less than or equal to 12 months and have at least two live births (Multi-Para).

Exclusion criteria:

- Mothers who are sick and unable to give the response.
- Mothers who are not willing to consent to participate in the interview

4.6 Data collection instrument and procedures

A structured questionnaire was developed and translated in to the local language (Amharic). College diploma holders were recruited to be engaged in data collection process. Mothers coming to health centers were interviewed consecutively until the desired sample size was attained. An open-ended semi structured questionnaire with probing was used to explore key informants' experiences, knowledge, factors or challenges regarding EBF practice and attitude towards exclusive breastfeeding in the community during for the qualitative. Tape recorder and hand note were used during qualitative data collection process.

4.6.1 Data quality control

One-day orientation was given to data collectors and supervisors and 5 % of sample questionnaire (21 samples) that would not be included in during the analysis process were pre-tested. The pretested questionnaires were reviewed by the study team. Questions that were inconsistent, that were not clear for both interviewer and interviewee, and inappropriate skipping patterns were corrected. Make view tool in an Epiinfo was used to create view (questionnaire) for data entry. Commands that would prevent the errors in the data entry process (Legal value table, required check box, and field or variable type and size) were used during data entry template preparation process.

4.7 Operational definitions

Exclusive breastfeeding under 6 months (EBF): Infant receives only breast milk (including breast milk that has been expressed or from a wet nurse) and nothing else, except for ORS, medicines and vitamins and minerals [3].

Early initiation of breast milk: initiation of breast milk immediately within an hour after birth [27].

Formula: Artificial milks for babies made out of variety of products, including sugar, animal milks, soybean, and vegetable oils. They are usually in powder form, to mix with water [8].

Knowledge score on EBF: An average of responses on knowledge variables was done by computing variables (Knowledge towards time of breast initiation, importance of feeding

colostrum, time of weaning, and foods or fluids that are not recommended before six months) and mothers who scored less than the average are labeled to have poor knowledge and those scored above the average was scored as having good knowledge.

Attitude score on EBF: Four scaled lickert scale was used to measure the opinions of mothers towards EBF. By computing mothers opinions on 'no breast before an hour, discard colostrum before initiating breast milk, wean a child when it gets 4 months old, and in addition to breast milk only water should be given to a child of 3 months old'. All the attitude opinion variables was computed and averaged. Those scored below the average was considered with negative attitude and those scored above the average were considered with positive attitude.

Practice score on EBF: By taking the mean of practice variables, scores on time of breast initiated, discarding colostrums status, Time of complementary feeding initiated, and foods or fluids offered before six months; those who scored below the mean, labeled as having bad practice and those scored above the mean, labeled as having good practice.

Multi-Para: a woman who has given birth to two or more live children [28].

Study variables

Dependant variables include:

- Knowledge on EBF (Good knowledge, Poor knowledge)
- Attitude towards EBF(Positive, Negative)
- Practice on EBF (Good practice, Bad practice)

Independent variables:

- **Socio demographic and economic variables**
    - Mother's age, child's age, child sex, marital status, educational status, occupation of the mother and household income.
- **Maternal related factors**
    - Parity (Number of live births a mother have)
    - Antenatal follow up during pregnancy

4.8 Data management

Ten Percent of the paper questionnaires were randomly selected and verified manually before data entry. Eight questionnaires were discarded found containing missing important data and inconsistent responses. Miner errors encountering during data entry process was corrected and entered.

4.9 Data analysis procedures

Data were entered into Epiinfo version 3_5_1 for windows and exported to IBM SPSS version 20. Each variable were coded, transformed and computed and got ready for the next analysis process. Socio demographic and economic variables were described by frequency and percentage. Knowledge, attitude and practice labels were cross tabulated with independent variables. Multiple binary logistic regression analysis was used to identify independent predictors and control potential confounders associated with the three outcome variables (Knowledge, attitude and practice about breast feeding). A qualitative data were transcribed and translated from Amharic in to English. Themes were coded, categorized and analyzed using Open code qualitative data analysis software. Practices and attitudes of mothers in the community was explored and arranged into categories.

5 Ethical considerations

Ethical clearance was obtained from the Research Ethics Committee at the School of Public Health, AAU and official letter of co-operation in the study area was obtained from Gubalafto Woreda Health Office. Respondents were consented after explaining the purpose, potential risks and benefits of participating and the right to withdraw from the study at any time throughout their interview (using their own language). Confidentiality of study participants was assured and maintained by explaining, their answers would not be shared with anyone other than members of our study team. They were also been told that they could stop or pass to the next during the interview process if they were encountered any question they wouldn't want to answer. Participants were interviewed in a place where they felt comfortable and sitting alone with the interviewer. Instead of study participant names, codes were used for identification purpose to maintain participants' trustworthiness of confidentiality.

6 Dissemination of results

Results will be submitted to the School of Public Health, College of Health Sciences at AAU and presented to the academic society of the university. After defending the results comments will be incorporated and the final work of the study will be submitted to Amhara regional State Health Bureau, North Wollo Zonal Health Office, Gubalafto woreda health office and the Federal Ministry of Health of Ethiopia.

7 Results

Study population

Out of 422 mothers who gave birth in the last one year preceding the survey, 398 mothers paired with their children participated in the study, making the response rate at 94.3%. Mean age of the respondents was 28 ± 6.4 years ranging between 16-45 years. Majority of the study participants 316 (79.4%) were in the age group of 15-34 years and married 360 (90.5%). More than half of the study participants had some level of formal education 213(53%) while the majority 271(68.1%) were unemployed/house wife (See Table 1).

Six key informants were purposively selected for an in-depth interview. The mean age of the key informants were 28 years; ranging from 22 to 35 years. All of them had given birth to more than 2 child (Multi-para) and half of them 3 (50%) were not currently living with their husband or they were separated. One third of them was illiterate or never attended any formal or informal education. (See table 2)

Table 1: Socio demographic and economic characteristic of study participants; Gubalafto woreda, Amhara regional state of Ethiopia (n=398)

Variables	Category	Frequency	Percent
	15-34	316	79.4
Maternal age	>or=35	82	20.6
	Married/living together	360	90.5
Marital status	Single	38	9.5
	No read or write	185	46.5
Maternal education status	Formal education	213	53.5
	No read or write	184	46.2
Spouse education status	Formal education	316	53.8
	Employed	127	31.9
Maternal occupation	Unemployed or House wife	271	68.1
	Primi-parous	111	27.9
Parity	Multi-parous	287	72.1
	0-6	194	48.7
Child age	7-12	204	51.3
	Male	221	55.5
Child sex	Female	177	44.5
	No visit	6	1.5
Antenatal visit	At least one first visit	392	98.5
	< =12000 birr	234	58.8
Household annual income	> 12000 birr	164	41.2

Table 2: Characteristics of in-depth interviewees (Hara and Sanka Health center) Gubalafto woreda, Amhara regional state of Ethiopia from August to December 2013 (n=6)

CODE	Age	Marital status	Education	Number
1	22	Separated	No formal education	2
2	30	Separated	Primary	4
3	30	Married	Primary	2
4	25	Separated	Primary	2
5	35	Married	No formal education	7
6	26	Married	No formal education	2

Knowledge of mothers on EBF in the first six months

Based on the knowledge score, 139(34.9%) of respondents were categorized as having poor knowledge. The majority 361(90.7%) knew the importance of feeding first milk (colostrum), 363(91.3%) knew importance of early initiation of breastfeeding within an hour and nearly three fourth 295(74%) of them knew to start complementary feeding at six month.

