ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

ASSESMENT OF THE PREVALENCE AND FACTORS INFLUENCING ADHERENCE TO EXCLUSIVE BREAST FEEDING AMONG HIV POSTIVE MOTHERS, IN SELECTED HEALTH INSTITUTION OF ADDIS ABABA,ETHIOPIA.

A Thesis submitted to school of public health Addis Ababa University in partial fulfillment of the requirement for degree of master of public health.

By

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June, 2012

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1. Title: Assessment of the prevalence and factors influencing adherence to exclusive breast feeding among HIV positive mothers in selected health institution of Addis Ababa, Ethiopia.
2. Student name: Medina Mukerem
3. Advisor name: Dr. Jemal Hider
4. Keywords: Exclusive breastfeeding adherence, factors influencing exclusive breast feeding adherence
5. Date issued: 14/6/2012
6. Year copy right: 2012
7. Department: Public health
8. Abstract

Abstract

Background: Exclusive breastfeeding (EBF) has the potential to significantly reduce infant mortality, but is frequently not practiced in low-income settings where infants are vulnerable to malnutrition and infections including human immunodeficiency virus (HIV).

Objective: This study is intended to assess factors influencing adherence to exclusively breast feeding (EBF) among HIV positive mothers, in selected health institutions of Addis Ababa.

Methods: Facility based cross-sectional, study design supplemented by qualitative method was conducted among 384 HIV positive mothers drawn from purposively selected 3 hospitals and 10 health centers with ART and PMTCT service in Addis Ababa City from Jan 1to Feb30, 2012. Data were collected using pre-tested structured questionnaire and entered into a computer and analyzed in SPSS software version 16.

Results: The prevalence of EBF adherence and non adherence were (73.0%) and (27.0%) respectively. Among mothers who did not adhere to EBF, the commonest reasons mentioned were family opposition (44.0%) and (19.0%) due to infant illness. The major predictors for EBF adherence included ANC follow up four or more times (AOR=1.89; 95%CI=1.05-3.43), had negative attitude towards EBF (AOR=0.32; 95%CI=0.16-0.63) and maternal illnesses (AOR=0.27; 95%CI=0.14-0.53).

Conclusions and recommendations: Although the majority of mothers adhered to exclusively breast feeding, still more actions are needed. Therefore, it is recommended to strengthen and widen the MSG (mother support group) in each health facility that focuses on the importance of ANC follow-up. Other important actions are to change the negative attitude of mothers towards EBF through BCC and furthermore advise mothers to get a timely treatment whenever they experience illness.

Acknowledgments

I would like to extend my sincere thanks to my advisor Dr. Jemal Hider for his unreserved guidance and comments, throughout the study.

I would also like to extend my thanks to the School of Public health, College of Health Sciences, and Addis Ababa University for giving me the chance and financing my thesis work.

I am grateful to my instructors, all other staffs of the SPH, supervisors and data collectors for their invaluable input to this thesis work.

My great thanks also go to the study participants and health care providers in Addis Ababa.

I would like to thank the federal ministry of health (FMOH) and Addis Ababa regional health office that have provided relevant material and information for the study.

My grate thanks also go to my family and my friends for their invaluable input to this thesis work.

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ACRONYMS

AIDS	Acquired immune deficiency syndrome
AFASS	Acceptable feasible affordable sustainable and safe
AOR	Adjusted odds ratio
ART	**A**nti retroviral therapy
COR	Crudes odds ratio
CI	Confidence interval
CS	Caesarian section
EBF	Exclusive breastfeeding
ERF	Exclusive replacement feeding
HIV	Human immune deficiency virus
MBF	Mixed breastfeeding
MSG	Mother Support group
MTCT	Mother to child transmission
PBF	Predominant breastfeeding
PI	Principal Investigator
PMTCT	Prevention of mother to child transmission
PNT	Postnatal transmission
RF	Replacement feeding
SPSS	Statistical Package for Social Sciences
SVD	Spontaneous vaginal delivery
WHO	World health organization

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1. Introduction

1.1 Background

Breastfeeding confer benefits to both the mother and nursing infant, including improved maternal and child health and improved infant growth and development. However, in the context of HIV/AIDS, breastfeeding also increase the risk of MTCT of HIV (1). Mother-to-child transmission of HIV-1 can occur during pregnancy, labor/delivery or breastfeeding. Without intervention, HIV infection occurs in about 35% of infants born to HIV-infected women: 10% during pregnancy,15% during labor/delivery and 10% during breastfeeding (2). Mother-to-child transmission is the primary mode of HIV acquisition in children accounting for about 90% of cases; therefore, the most efficient and cost-effective way to tackle pediatric HIV globally is to reduce mother-to-child transmission (MTCT) (3).

Exclusive breastfeeding (EBF) has the potential to significantly reduce infant mortality, but is frequently not practiced in low-income settings where infants are vulnerable to malnutrition and infections including human immune including human immune deficiency virus (HIV) (4). Accordingly WHO recommendation of 2010, mothers known to be HIV-infected and whose infants are HIV uninfected or of unknown HIV status should exclusively breastfeed their infants for the first 6 months of life, introducing appropriate complementary foods thereafter, and continue breast feeding for the first 12 months of life. Breastfeeding should then only stop once a nutritionally adequate and safe diet without breast milk can be provided (5).

In contrast, alternatives to breastfeeding, replacement feeding (RF) is an option but RF is usually not acceptable, feasible, affordable, sustainable and safe (AFASS) for many HIV-infected women living in resource-limited settings (6). To prepare replacement foods and feed the baby for several times per day for many months is challenging, even in the best of circumstances mothers who choose replacement feeding need help to succeed. Counselors must emphasize the need for sterile equipment and correct dilution, and the dangers of keeping prepared formula for long periods at room temperature (7). But most of HIV-positive mothers with infants below 6 months of age choose mixed breast-feeding (MBF) more often than the general population, and they were less likely to breastfeed their infants exclusively (8). According to Peter J. MBF was associated with a fourfold increase in postnatal HIV transmission (PNT) and a threefold increase in the risk of

(PNT) plus death at 6 months, compared with EBF (9). Only babies aged 4 months or younger were exclusively breastfed. HIV-infected mothers introduced both alternative fluids and complementary foods earlier than HIV-uninfected mothers and often before 2 months (10). In Ethiopia, the proportion of women who practiced EBF and predominant breast-feeding (PBF) were 49.0% and 19%.0 respectively making the overall rate of full breastfeeding (both EBF and PBF) 68.2% among general population (11). However, the majority (95.3%) of the mothers were found to have unfavorable attitude towards the infant feeding options recommended to HIV positive mothers (12). In recent EDHS the proportion of women who practiced EBF, in general population found to have (52.0 %) (13). Even if there is a small risk of HIV transmission by breastfeeding, EBF is shown to give the best chance of survival even for babies born to HIV-positive mothers (14). Thus the purpose of this study is to assess factors influencing adherence to EBF among HIV positive mothers.

1.2 Statement of The problem

Exclusively breastfeeding (EBF) for the last six month is the best feeding option for mothers living with HIV/ADS, unless she is able to provide replacement feeding appropriately(based on AFASS criteria). Providing replacement feeding appropriately is unlikely in most developing countries including Ethiopia. Despite the enormous benefit of EBF, many women's practicing mixed feeding which increase the risk of HIV transmission to the infant. Demonstrating a gap of information on EBF practicing of HIV positive mothers, the aim of this study is thus to asses factors influencing adherence to EBF among HIV positive mothers. Therefore this study will identifies those factors influencing adherence to EBF among HIV positive mothers.

1.3 Significance of The Study Strict adherence to EBF from birth has to be emphasized because it has been shown that the addition of even non-nutritive feeds, e.g. water or teas, increases the likelihood of diarrhea and thus, possibly, also HIV transmission (15). Exclusively breast feeding (EBF) adherence among HIV positive mothers is low in Ethiopia; therefore, understanding of factors influencing adherence to EBF is a prerequisite for designing strategies at policy level aimed at improving adherence to EBF among HIV positive mothers.

Conceptual frame work

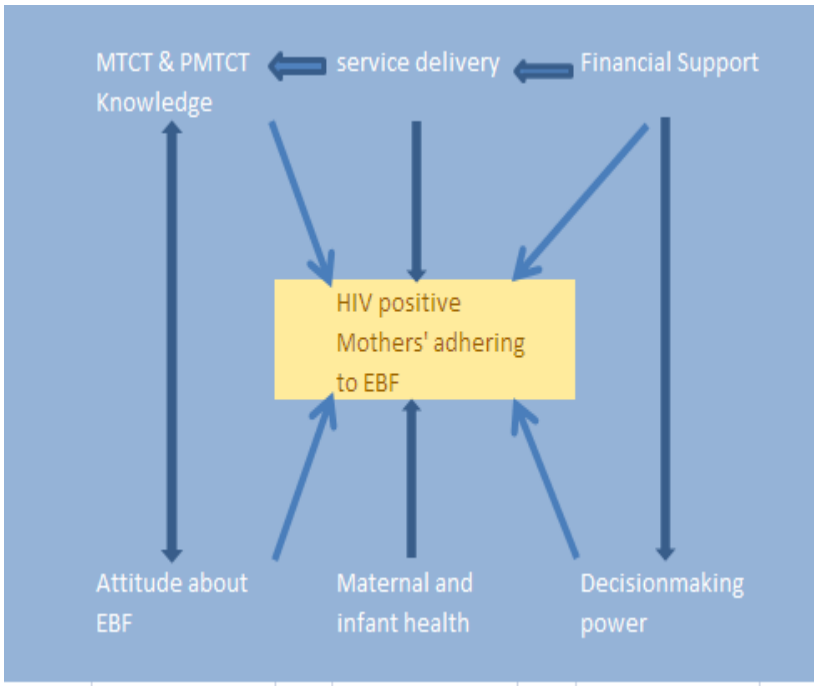

Figure 1 : Conceptual frame work on factors influencing adherence to EBF among HIV positive mothers, in Addis Ababa, 2012

2. Literature Review

This literature review assumes various contributing factors to the adherence of EBF among HIV positive mothers and includes magnitude of exclusive breast feeding, knowledge of the mother on MTCT, PMTCT, service delivery, decision making power on infant feeding option, source of financial support, health condition of the mother and the infant and attitude towards exclusive breast feeding. It is primarily based on previous relevant studies and the conceptual frame work displayed in figure1 above.