Attitude of mothers towards EBF recommendations

Base on the attitude score, 30(7.5 %) of respondents had negative attitude towards EBF recommendations. Among these 25(6.3%) of them have negative attitude on early initiation of breastfeeding, feeding colostrums and to 'no water to a 4 month child' opinion and 27 (6.8%) of them had negative attitude to 'no food or fluid to a child under six months age' opinion.

EBF practice of mothers the first six months

According to practice score, more than three fourth 311(78.1%) of mothers had good practice score on EBF the first six months. Early breastfeeding initiation prevalence among the respondent mothers was 341(85.7%). The proportion of mothers who reported to have exclusively breastfed was 325(81.7%) up-to six months while the rest 73(18.3%) of them were mixed feeders. Formula feeding and cow's milk feeding was 20(5%) and 17(4.3%) respectively while 42(10.6%) of mothers gave water before six months of their child age.

Majority of key informants in an in-depth interview mentioned that they initiated breast milk immediately; and they don't have a tradition of discarding colostrums nor offering fresh butter immediately after birth. Interviews didn't deny the tradition of fresh butter offering to a new born in the previous times. A 22 year old mother for example stated that,

"On my behalf I immediately wash my breast and offered it to my newborn then started sucking. My breast used to burst immediately I gave birth and starts milk flow and then my children used to suck it until they get 9 months old".

Most of respondents also reported that they breast feed their children exclusively up to six months and have better understanding of IYCF counseling. A 30 year old mother said,

"Yes, up to six months we feed our breast milk only then after six months we start additional foods. I prepare flour by mixing different cereals to my baby. By cooking thin gruel from this cereal I feed my baby. Ya…I did not used to feed them this until they get six months old because their stomach is not able to digest it. I give them this cereal gruel after they are six months old."

Among bad practices identified from in-depth exploration of breastfeeding practice; practice of offering water to young children before six months and negative attitude towards the sufficiency of breast milk were identified. Some of the respondents also reported that there is a tradition of offering 'Abish' (Fenugreek) immediately after birth and thereafter. A 30 year old mother said,

"Yes, they used to tell us not to give even water, but we give water in addition because the food we are eating has salt and our infants may get thirsty. Ya, they drink water; they have their own cup; they drink with that."

This mother has believes towards the necessary to early breast initiation; but she has thoughts of inadequacy of her breast milk for her neonate and believes that extra fluids are needed until her breast has full milk flow. She said,

"Ehh…yes as we know, a child is born sucking its finger. I used to give my breast immediately I gave birth but the breast has no adequate milk flow immediately. I use to give them my kids 'Abish' until my breast gets full milk flow."

The second most mal practice raised during in-depth exploration was mixed feeding of other foods like mashed potato and vegetables before six months. A 22 year old respondent said,

"……yes we give them water, mashed potato, and vegetables but no other foods."

Almost half of the time a practice giving 'Abish' (Fenugreek) immediately a child is born was raised by most of the time by the study participants. One of the respondents said that giving 'Abish' is good for children immediately they are born and she shared this experience from Saudi women when she was in Saudi Arabia.

Socio-demographic and economic correlates of Knowledge on exclusive breastfeeding

Single mothers were more likely to have poor knowledge than married mothers [16(84.2%) versus 112(31%); P<0.05]. Mothers and their spouses who are not formally educated were more likely to have poor knowledge than those who are formally educated [108(58.4%) versus 31(14.6%); P<0.05] and [104(56.5%) versus 35(16.4); P=0.05] respectively. Mothers who have low self-reported annual income (<= 12,000 ETB) were more likely to have poor knowledge than those who had higher annual income (>12,000 ETB) [99(42.3%) versus 71(26.2%); P<0.05]. Mothers who are engaged in formal or informal businesses outside their home were significantly more likely to have poor knowledge than who are unemployed or house wives [68(53.5%) versus 71(26.2%); P<0.05]. (See table 2 for detail)

Table 2: Factors associated with Knowledge on Exclusive breastfeeding, Gubalafto woreda, Amhara regional state from August to December 2013 (n=398)

Variables		Knowledge Status on EBF		COR	P-Value
		Poor n (%)	Good n (%)		
Maternal age	15-34	119 (37.7)	197(62.3)	1	
	>or=35	20(24.4)	62(75.6)	1.9(1.1-3.3)	0.026*
Marital status	Single	27(71.1)	11(28.9)	1	
	Married or living together	112(31.1)	248(68.9)	5.4(2.6-11.3)	0.000*
Maternal education	No read or write	108(58.4)	77(41.6)	1	
	Read and write(Formal education)	31(14.6)	182(85.4)	7.9(4.9-12.9)	0.000*
Paternal education	No read and write	104(56.5)	80(43.5)	1	
	Formal education	35(16.4)	179(83.6)	6.6(4.2-10.6)	0.000*
Children age in months	0-6	73(37.6)	121(62.4)	1	
	7 – 12	66(32.4)	138(67.6)	1.3(0.8-1.9)	0.27
Parity	Primi-para	31(27.9)	80(72.1)	1	
	Multi-para	103(38.3)	166(61.7)	1.6(0.9-2.5)	0.27
Children sex	Male	77(34.8)	144(65.2)	1.0(0.6-1.5)	0.07
	Female	62(35.0)	115(65.0)	1	0.969
Annual household income	< or =12000birr	99(42.3)	135(57.7)	1	
	>or=12001birr	40 (24.4)	124 (75.6)	2.3(1.5-3.5)	0.000*
Maternal occupation	Employed	68(53.5)	59(46.5)	2.2(1.4-3.4)	0.001*
	House wife/Unemployed	71(26.2)	200(73.8)	1	
Antenatal visit	No visit at all	5(83.3)	1(16.7)	1	
	Have at least one visit	6(75.0)	2(25.0)	9.6(1.1-83.2)	0.040*

*Variables which are statistically significant at 5% level of significance

Independent predictors of Good EBF knowledge

All variables which showed statistical significance at 25% level during the binary logistic regression analysis were entered into multiple logistic regressions. The goodness of fit of the model was checked by Hosmer and Lemeshow test model using backward likelihood ratio method.