2.1 Magnitudes of Exclusive Breast Feeding Practice / Infant Feeding Practice

A comparative cross-sectional study done in Uganda stated that the prevalence of EBF among mothers in the study was 40.0% (16). Another study in Uganda showed Breastfeeding was initiated by most of the mothers and pre-lacteal feeding was given to 150 (64.0%) infants and 65 (28.0%) practiced exclusive breastfeeding during the first three days. One-fifth of the infants less than 6 months old were exclusively breastfed and the majority were given complementary feed and continued on breast milk (17).

According to south Africa study, 50.0% of the children were put on exclusively formula feeding, 35.6% on breast milk exclusively and 12.4% were fed both milk and formula (18). The more recent study done in Addis Ababa, Ethiopia documented a proportion of children who were Exclusive replacement feeding (ERF), exclusive breastfeeding (EBF) and mixed feeding (MF) were 46.8%, 30.6%, and 15.3% respective (19). Some of the favorable factors for adhering to EBF displayed in figure 1.

2.2 Knowledge of the Mother on MTCT and PMTCT

According to Kumasi from Ghana on knowledge of the women about MTCT, 50.0% of respondents said an HIV positive woman could transmit HIV to her baby before birth. And also knew the use of drugs in pregnancy and the avoidance of breastfeeding as ways to prevent transmission (20). A cross-sectional study conducted in South Africa stated that 95.0% of women were informed that HIV can be transmitted to an infant during delivery. A very high percentage (94.8%) reported that they were informed that HIV can be transmitted in breast milk, and more

than 70.0% knew that HIV can be transmitted during pregnancy, labor and through Breastfeeding (18).

The other Cross- sectional with qualitative study conducted in Tanzania, stated that, mothers were well informed about the risk of MTCT of HIV through breastfeeding and during labor but only few knew it could be transmitted during pregnancy; on the other hand, only half of the respondents knew that exclusively breastfeeding would reduce the risk of transmission during the breastfeeding period (21). Although 68.0% (95% CI 62–75) knew that HIV could be transmitted to the foetus by an infected mother during pregnancy and delivery, only 46.0% knew that breastfeeding can be a route of transmission (22). Another study conducted in Jima, south Ethiopia showed that 38.8% and 41.8% mothers had sufficient knowledge about MTCT and PMTCT respectively (12). A study done in Addis Ababa, Ethiopia also reported that mothers who had sufficient knowledge about MTCT and PMTCT were 59.9% and 56.6% respectively (23).

2.3 Service Delivery

A comparative cross- sectional study done in Uganda, among mothers who adhered and non-adherence to EBF showed that adherence to EBF is favored by individual pre-test counseling, having attended at least four antenatal counseling sessions, having been satisfied with antenatal counseling, attending at least six postnatal counseling sessions, discussing with health workers on EBF, having had a vaginal delivery and delivered in health institution (16). Another cross-sectional study in a rural Ugandan community with a high HIV/AIDS burden documented a prevalence of EBF of 35.1% and the factors positively associated with EBF were institutional delivery from the health unit, (OR= 2.07; 95%CI=1.2–3.6), and mother having a normal vaginal delivery (OR =10.54;95%CI=3.0–36.6) (15). A study conducted in Addis Ababa-Ethiopia stated that mode of delivery remained as a predicting factor for EBF. Mothers who delivered by C/S were 80.0% less likely to practice EBF than those who delivered by SVD (OR=0.2, 95%CI=0.1-0.(19). Lactating mothers who didn't visit health institutions for antenatal care during their last pregnancy practiced exclusive breastfeeding significantly less than lactating mothers who attended at least once. In the same way, The lactating mothers who reported that the place of delivery of their last infants was at Government Health Center were found to practice mixed feeding more than those delivered at government hospital (12, 15, 16, 19).

The donation of formula may undermine even skilled counseling. This outcome was well-recognized by the worldwide movement of the late 20th century to combat the infiltration (involvement) of infant formula milk manufacturers into the maternity and well-baby clinics of the developing world. Women who choose formula are rewarded with an expensive gift; those who breastfeed go without (24). The mixed method approach study in Uganda indicated that avoiding breastfeeding was in many cases promoted as the ideal option for HIV-positive mothers from several of the health workers both in the public health sector and among those working directly with HIV-positive mothers in the PMTCT programmers. Breastfeeding was there mainly and regarded as an option for those who could not afford or manage replacement feeding. Many health workers acknowledged that their clients had economical con-strains and therefore advised mothers to practice exclusive breastfeeding (25).

2.4 Decisions Making Power on Infant Feeding Options

There is no doubt that socio-cultural norms promote the use of mixed feeding which has been established to carry a higher risk for MTCT of HIV. In the post partum period, even among women who have chosen to exclusive breast feed, they face enormous pressure from family members and partners to introduce other fluids and foods from an early age (26).