Among respondent mothers, odds of good knowledge among those having formal education were 2 times more than those with no formal education [AOR= 2.3, 95% CI: 1.1-4.8]. Older mothers (>=35years) have 2 times more good knowledge than younger mothers (<35years) (AOR=2.1, 95% CI: 1.1-4.1). Marriage became statistically significant independent predictor of good EBF knowledge. Mothers who are married or living with their spouse have nearly 4 times more good knowledge label than single mothers (AOR=3.9, 95% CI: 1.7-8.8). Good knowledge label increased among employed mothers by 2 times more than unemployed/housewives (AOR=2.5, 95% CI: 1.4-4.5). (See Table 3)

Table 3: Factors associated with Good exclusive breast feeding Knowledge in Hara and Sanka health center of Gubalafto woreda, Amhara regional state, from August to December 2013

Variable	COR (95% CI)	AOR (95%CI)
Spouses education		
No read or write	1	1
Read and write(Formal education)	6.6(4.2-10.6)	2.3(1.1-4.9)*
Maternal age		
15-34	1	1
>or=35	1.9(1.1-3.3)	2.1(1.1-4.1)*
Marital status		
Single	1	1
Married or living together	5.4(2.6-11.3)	3.9(1.7-8.9)*
Maternal occupation		
Employed	2.2(1.4-3.4)	2.6(1.4-4.6)*
House wife/Unemployed	1	1

*Variables which are statistically significant at 5% level of significance

Socio-demographic and economic correlates of Attitude towards exclusive breastfeeding

Several socio demographic factors showed significant association with negative attitude towards the recommended exclusive breastfeeding practice. Mothers and their spouses who are not formally educated were significantly more likely to have negative attitude than those who are formally educated [27 (14.6%) versus 3(1.4%); P<0.05] and [27(14.7%) versus 3(1.4%); P<0.05] respectively. Those who had no antenatal visit were significantly more likely to have negative attitude than those who had at least one visit [2(33.3%) versus 2(1.9%); P=0.05]. Those with lower income (<=1200 Birr) were more likely to have negative attitude than those with better income (>1200 Birr) [24(10.3%) versus 6(3.7%); P<0.05]. (Table 4)

Table 4: Socio demographic and economic factors associated with Attitude towards Exclusive breast feeding Hara and Sanka health center of Gubalafto woreda, Amhara regional state from August to December 2013 (n=398)

		Mothers' attitude towards EBF			
Variables		**Negative attitude**	**Positive attitude**	**COR**	**P-Value**
Maternal education	No read or write	27(14.6)	58(85.4)	1	
	Read and write/Formal education	3(1.4)	210(98.6)	11.3(3.6-37.9)	0.000*
Spouses' education	No read or write	27(14.7)	157(85.3)	1	
	Read and write/Formal education	3(1.4)	211(98.6)	12.1(3.6-40.6)	0.000*
Child sex	Male	20(9.0)	201(91.0)	1	
	Female	10(5.6)	167(94.4)	1.7(0.8-3.6)	0.206
Mothers' age	15-34	25(7.9)	291(92.1)	1	
	>or=35	5(6.1)	77(93.9)	1.3(0.5-3.6)	0.58
Parity	Primi-para	7(6.3)	104(93.7)	1.3(0.5-3.1)	0.564
	Multi-para	23(8)	264(92)	1	
Child age in moths	0-6	17(8.8)	177(91.2)	1	
	7 to 12	13(6.4)	191(93.6)	1.4(0.7-2.9)	0.368
Maternal occupation	Employed	10(10.1)	89(89.9)	1	
	Unemployed/Housewife	20(6.7)	279(93.3)	1.6(0.7-3.5)	0.268
Antenatal visit	No visit	2(33.3)	4(66.7)	1	
	Have at least one visit	28(7.1)	364(92.9)	6.5(1.1-37.0)	0.036*
Household annual income	<or=12000(Lower income)	24(10.3)	210(89.7)	0.3(0.1-0.8)	
	>or=12001(Better income)	6(3.7)	158(96.3)	3.0(1.2-7.5)	0.019*

*Variables which are statistically significant at 5% level of significance

Socio-demographic and economic correlates of exclusive breastfeeding practice of mothers

Single mothers were significantly less likely to exclusively breastfeed compared to married mothers [14(36.8%) versus 73(20%); P<0.05]. Mothers and their spouses who are not able read and write or formally educated were significantly more likely to have bad EBF practice than those who are illiterate or not have any formal education [68(36.8%) versus 19(8.9%); P<0.05] and [61(33.2%) versus 26(12.1%); P<0.05] respectively. Those who have currently older child (>6 months) were significantly more likely to have bad practice than those having younger child (<=6 months) [54(27.8%) versus 33(16.2%); P<0.05]. Those who have lower income significantly showed more likely to have bad EBF practice than those with lower income [61(26.1%) versus 26(15.9%); P<0.05]. Employed mothers were significantly more likely to have bad EBF practice than unemployed or house wives [36(36.4%) versus 51(17.1%); P<0.05]. (See Table 5)

Table 5: Association of socio demographic and economic factors with Mothers' EBF Practice Label, Gubalafto woreda Amhara regional state of Ethiopia from August to December 2013(n=398)

		Mothers' practice on EBF			
Variables	**Category**	**Bad practice n (%)**	**Good practice n (%)**	**COR**	**P-value**
Mothers' age in year	15-34	74(23.4)	242(76.6)	1	
	>or=35	13(15.9)	69(84.1)	1.6(0.9-3.1)	0.143
Marital status	Married	73(20.3)	287(79.7)	2.3(1.1-4.7)	0.021*
	Single	14(36.8)	24(63.2)	1	
Maternal education status	No read or write	68(36.8)	117(63.2)	1	
	Formal education	19(8.9)	194(91.1)	6.3(3.5-11.2)	0.000*
Spouse educational status	No read or write	61(33.2)	123(66.8)	1	
	Formal education	26(12.1)	188(87.9)	3.6(2.1-5.9)	0.000*
Child sex	Male	52(23.5)	169(76.5)	1	
	Female	35(19.8)	142(80.2)	1.2(0.8-2.0)	0.368
Parity	Primi-Para	22(19.8)	89(80.2)	1.2(0.7-2.0)	0.541
	Multi-Para	65(22.6)	222(77.4)	1	
Child age category	0-6	54(27.8)	140(72.2)	1	
	7- 12	33(16.2)	171(83.8)	1.9(1.2-3.6)	0.005*
House hold annual income	< or =12000birr	61(26.1)	173(73.9)	1	
	>=12001birr	26(15.9)	138(84.1)	1.9(1.1-3.1)	0.016*
Maternal occupation	Unemployed/Housewife	51(17.1)	248(82.9)	2.8(1.8-4.6)	0.000*
	Employed	36(36.4)	63(63.3)	1	
Antenatal visit	No visit	3(50.0)	3(50.0)	1	
	Have at least one visit	84(21.4)	308(78.6)	3.7(0.7-18.5)	0.116

*Variables which are statistically significant at 5% level of significance

Independent predictors of mothers' EBF practice

In multivariate logistic regression analysis; only formal education, being housewife and older age (>or=35) were found to be significant predictors of Good EBF practice. Formally educated mothers were 6 times more likely practicing EBF than none educated (AOR=6.3, 95% CI: 3.5-11.6). Housewives practiced EBF 3 times more likely than those mothers engaged in formal or informal business (AOR=3.1, 95% CI: 1.7-5.5). Older age also contributed for better breastfeeding practice, exclusive breastfeeding practice in particular. Older mothers (>or=35 years old) are 1.5 more likely to have good EBF practice than younger ones (< 35 years) (See Table 6)

Table 6: Factors associated with Good exclusive breast feeding practice in Hara and Sanka health center, Gubalafto woreda, Amhara regional state, August to December 2013

Variable	COR (95% CI)	AOR (95%CI)
Mothers' educational level		
No formal education	1	1
Formal education	6.3(3.5-11.2)	6.4(3.5-11.6)*
Maternal age		
15-34	1	1
>or=35	1.6(0.9-3.1)	1.9(0.9-3.9)
Maternal occupation		
Employed	1	1
House wife/Unemployed	2.8(1.7-4.6)	3.1(1.7-5.5)*

*Variables which are statistically significant at 5% level of significance

Most of the key informants believe on 'mothers with better income do not want to breastfeed' opinion were the first most raised opinion by interviewees. The other factors associated with no breastfeeding and no EBF are having small breast (insufficient milk), lack of awareness, fear of disease transmission to the infant, and assuming EBF recommendation to only women with the 'disease' (HIV) are mostly discussed opinions by the interviewees. For instance, a 30 year old mother said,

"Ya, there are poor women that are not breastfeeding their kids as recommended; there are also rich ones also that does not want to feed their breast and they start feeding bottle after feeding their breast for only 1 months. Those riches think that they can afford formula milk and they immediately start feeding formula milk by bottle."

8. Discussion

The World Health Organization recommends exclusive breastfeeding in the first six months weighing its clear benefits in reducing childhood morbidity and mortality, enhancing the mother-child attachment and serving as an effective family planning method [1]. Mothers' knowledge and attitude towards breastfeeding is important for effective infant feeding practice to bring the desired outcome.

This study showed proportion of mothers who have no satisfactory knowledge on EBF was 34.9%.This is higher than findings from similar studies by Nbada et al in Nigeria [13]. But still in this study, proportion of mothers with poor knowledge was lower than other studies in Nigeria by Och MO et al. and a study done by Tamiru et al in Jima, Ethiopia [12, 13].

Determinants of knowledge in this study were married mothers, formal education of spouses, employed mothers, and higher maternal age. Paternal formal education was similarly a determinant factor for mothers' knowledge on EBF by a study done in Arba minch, Ethiopia [21].

Negative attitude regarding EBF recommendations in this study were minimal which is 7.5%. This figure is lower than a study showed in Nigeria which was 47%. Similarly, in Nigeria it was showed higher attitudinal status (46%) of mothers regarding EBF recommendations [,13].

Exclusive breast feeding practice was 81.7% which is much higher than a similar hospital based study done in Pakistan which, 64.8% of the respondents found practicing EBF [10]. This is also higher than a hospital based study done in Kenya sub-district (33%) [11]. This figure is higher than other community based studies done in Ethiopia when comparing to studies like National DHS (EDHS 2011) [8], EBF determinants in Ethiopia [11], Jima arjo woreda [12], Bahirdar (14,24), Harar (15), and Goba districsts in Ethiopia [16].

Early initiation of breastfeeding within an hour post-delivery is a general recommendation of infant feeding. Early breastfeeding in this study was nearly common 85.7% which is higher than a study shown in Jima Arjo woreda, Ethiopia; which was only 62.6% of the study participants initiate breastfeeding within an hour of delivery [15].

Several studies are showing multiple factors that positively or negatively affecting breastfeeding, exclusive breastfeeding in particular. Young maternal age (15-34 years), being single, illiteracy

of mothers and their spouses, has not or has only once ANC visit, Low annual income (<12, 000 ETB), and mother being employed in certain business has showed a significant association with maternal poor knowledge status in this study. Similarly paternal education and ante natal visit has significant association with knowledge status of mothers in exclusive breastfeeding a study done in Arbaminch, Ethiopia [21].

Several factors in this study predict practice of mothers in exclusive breastfeeding. Mothers who are married or living together are 2.5 times more likely to practice EBF than single mothers and mothers who have better annual income (>=12,000 ETB) are more likely to practice EBF than mothers with lower income(<12,000). This is the same with the study done in Bahirdar by Alemayehu et al [11]. Other factors like illiteracy of mothers and their spouses, child age 0-6 months, Employed mothers and mothers with no ANC visit or have only first visit have associated with non EBF practice. These factors are almost similar with studies done in different places of Ethiopia [11, 15, 22].

Since this is institution based study, it is not strong enough representing the communities living in this Woreda. This study has also limitations to use Random sampling technique which may affect the representativeness of the study. The study participants were mothers paired with their child of age 0-12 months, so that making this study limited not to use the standard WHO definition of (24 hour recall period) in measuring EBF practice indicator.

9. Conclusions

Mothers who visit health clinics are expected to have a better health seeking behavior and better knowledge and attitude towards health care providers' recommendation. However, proportion of EBF knowledge and practice in this study were very low. Good knowledge and good EBF practice status were still less than three quarter in this study. Mixed feeding practice among these study participants were prevalent; which nearly one fifth of the study participants practiced mixed feeding. Education status of mothers and their spouse, marital status, maternal age and maternal occupation were closely related factors that influenced mothers' knowledge, attitude, and practice label towards EBF.

10. Recommendations

- Spouses support is required to breastfeeding mothers to effectively breastfeed their child and ensure better child nutrition. This was found significantly associated with mothers' knowledge which in turn affects mothers EBF practice.
- Health care practitioners should include mothers' spouse during IYCF and birth preparedness counseling session to boost mothers' awareness and make EBF practice compliance better. Young mothers need special attention and continued support on child care, starting on birth preparedness counseling through all their follow ups of growth monitoring and vaccination
- Health policy makers and organizations (GOs & NGOs) working in the areas of MCH need to design a strategy that addresses mothers who have no access of health facility, for better outcome of IYCF counseling within the community .
- Health project implementers continued support to health facilities and health care providers working in IYCF counseling is important to improve mothers' knowledge, attitude and practice towards the recommended EBF practice.