Among mothers who practiced mixed feeding, the commonest reasons cited were neighbor's advice, husband imposition and family opposition (19). The majority of HIV-infected pregnant women are often not in a position to make independent decisions; therefore the right to free choice of infant feeding options is low (27). The family will offer to buy her formula when she has chosen to breastfeed, they will tell her that breast milk is not enough for the baby; she must also mix it with formula feeding simply because she hasn't reveled her HIV sero-positivity and the reason why she chose to exclusively breastfeed her baby (7). Another qualitative study in Uganda stated that, from focused group discussion, "My mother stopped me from giving breast milk unless I first give sugar and water (28). Regarding the important person who is making decision on how to feed infants; the proportion of mothers making decision by themselves, husbands (partners) and the grandfather of the infants were 35.8%, 55.8% and 8.3% respectively based on the Jimma study (12).

2.5 Source of Financial Support

Some FGD discussants from Uganda said that EBF is very time-consuming and difficult to practice for a mother who also had other commitments in the household or outside. A woman's chores in and around the house including cooking, cleaning, collecting water and firewood as well as taking care of the children and elders were described as so demanding that it made EBF difficult: 'I have a lot of work at home so I have no time to breastfeed exclusively.' in the same way, another discussant said working outside the home and being employed is virtually impossible to combine with exclusive breastfeeding: 'Some working mothers have no option but to introduce other feeds (27). A study done in Norway, revealed that in order to succeed in exclusive breastfeeding for six months, support is critical, both economic support to strengthen food security and social support from partners and peers (29)

2.6 Health Condition of the Mother and the Infant

According to the qualitative study in Uganda, "Sickness like malaria and breast problems like breast engorgement is the major causes for mothers not to adhere to EBF. Such health problems are reported to be very common and do not allow the mothers to breastfeed exclusively (28). The other most common reasons for non-EBF mentioned in another study were that the infant was either crying or sick (7). Fewer mothers experienced problems relating to breastfeeding illnesses, such as generalized pain, frequent fever and a feeling of weakness. Breast pain, sore and cracked nipples, and swelling of the breast also burdened (19.0%) mothers (1.0%) were diagnosed with mastitis or breast abscess (17).

2.7 Attitude towards Exclusively Breast Feeding

Cross-sectional study done in Uganda stated that perception like Breastfeeding difficulties, perceived insufficient milk production, the notion that the child was "old enough" or "big enough", and that the child could eat without help are some reasons for not adhering to EBF (17). Another qualitative study in Tanzania revealed that breastfeeding as the best way to feed an infant and believed it should preferably be practiced into the second or third year of life. Exclusive breastfeeding, however, was not seen as being customary or feasible beyond three months because breast milk was considered insufficient for the child's growth and there was a common belief that babies need water in their first month because they 'feel thirsty', some-times babies were given water even before breastfeeding was established. Boiled water and grape water were seen as essential for the relief of abdominal colic, and many believed that water should be given at least daily (30).

3. Objective

3.1 General Objective

To assess the prevalence and factors influencing adherence to exclusively breast feeding among HIV positive mothers, in selected government health institutions of Addis Ababa city.

3.2 Specific objectives

1. To determine the magnitude of EBF adherence among HIV positive mothers.

2. To assess the knowledge level of HIV positive mothers about MTCT and PMTCT and attitude towards EBF.

3. To identify factors contributing to adherence to EBF among HIV positive mothers.

4. Method and Materials

4.1 Study Area

The study was conducted in Addis Ababa; the capital city of Ethiopia .The city has three layers of Administration: City Government at the top, 10 Sub City Administrations in the Middle, and 116 woreda Administrations at the bottom. According to the 2007 population census, the city has an estimated population of 2,854,462. The proportion of children less than one year and under five years' children and women of child bearing age are 2.2%, 7.2%, 34.6% respectively. The city has 38 hospitals of which 5 are owned by AAHB, 5 by federal ministry of health, 2 by NGO's, 3 by defense and police and 23 by the private owners. There are 30 health centers of which 27 are owned by the city administration, 2 by NGO's and 1 by the public. There are also 442 clinics of which 6 are run by the City Administration, 28 by NGOs and 56 by other government organizations, 46 by factories and 312 by private owners (31).

4.2 Study period

The study was conducted from January1 to February 30, 2012.

4.3 Study Design

The study design was facility based cross-sectional, quantitative study supplemented by qualitative method.

4.4 Source population

All reproductive age women living with HIV and having exposed infant less than 12 month attending ART and PMTCT clinic in Addis Ababa.

4.5 Study population

All reproductive age women living with HIV and having exposed infant less than 12 months who had ever breastfed and attending ART and PMTCT clinic during the study period.

Inclusion Criteria: Mothers living with HIV who had an exposed infant less than12 months of age and ever breastfed.

Exclusion Criteria: Mothers who were critically sick and unable to respond the question.

4.6 Sample size Determination

The sample size was determined using single population proportion formula with the following assumptions;

Assumptions: The total estimated number of HIV positive lactating mothers who give live births(N) was1093 (32).