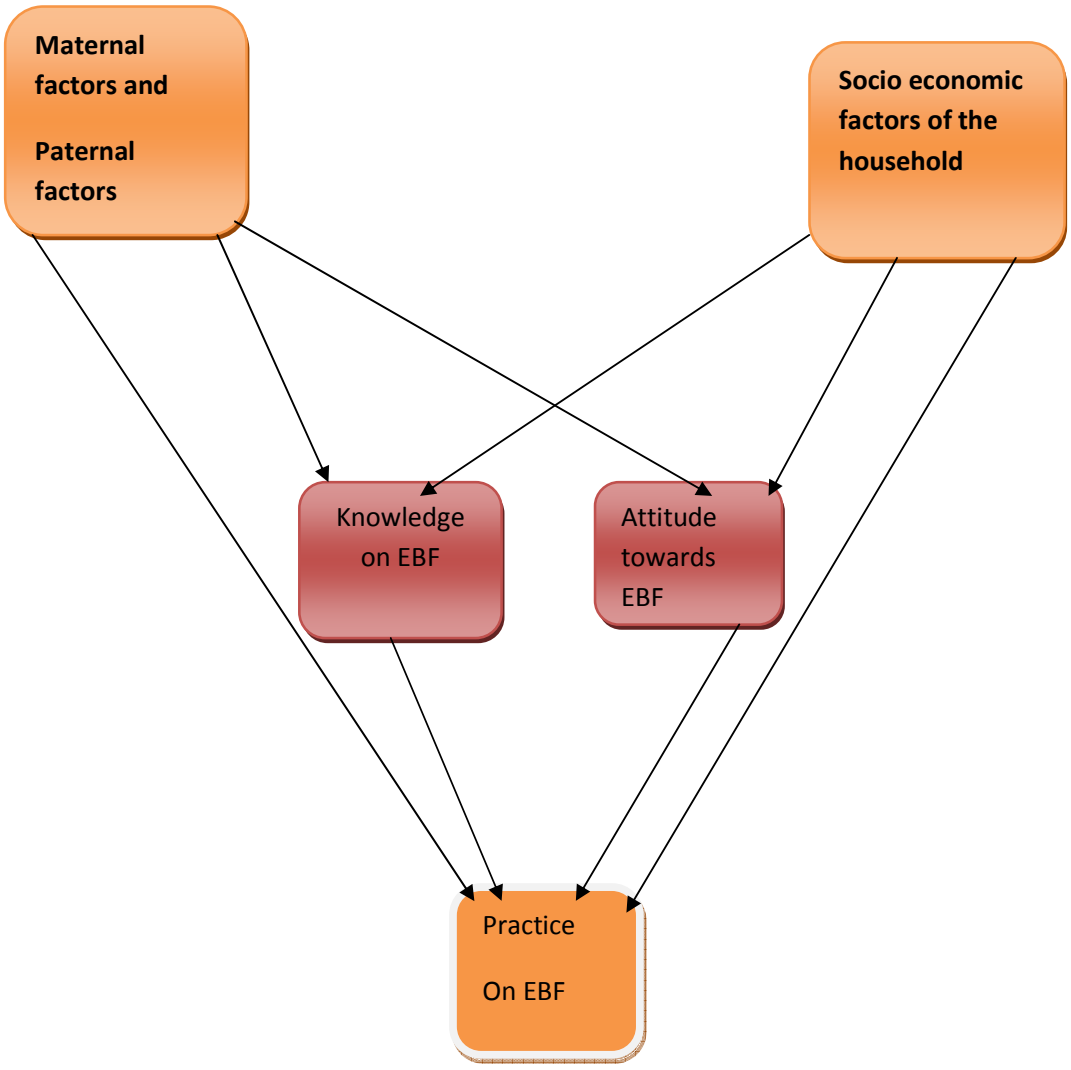
11. References

1. CAR-USA; Infant and young child feeding practices. Collecting and using data: A step-by-step guide 2010.
2. Luann Martin, SM Moazzem Hossain, Carmen Casanovas, and Agnes Guyon. Learning from large-scale community-based programs to improve breast-feeding practice. WHO/UNICEF, 2008.
3. UNICEF. Nutrition-breastfeeding. Unite for children. Update: 6 November 2013. http://www.unicef.org/nutrition/index_24824.html
4. Peter J. Iliffa, Ellen G. Piwozb, Naume V. Tavengwaa, et al., Early exclusive breastfeeding reduces the risk of postnatal HIV-1 transmission and increases HIV-free survival available from: http://www.ibfanasia.orgArticleEarly-EBF-HIV.pdf.
5. Joseph Kagaayi, Godfrey Kigozi, Fred Nalugoda,etal., Survival of Infants Born to HIV-Positive Mothers, by Feeding Modality, in Rakai, Uganda available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2588542/pdf/pone.0003877.pdf
6. Louise Kuhn, Louise Kuhn, Moses Sinkala, Effects of Early, Abrupt Weaning on HIV-free Survival of Children in Zambia available from. http://www.nejm.org/doi/pdf/10.1056/NEJMoa073788
7. Yetayesh Maru, Jemal Haidar**.** Infant feeding practice of HIV positive mothers and its determinants in selected health institutions of Addis Ababa, Ethiopia. Ethiop. J. Health Dev. 2009; 23(2):107-114.
8. Central Statistical Agency, ICF International Calverton. Ethiopia Demographic and Health Survey 2011. March 2012
9. Makonnen Asefa, Robert Drewett, Fasil Tessema. A birth cohort study in South-West Ethiopia to identify factors associated with infant mortality that are amenable for intervention: Ethiopian Journal of Health Development, 2000, 14(2): 161-168
10. Federal Democratic Republic of Ethiopia Ministry of Health. Health Sector Development Programme IV 2010/11 – 2014/15. October, 2010
11. Ojo M Agunbiade et al. Constraints to exclusive breastfeeding practice among breastfeeding mothers in Southwest Nigeria: implications for scaling up. International breastfeeding journal. 2012, 7:5
12. Oche MO1, Umar AS1, Ahmed H2. Knowledge and practice of exclusive breastfeeding in Kware, Nigeria. AFHS1103-0518.
13. Nyanga NM1, Musita C1, Otieno A1 and D Kaseje1. Factors influencing knowledge and practice exclusive breastfeeding in Nyando district, Kenya. African journal of food, agriculture, nutrition and development. Oct. 2012; 12 (6)
14. Tamiru et al. Sub-optimal breastfeeding of infants during the first six months and associated factors in rural communities of Jimma Arjo Woreda, Southwest Ethiopia. BMC Public Health 2012, 12:363
15. Abay Sefene, Dereje Birhanu, Worku Awoke, Tesfaye Taye. Determinants of Exclusive Breastfeeding Practice among Mothers of Children Age Less Than 6 Month in Bahir Dar City Administration, Northwest Ethiopia; A Community Based Cross-Sectional Survey. *Science Journal of Clinical Medicine***.** Vol. 2, No. 6, 2013, pp. 153-159. doi: 10.11648/j.sjcm.20130206.12)
16. Seid et al. Prevalence of Exclusive Breastfeeding Practices and associated factors among mothers in Bahir Dar city, Northwest Ethiopia: a community based cross-sectional study. International Breastfeeding Journal 2013, 8:14 http://www.internationalbreastfeedingjournal.com/content/8/1/14
17. Kibebew Abera. Infant and young child feeding practice among mothers living in Harer, Ethiopia. Harar Bulletin of Health Sciences. January 2012; 4