Desired precision (d) = 4.0%

Expected prevalence (p) = 31.0% proportion for EBF adherence among HIV+ mothers, from study in Addis Ababa, Ethiopia (19).

Confidence level=95% α set at 0.05

$Z_{\alpha/2}$=1.96

$$n0 = (z\alpha/2)2\ p(1-p)/d^2$$

$$= (1.96)^2(0.31)(0.69)/(0.04)^2$$

$$no = 315$$

Then by using finite population correction formula

$$n = \frac{no}{1+\frac{no}{N}}$$

Where n=the required sample size

N= total population

$$n = \frac{315}{1+315/1093}$$

=349 +35(10% non-response)

Final sample size= 384

4. 7 Sampling Procedure

4.7.1 Sampling procedure for Quantitative study

The Health institutions available in Addis Ababa were grouped by ownership into Government and Privates. Of these, only Government Institutions was included because most of the private hospitals have very few clients of ART (personal communication); and mostly mothers opt for replacement feedings, they were excluded from the study. There are 13 government hospital and 27 government health centers in Addis Ababa. Three government hospitals and 10 government health centers (one from each sub city) that provide ART and PMTCT service were purposively selected based on their large client flow. This was done in consultation with Addis Ababa Regional Health Bureau. All the eligible attending the selected government health institutions were recruited in order of their arrival. And a total of 384 HIV positive mothers with their young infants visiting the respective health institutions were recruited at facility level and a total of 371 mothers were interviewed.

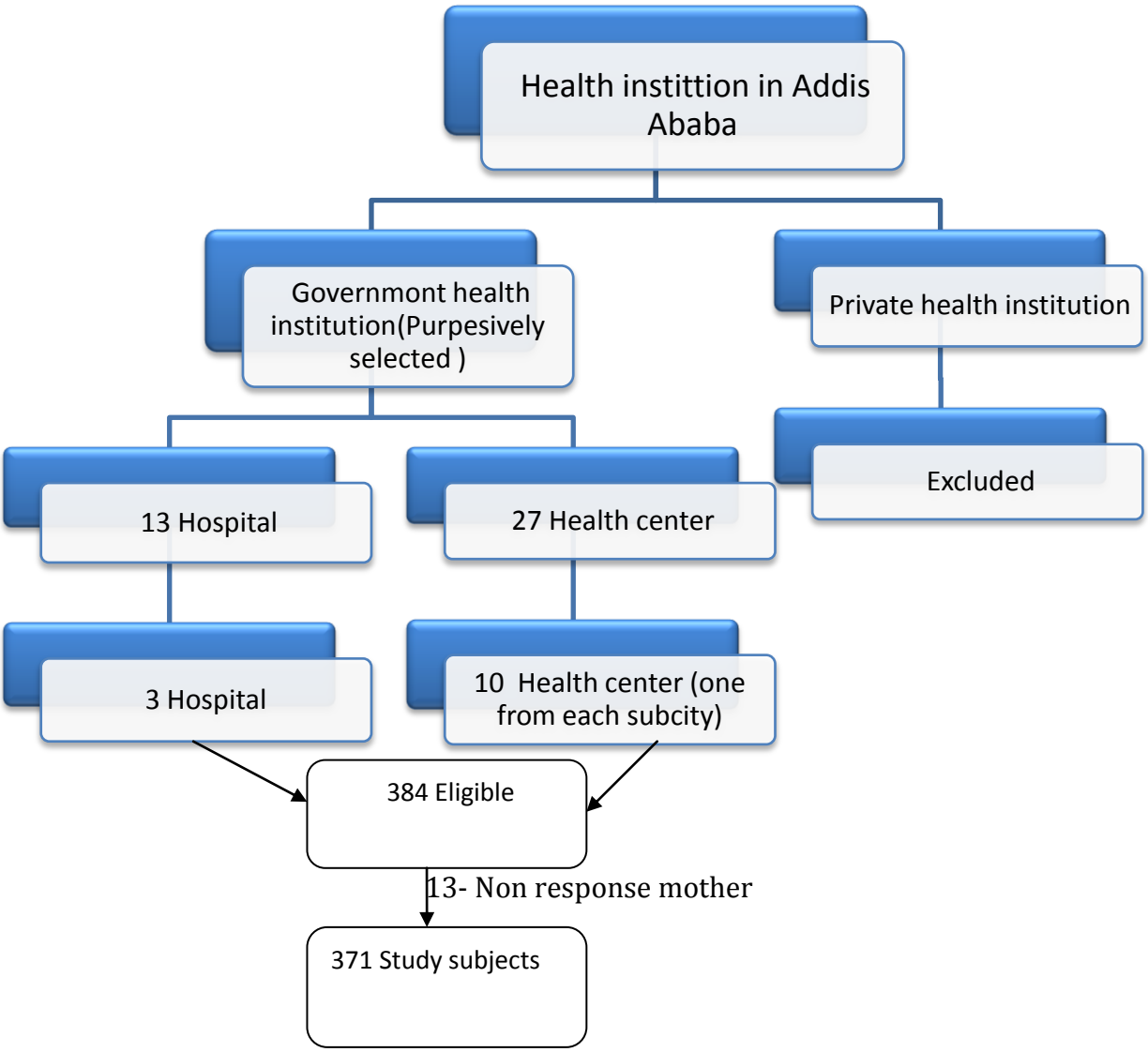

Figure 2 : Schematic Presentation of the Sampling Procedure**,** Addis Ababa, 2012

4.7.2 Sampling Procedure for Qualitative study

In- depth interview was conducted from similar health institution with HIV positive mothers who have ART follow up and having good participation during quantitative interview. A total of 10 participants were selected using purposive sampling technique till reached to a point of redundancy of information. The participants were interviewed after informed by principal investigator about the purpose of the study, In-depth interview was performed to get insight knowledge about factors influencing adherence to EBF.