18. Setegn et al. Factors associated with exclusive breastfeeding practices among mothers in Goba district, south east Ethiopia: a cross-sectional study International Breastfeeding Journal 2012, 7
19. Kok Leong Tan "Factors associated with exclusive breastfeeding among infants under six months of age in peninsular Malaysia" International Breastfeeding Journal 2011, 6:2)
20. Catherine R.L. Brown MSc, Linda Dodds PhD, Rebecca Attenborough RN MN, and et al. Rates and determinants of exclusive breastfeeding in first 6 months among women in Nova Scotia: a population-based cohort study. cmajo January 16, 2013vol. 1 no. 1 E9-E17.
21. Li et al. "Why mothers stop breastfeeding: Mothers' self-reported reasons for stopping breastfeeding during the first year" *Pediatrics* 2008;122;S69
22. Kimani-Murage et al. Patterns and determinants of breastfeeding and complementary feeding practices in urban informal settlements, Nairobi Kenya BMC Public Health 2011, 11:396
23. Dessalegn Tamiru, Shikur Mohammed. Maternal Knowledge of Optimal Breastfeeding Practices and Associated Factors in Rural Communities of Arba Minch Zuria, International Journal of Nutrition and Food Sciences. Vol. 2, No. 3, 2013, pp. 122-129
24. Tewodros Alemayehu, Jemal Haidar, Dereje Habte. Determinants of exclusive breastfeeding practices in Ethiopia. *Ethiop.J.Health Dev.* 2009; 23(1)
25. Egata et al. Predictors of non-exclusive breastfeeding at 6 months among rural mothers in east Ethiopia: a community-based analytical cross-sectional study International Breastfeeding Journal 2013, 8:8 Page 2 of 8 http://www.internationalbreastfeedingjournal.com/content/8/1/8)
26. Federal Democratic Republic of Ethiopia. Summary and statistical report of the 2007 Population and housing censuses. December 2008, Addis Ababa.
27. WHO Library Cataloguing-in-Publication Data. Indicators for assessing infant and young child feeding practices: conclusions of a consensus meeting held 6–8 November 2007 in Washington D.C., USA.
28. A&C black. Dictionary of medical terms. 4th edition. 2004, London. www.abcblack.com

12. Annex

A. Conceptual frame work of EBF



B. Information sheet

Hello. My name is _____ and I am a member of a research team for Addis Ababa University School of public health MPH Student's thesis work for the fulfillment their masters. We are conducting a research about Knowledge and attitude of mother on exclusive breast- feeding and formula feeding. The information we collect will help the government to plan health services. You are selected for this study. The interview usually takes about 20 to30 minute.

All of the answers you give will be confidential and will not be shared with anyone other than members of our study team. You don't have to be in the study, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions?

C. Consent form for study participants

I the undersigned have been informed about the purpose of this particular research project and I have been informed that the information I give will be used only for the purpose of the study only. In addition I am also informed that my identity as well as the information I provide will be kept confidential. Based on this, I agree to participate in the research voluntarily.

Participant's signature_____

Witnesses

Name and signature,

1. _____,

2. _____

D. Questionnaire

	1. Demographic data	Coding categories	Skip pattern
101	Please tell me how old you are. What was your age at your last birthday? R*ecord age in completed years.*	Age in Completed Years ..... |___|___|	
102	What is the birth day of your infant?	MONTH..... |___|___| *If month is not known, enter '98'* YEAR..... |___|___||___|___| *If year is not known, enter '9998'*	
103	Is your child male or female	MALE.....1 FEMALE..... 2	
104	What religion do you follow currently	Religion a. Orthodox…….....1 b. Protestant……..…..2 c. Catholic ……..……3 d. Muslim……..……..4 e. Other……..…….5	
105	What is your ethnicity?	Ethnicity a. Amahra……..…….1 b. Tigray……..……...2 c. Afar……..……...3 d. Agew……..……4 e. Other……...……5	
106	What is your marital status currently	a. Maried ……..1 b. Living together……..2 c. Divorced/separeted……...3 d. Widowed ……..4 e. Never married/And never lived together…….……5	
107	What is your educational status now?	Educational status of the mother a. Not able to read and write…….…1 b. Read and write or informal	

		education……..…..2 c. 1-8……..….3 d. 9-10+2…….…….….4 e. 10+2 and above…….…..…...5	
108	What is your husband's educational status?	Eduational status of her husband a. Not able to read and write……1 b. Read and write or informal education…….2 c. 1-8……3 d. 9-10+2…….4 e. 10+2 and above……...5	
109	What is your current occupation?	Government employee----------1 Private employee ----------2 Daily-laborer----------3 House wife ----------4 House made/servant----------5 Merchant----------6 Farming ----------7 Others(specify) ----------8	
110	What is your husband's occupation?	Government employee--------1 Private employee----------2 Daily labor ----------3 Merchant----------4 Farming ----------5 Others(specify)----------6	
111	How many times did you visit a health facility for ANC follow up while you were pregnant this child?	Number of ANC follow up visit No ANC follow up…….1 Only one time…….2 Two times……...3	

		Three times…….4 Four times……...5	
112	How many children did you give a live birth yet?	Number of live births(parity)_____	
1. Exclusive breast feeding practice			Skip
201	Are your currently breast feeding?	Yes……1 No…….……2	If yes to q204
202	Did you ever breast-feed your child?	Yes……..1 No……...2	If yes skip to q204
203	Why you did not breast feed	Due to inverted nipple or small breast…..1 Inconvenience with my job……...2 Due to medical reasons…….3 Other/specify_____.....4	
204	How long after birth did you first put ***this child*** to the breast?	Immediately with in an hour…….…….1 After one hour Hours……...2 Adays or after…….3	
205	Did your infant receive any thing to drink or eat before the first breast - feeding?	Yes ……1 No……..	If no skip to q207

		2	
206	What food or fluid provided/ (more than one answer is possible don't read the choices probe for more)	Butter ----------1 Water ----------2 Tea ----------3 Water and sugar ----------3 Others (specify) _____.....4	
207	Did your child have had any one of the following later, the first 5 months of age? Or now if the child is below 6 months	No other than breast milk……1 Plain water……..……..2 Infant formula (local example)……3 Milk, tinned, powdered or fresh animal milk?..... ...4 juice drinks……..5 Porridge(thin or thick)……6 Any other fluids……..….7	If no skip to q15
2. Knowledge			
301	What is the right time to give breast milk to a child after birth?	Immediately within 30minute….……1 within an hour …….……..……..2 After 24 hours…….3	
302	What is right to do with the first milk or colostrem to a new born?	Discard…….. 1 Feed immediately…….2	
303	What is actually the right time to start	3months or	

	complementary foods in addition to breast?	less…….1 4months……2 5months……3 6months……4 7 months or above……5	
304	Which foods and or fluids are recommended to give a child under 6 months?	Only breast milk and or……1 Plain water and or…….2 Infant formula (local example) and or Milk, tinned, powdered or fresh animal milk? and or……3 Juice or juice drinks and or Clear broth? and or……4 Yoghurt ? and or…….1 Thinned porridge? and or……...2 Any other fluids and or……..3	
		3. Attitude	
401	Giving breast milk for a newborn immediately within an hour after birth is important.	Strongly agree……..1 Agree……....2 Disagree……...3 strongly disagree…….4	
402	Discarding the first milk or colostrums is important before giving breast milk to a newborn.	Strongly agree ……1 Agree …….2	

		disagree ……3 strongly disagree……4	
403	Giving a child of three months only breast milk may not be sufficient and needs water and other fluids to prevent thirst.	Strongly agree……..1 Agree ……..2 Disagree ……3 strongly disagree…….4	
404	Starting complementary food to a child at six months is important while continuing breast -feeding.	Strongly agree…….1 Agree…….……..2 Disagree……..….3 Strongly disagree……4	

E. Amharic translation of information and consent agreement sheet

<u>ለ ጥናቱ ተሳታፊዎች የሚቀርብ መረጃ እና የስምምነት ቅጽ</u>

ጤና ይስጥልኝ ሥሜ----------ይባላል፡፡ በ አዲስ አበባ ዩንቨርስቲ በሚሰጠው የማህበረሰብ ጤና ት/ቤት የሁለተኛ ዲግሪ ትምርት ማሟያ ለሚሆን ጥናት መረጃ ሰብሳቢ ነኝ፡፡ ጥናቱ እናቶችን ስለ ጡት ብቻ ማጥባት እና ሌላ ወተት መመገብ ላይ ያላቸውን ግንዛቤ፣ አመለካከት፣ ልምድ እንዲሁም ተያያዥ ጉዳዮችን ለማጥናት ነዉ፡፡ የጥናቱ ውጤት ለ መንግስት በ ጤና አገልግሎቶች ዙሪያ ለማቀድ ይጠቅማል፡፡ ለዚሁ ጥናት እርሶ ተመርጠዋል፡፡ ቃለ መጠይቁ 10-20 ደቂቃ ይፈጅ ይሆናል፡፡

በዚህ ቃለ መጠይቅ የሚሰጡት መልስ ከ ጥናቱ አባላት ውጭ ለሌላ ወገን ተላልፎ አይሰጥም፡፡

የርሶ በዚህ ጥናት መሳተፍ ለጥናቱ በጣም አስፈላጊ ነዉ፡፡ ሆኖም ግን በዚህ ጥናት ለመሳተፍ አይገደዱም፡፡ በጥያቄው ውስጥ መመለስ የማይፈልጉት ጥያቄ ሲያጋጥምዎት ይንገሩኝ፤ወደሚቀጥለው ጥያቄ አመራለሁ፡፡ ከፈለጉ በማንኛውም ሰአት ቀለምልልሱን ማቆም ይችላሉ፡፡

<u>የስምምነት ቅጽ</u>

ከዚህ በታች በዚህ ጥናት ለመሳተፍ የፈረምኩት ግለሰብ፣ ስለጥናቱ ሙሉ መረጃ ተሰጥቶኝ ነው፡፡ እንዲሁም የምሰጠው ሙሉ መረጃ ለዚሁ ጥናት አላማ ብቻ የሚውል ይሆናል፡፡ የኔ ማንነትም ሆነ የምሰጠው መረጃ ሚስጥራዊነት የተጠበቀ እንደሚሆን ተገልጾልኛል፡፡ ሥለዚህ በዚህ ጥናት ለመሳተፍ በፈቃደኝነት ተስማምቻለሁ፡፡

የተሳተፊ ፊረማ.....

የመረጃ ሰብሳ ቢው ስም እና ፊርማ----------

F. Amharic translation of questionnaire

<u>ቃለመጠይቅ</u>

በዚህ ቃለ መጠይቅ ተሳታፊ የሚሆኑት፡- ልጆቻቸውን ለማስከተብ ወይም ለማሳከም ወይም በሌላ ምክንያት ወደ ክሊኒኩ ልጅ ይዘው የሚመጡ እናቶች ሆነው፤ባለፈው አንድ አመት ውስጥ ልጅ የወለዱ መሆን ይኖርባቸዋል ወይም የያዙት ልጅ ከአንድ አመት በታች መሆን ይኖርበታል::ምርጫ ለተቀመጠላቸው ጥያቄዎች መልሶችን **ያክብቡ**:: አጭር መልስ የሚጠይቁ ጥያቄዎችን ደግሞ መልሶችን **በተቀመጠው ክፍት ቦታ ያስፍሩ::**

የመጠይቁ ተ.ቁ_____ የጤና ተቋሙ ሥም_____ዕለት/___/___/____

	1. ማህበራዊ መረጃ		Skip pattern
101	እድሜሽ/ዎት ስንት ነው?	በሙሉ አመት ይጻፍ /__/__/	
102	ልጅሽ መቸ ተወለደ ?	(ቀን፣ ወር እና ዓ.ም) /__/__/__/	
103	ልጅሽ ሴት ነው ወይስ ወንድ?	ወንድ----------1 ሴት----------2	
104	ሀይማኖትሽ/ዎ ምንድን ነው?	ኦረቶዶክስ----------1 ሙስሊም----------2 ፕሮቴስታንት----------3 ሌላ ካለ ይጠቀስ_____	
105	ቢሄርሽ/ዎ ምንድን ነው?	አማራ----------1 ትግሬ----------2 አፋር----------3 አገው----------4 ሌላ ካለ የጠቀስ_____	
106	የጋብቻ ሁኔታሽ/ዎ ምን ይመስላል?	ያላገባች----------1 ያገባች----------2 የፈታች/የሞተባት/ለግዜው የተለያየች--------3	
107	የትምርት ደረጃሽ/ዎ ምን ያህል ነው?	ያልተማረ/መጻፍ ማንበብ የማይችል----1 ከ 1-8--------2 ከ 9-10+2---3	

		ከ 10+2 በላይ--4	
108	የባለቤትሽ የትምርት ደረጃ	ያልተማረ/መጻፍ ማንበብ የማይችል--1 ከ 1-8--------2 ከ 9-10+2---3 ከ 10+2 በላይ--4	
109	የትውልድ ቦታ የት ነው?	የትውልድ ቦታ_____	
110	ስራሽ/ዎ ምንድነው?	የመንግስት ስራ ቅጥር---------1 የግለሰብ ቅጥር ----------2 የቀን ስራ----------3 የቤት እመቤት ----------4 የቤት ሰራተኛ----------5 ነጋዴ----------6 ገበሬ----------7 ሌላ ከለ ይጠቀስ _____	
111	የባለቤትሽ/ዎ ስራ ምንድን ነው?	የመንግስት ስራ ቅጥር------1 የግለሰብ ቅጥር ----------2 የቀን ስራ----------3 ነጋዴ----------6 ገበሬ----------7 ሌላ ከለ ይጠቀስ _____	
112	አማካይ አመታዊ ገቢያችሁ ምን ያህል ይሆናል?	_____	
	2. ስለ ጡት ማጥባት ግንዛቤ ወይም እውቀት መረጃ		
201	ልጅ እንደተወለደ በምን ያክል ግዜ ውስጥ ጡት ማግኘት ይኖርበታል?	ከሶስት ቀን ቡሃላ------1 ወዲያዉኑ አንድ ሰአት ባልሞላ ግዜ ውስጥ----------2 በ 30 ደቂቃ ዉስጥ------3 ከ 24 ሰዓት ቡሃላ--------4 ሌላ ካለ ይጠቀስ_____	