4.8 Data collection procedure

4. 8.1 For Quantitative study

4.8.2 Study tools

Questionnaire was prepared by reviewing prior studies and other materials on the topics with some modification (12, 20, 23). And was pretested at field level, the questioner was prepared with an aim of answering the main study question of the research in English language and was translated into Amharic language and back to English by principal investigator and other personnel fluent on both languages to prevent possible misunderstanding and misinterpretation. The questionnaire was containing mainly close ended questions, and it had also few open ended questions.

4.8.3 Training of Data Collector

The data was collected by 10 health officers and 3 nurses from respective selected hospitals and health centers. And 3 health officer and the principal investigator were supervising them. Training was given for data collectors and supervisors on the objective, type of the questionnaire, eligibility of the women and on confidentiality and other ethical issues.

4.8.4 For Qualitative study

The interview was conducted by the investigator and semi structured questionnaire guide line was employed. During each in depth interview we were trying to followed same flow of order of discussion until saturation of information occurs. The interview was tape recorded after obtaining informed consent from the participants and complemented with written notes (i.e. field notes) by the interviewer and 45 minutes in average was given for each participant. The interview was conducted in a place where there was no interruption and privacy was maintained.

4. 9 Data processing and Analysis

Data entry: Coding, template preparation and cleaning (by running frequencies, list and sorting) were done by principal investigator using epi info version 3.5.1.

Data analysis: Data were analyzed using SPSS software version 16 by principal investigator. Descriptive and summary statistics with frequency, proportion and odds ratio was used to describe the study population in relation to relevant variables and to assess presence and degree of association between EBF adherence and different variables. P- Value less than 0.05 was used to decide whether observed differences in proportions was statistically significant or not. Multivariate logistic regression analysis with crude odds ratio (COR) and adjusted odds ratio (AOR) was done to see the effect of independent variables on the outcome variables and to control the possible confounding effect.

The knowledge status was measured with help of closed ended questions, multiple response analysis method applied and those who respond two and above considered as having sufficient knowledge.

In the case of attitude three closed ended question was applied and the response options was likert scale ranging from strongly agree to strongly disagree, a sum score was calculated. Finally, those who scored mean and above considered as having positive attitude.

4.9.1 For the Qualitative study: Narrative analysis was used based on the recording and notes taken during the interviewee. The data was transcribed and translated word by word for analysis.

The qualitative finding was triangulated with the quantitative finding for discussion.

4.10 Data quality Management

- Data quality assurance was in place during questionnaire designing, data collection and data entry.
- Questionnaire was objective based, logically sequenced, free of scientific terms, non-leading and pretested.
- The data collectors and supervisors were provided with intensive training. The collected data were checked by the Principal investigator for any incompleteness and/or consistency.
- The questionnaire was tested for clarity, flow, cultural, moral fitness and time requirement among 5% of sample size before the actual data collection started. And findings and experiences from the pre-test was utilized in modifying the data collection tools.
- Data were cleaned by using simple frequency, listing and sorting for any inconsistency.

4.11 Study Variables

Dependent variable

- Adherence to exclusively breastfeeding

Independent variables

- Socio demographic variable
- Knowledge of women about MTCT and PMTCT
- Obstetric history
- Decision making power on infant feeding options
- maternal and infant health
- Source of Financial Support
- Attitude towards EBF.

4.12 Operational Definition

Exclusive breastfeeding adherence: The infant consumed only breast milk and no other liquids, milks or solid foods except vitamins or prescribed medicines according to mothers' reports.

Non-exclusively breast feeding adherence: The infant consumed breast milk and also other fluids or food apart from vitamins or prescribed medicines, according to mothers' report.

Knowledge of MTCT and PMTCT of HIV: Those respondents who respond 2 and above HIV transmission method or prevention method of mother to child transmission of HIV were coincided as having sufficient knowledge and those who respond one and none considered as having insufficient knowledge.

Attitude towards exclusively breast feeding: Those respondents who had scored mean and above from the total sum score of three close ended likert scale questions were considered as having positive attitude and those who scored less than mean considered as having negative attitude.

4.13 Ethical Considerations

Ethical clearance was obtained from the research ethics committee of School of Public Health College of Health Science, Addis Ababa University. Official letter of co operation was written for respective health facility and for Addis Ababa regional health office by the school. Informed and written consent was obtained from each study subjects after the nature of the study was explained in the local language except coding, name and other identifier was not written in the questionnaire. Freedom of the mother to participate or not participate in the study was explained and respected. All the interviews were conducted in private with high degree of confidentiality during data collection.

4.14 Dissemination of the Result

The output of this study will be disseminated to Addis Ababa University, College of Health Sciences / School of Public health as partial fulfillment of master's degree in public health. It will also be disseminated to federal ministry of health, Addis Ababa health office and other concerned governmental and non-governmental organizations. Attempts will be made to present the findings in scientific conferences and submit a manuscript for possible publication in peer reviewed journals.

5. Results

I Quantitative

5.1 Socio- demographic characteristics

From the total of 384 subjects enrolled, only 371 subjects participated in this study making the response rate of 96.6%. The majority of Participants were in the age group of 25 to 34 years with The majority of Participants were in the age group of 25 to 34 years with mean age of 29.1 (± SD 4.4). Most of them 302 (81.4%) were married and 224(60.4%) house wives in occupation with educational status of primary school 170(45.8%). In case of religion of mother's orthodox Christian accounts 290(78.2%). And slightly greater than half 211 (56.9%) were of Amhara ethnic group.

On the other hand educational and occupation of spouse were fall under secondary school and private job, 146(41.6%) and 193(55.0%) respectively. The house hold monthly income of between 501-1000ETB per month was reported by 150(42.3%) subjects.

Table 1 : Socio demographic characteristics of study subjects and their spouse, Addis Ababa, 2012(n=371)

Variable	Frequency	Percent
Age in years		
15-24	46	12.4
25-34	270	72.8
35-49	55	14.8
Marital status		
Single	20	5.4
Married	302	81.4
Divorced	40	10.8
Widowed	9	2.4
Education		
Illiterate	80	21.6
1-8	170	45.8
9-12	105	28.3
College/ university	16	4.3
Religion		
Orthodox	290	78.2
Muslim	44	11.9
Protestant	35	9.4
Catholic	2	0.5
Ethnicity		
Amara	211	56.9
Oromo	76	20.5
Gurage	60	16.2
Tigre	16	4.3
Other	8	2.2
Occupation		
House wife	224	60.4
Private employee	83	22.4
Government employee	15	4.0
Merchant	23	6.2
Other (daily labor…)	26	7.0
Occupation of spouse		
Private employee	193	55.0
Government employee	68	19.0
Merchant	56	16.0
Other (daily labor…)	34	9.7
Education of spouse		
Illiterate	55	15.7
1-8	98	27.9
9-12	146	41.6
College/ university	52	14.8
Monthly hose hold income(n=355)		
<=500	120	33.8
500-1000	150	42.3
>=1001	85	23.9

5.2 Socio economic status of study subjects

Almost all mothers 370(99.7%) source of drinking water were pipe, 245(66.0%), 84(22.6%), 275(74.1%) were had radio, TV, fridge and chair respectively.

Table 2 : Socio economic status of study subjects, 2012 (n=371)

Variable	Frequency	Percent
Availability of radio		
Yes	314	84.6
No	57	15.4
Availability of Television		
Yes	245	66.0
No	126	34.0
Availability of fridge		
Yes	84	22.6
No	287	77.4
Availability of chair		
Yes	275	74.1
No	96	25.9
Source of drinking water		
Pipe	370	99.7
Open well	1	0.3

5.3 Obstetric history

Almost all mothers 361(97.3%) had attended antenatal follow up during the first trimester, second trimester and third trimester period, 109(30.2%) , 226(62.6%) and 26(7.2%) respectively. The majority 261 (72.3%) had antenatal follow up more than four times with mean frequency of 4.1 times. Almost all mothers 350(94.3) delivered at health institutions and the mode of delivery was SVD in 311(83.8%) and instrumental delivery and Cicerian section was 18(4.9%) and 42(11.3%) respectively.

Table 3 : Obstetric history of mothers living with HIV/AIDS, Addis Ababa, 2012 (n=371)

Variable	Frequency	Percent
Antenatal follow up		
Yes	361	97.3
No	10	2.7
Time of first antenatal follow up		
First trimester	109	30.2
Second trimester	226	62.6
Third trimester	26	7.2
No of ANC follow up		
Less than four	100	27.7
Four and above	261	72.3
Place of delivery		
Health institutions	350	94.3
Home	21	5.7
Type of delivery		
SVD	311	83.3
Instrumental delivery	18	4.9
Caesarean section	42	11.3
Postnatal follow up		
Yes	323	87.1
No	48	12.9
No of PNC follow up		
Less than six	285	88.2
Six and above	38	11.8
Type of feeding advice		
No advice	5	1.3
Only BF	359	96.8
Other	7	1.9

5.4 Knowledge about MTCT, PMTCT and attitude towards exclusively breast feeding adherence

The knowledge of the participants regarding mother to child transmission of HIV/AIDS (MTCT), prevention of mother to child transmission (PMTCT), and attitude towards exclusively breast feeding is shown in table 3. A total of four closed ended question were applied to assess the knowledge of mothers about MTCT and its prevention method. Accordingly those who mentioned 2 and above transmission; likewise 2 and above prevention method were considered as having sufficient knowledge 293(79.0%) and 282(76.0%) respectively.