202	የጡት የመጀመሪያውን ወተት(እንገር) ምን መረግ ያስፈልጋል?	መድፋት ወይም ማስወገድ----------1 ልጁ ወዲያው እንዲጠባው ማረግ------2 ሌላ ካለ ይጠቀስ_____	
203	ልጁ ስነት ወር ሲሞላው ነው ተጨማሪ ምግብ መስጠት የሚያስፈልገው?	3 ወር ወይም ከዛ በታች-------1 4ወር----------2 5ወር----------3 6ወር----------4 7 ወር ወይም ከዛ በላይ-------5	
204	ስድስት ወር ላልሞላው ልጅ ከሚከተሉት ውስጥ የትኞቹን መስጠት ያስፈለስጋል?	ንጽህ ውሃ ---------- 1 የህጻናት የዱቄት ወተት----------2 ወተት፣የታሸገ፣ዱቄት፣ወይም ትኩስ የላም ወተት----------3 ጭማቂችወይም እርጎ ወይም አጥሚት----------4	
3. ጡትን ብቻ ስላማጥባት ስላለ አመለካከት መረጃ ከዚህ በመቀጠል የምጠይቅሽ/ዎት፤የአንችን/እረሶን አስተያየት የሚጠይቁ አንቀጾች ይሆናሉ:: አንች/እርሶ ወልሶትን/ሽን በጣም እስማማለሁ ወይም እስማማለሁ ወይም በጣም አልስማማም ወይም አልስማማም ከሚሉት አመራጮች የሚስማማዎትን ትመርጫለሽ /ይመርጣሉ ::			
301	ልጅ ወዲያው እንደተወለደ የጡት ወተት ወዲያው ወይም አንድ ሰዓት ባልሞላ ግዜ ውስጥ ማጥባት ጥሩ አይደለም::	በጣም እስማማለሁ------4 እስማማለሁ----------3 አልስማማም----------2 በጣም አልስማማም------1	
302	ልጅ እንደተወለደ የመጀመሪያውን ወተት ወይም እንገር መስጠት አያስፈልግም::	በጣም እስማማለሁ------4 እስማማለሁ----------3 አልስማማም----------2 መጣም አልስማማም----1	
303	ለሶስት ወር ልጅ ውሀ እንዳይጠማው ከጡቱ በተጨማሪ ውሀ እና ሌላ ፈሳሽ መስጠት ይገባል::	በጣም እስማማለሁ------4 እስማማለሁ----------3 አልስማማም----------2 በጣም አልስማማም------1	
304	ልጅ እነደተወለደ ልክ አራት ወር ሲሞላው ወይም ከዛ	በጣም እስማማለሁ------4	

	በፊት ተጨማሪ ምግብ ማስጀመር ይገባል፡፡	እስማማለሁ----------3 አልስማማም----------2 በጣም አልስማማም------1	
4. <u>ልጆች ስድስት ወር እስኪሞላቸው ድረስ የነበረው ወይም ያለው ያመጋገብ ስርአት እና ተዛማች ጉዳዮች</u>			
401	ነብሰ ጡር እያለሽ/ሉ ስንቱ የ ቅድመ ወሊድ ክትትል አርገሻል/ዋል	አይ ክትትል አላረኩም--------1 አንዴ ብቻ----------2 ሁለቴ----------3 ሶስቴ----------4 አራት ግዜ----------5	
402	እስካሁን ስንት ልጆች ወልደሻል (በማስወረድ ወይም ሲወለዱ የሞተ ልጅን አይመለከትም)	በሂዎት የተወለዱ ብቻ____	
403	ጡት እያጠባሽ ነው ወይስ አታጠቢም ?	አዎ----------1 አይ አይደለም----------2	አዎ ከሆነ ወደ ጥያቄ 406 ይለፉ
404	ጡት አጥብተሽው ታውቂያለሽ ወይም ታጠቢ ነበር	አዎ----------1 አይ አይደለም----------2	አዎ ከሆነ ወደ ጥያቄ 406 ይለፉ
405	ለምንድን ነው ጡት የማታጠቢው ወይም ያላጠባሽው ?	ጡቴ ትንሽ ስለሆነች/ወተት ስለሌለው--------1 የጡቴ ጫፍ ትንሽስለሆነች----------2 ከስራየ ጋር ስለማይመቸኝ----------3 በሀኪም ስለከለከለኝ----------4 ልጀ ተጨማሪ ምግብ ስለጀመረ----------5 ሌላ ካለ ይጠቀስ_____	
406	እንደወለድሽ ለልጅሽበምን ያክል ግዜ ውስጥ ጡት ሰጠሽዉ?	ወዲያውኑ/ከአንድ ሰዓት በታች----------1 በሰአታት ውስጥ/ከአንድ ሰዓት በላይ ከሆነ----2 ካንድ ቀን በላይ----------3	መልሱ 1 ከሆነ ወደ ጥያቄ ቁጥር 408 ይለፉ
407	ልጁ እነደተወለደ ዘግይተሽ ጡት የሠጠሽው በምን ምክንያት ነበር	እንገሩ ንጹህ ስላልሆነ/ለልጁ ጥሩ ስላልሆነ----1 ጡቴ ወተት ስለሌለው----------2	

		እኔ ታምሜስለነበር----------3 ልጁ ታሞ ስለነበር----------4 ምክንያት የለም----------5	
408	ልጅሽ ወዲያው እንደተወለደ ከ ጡት ሌላ የጠጣው/የበላው ነገር አለ?	አዎ----------1 የለም----------2	የለም ከሆነ ወደ ጥያቄ ቁጥር 410 ይለፉ
409	ምን አይነት ምግብ/ፈሳሽ ወስዷል (ከንድ በላይ መልስ ይቻላል፡፡አማራጩን እያንብቡ ሌላስ እያሉ እንዲጨምሩ ያበረታቱ)	ቅቤ----------1 ዉሀ ----------2 ሻይ----------3 ውሃ እና ስኳር ----------4 ሌላ ካለ ይጠቀስ_____	
410	ከወለድሽ ቡሃላ ልጁ አምስት ወር እስኪሞላው የሚከተሉትን ምግቦች ወስዶ ያውቃል ወይም አሁን ይወስዳል (6 ወር ካልሞላው)	ንጽህ ውሃ----------1 የህጻናት የዱቄት ወተት----------2 ወተት፣የታሸገ፣ዱቄት፣ወይም ትኩስ የላም ወተት-----3 ጭማቂችወይም እርጎ ወይም አጥሚት----------4	