Regarding the attitude of respondents towards exclusively breast feeding adherence, three closed ended questions like Likert's scale were applied ranging from strongly agree to strongly disagree and sum score were calculated. Those who scored 12 and above were considered as having positive attitude towards exclusively breast feeding. Of all respondents 309(83.3%) have positive attitude towards exclusively breast feeding adherence.

Table 4: Mothers knowledge of MTCT, PMTCT and attitude towards EBF adherence, Addis Ababa, 2012 (n=371)

Variable	Frequency	Percent
Knowledge of MTCT		
Sufficient	293	79.0
Insufficient	78	21.0
Knowledge of PMTCT		
Sufficient	282	76.0
Insufficient	89	24.0
Attitude towards EBF		
Positive	309	83.3
Negative	62	16.7

5.5 HIV/AIDS disclosure status of subjects to spouse

From 351 mothers, the majority of study subjects 277(78.9%) disclosed their HIV status to their spouse. (Figure3)

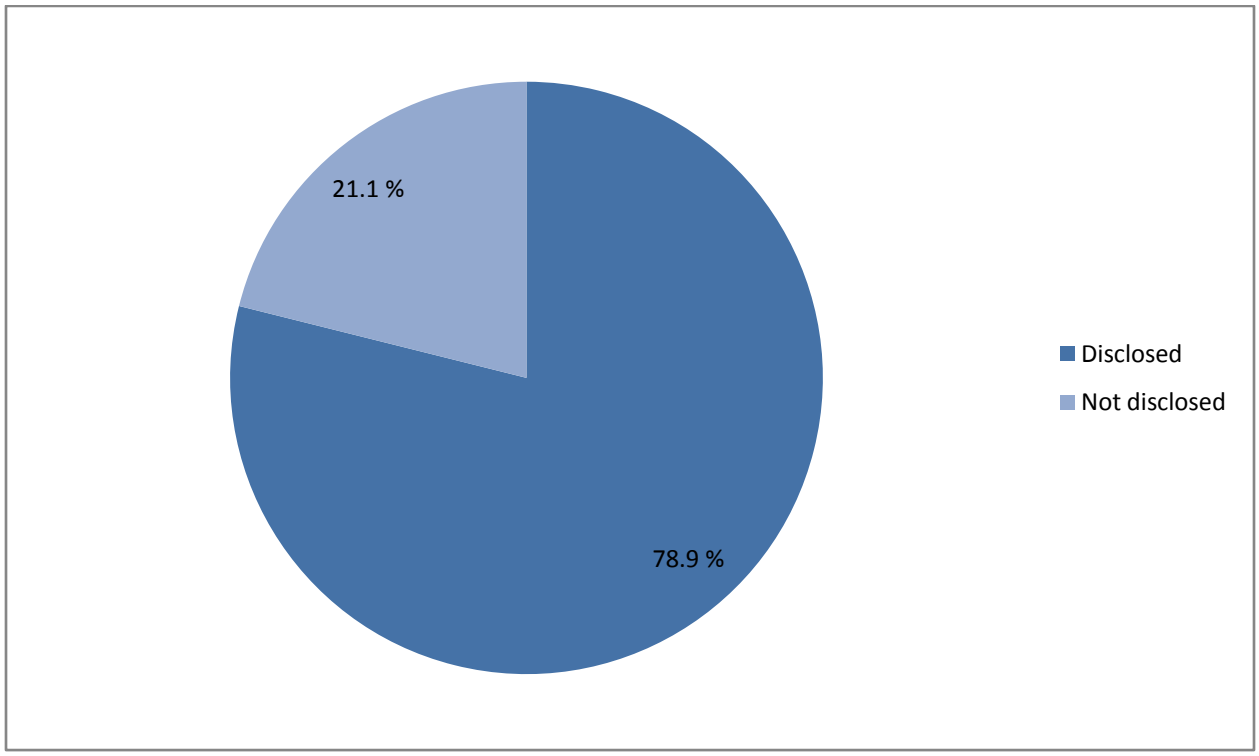

Figure 3: Disclosure status of subjects HIV result to their spouse, Addis Ababa, 2012

5.6 Prevalence of EBF adherence

Among 371 study subjects, 271(73.0%) and 100(27.0%) were adherent and non adherent to exclusively breast feeding respectively. Of 271(73.0%) study participants who were adhere to EBF; 49(18.1%), 72(26.6%) and 150(55.4%) were adhere for 0-3, 4-6 and 7-11 month respectively. The proportion of mothers who initiated breast feed within the first hour of delivery was 350(94.3%).

Table 5: EBF adherence among HIV positive mothers, Addis Ababa, 2012 (n=371)

Variable	Frequency	Percent
EBF adherence		
Yes	271	73.0
No	100	27.0
EBF adherence by infant age (n=271)		
0-3month	49	18.1
4-6month	72	26.6
7-11month	150	55.4
Time of first initiation of BF		
Within 1st hr	350	94.3
2-8 hrs	17	4.6
After 8 hrs	4	1.1

5.7 Reason of non exclusive breastfeeding

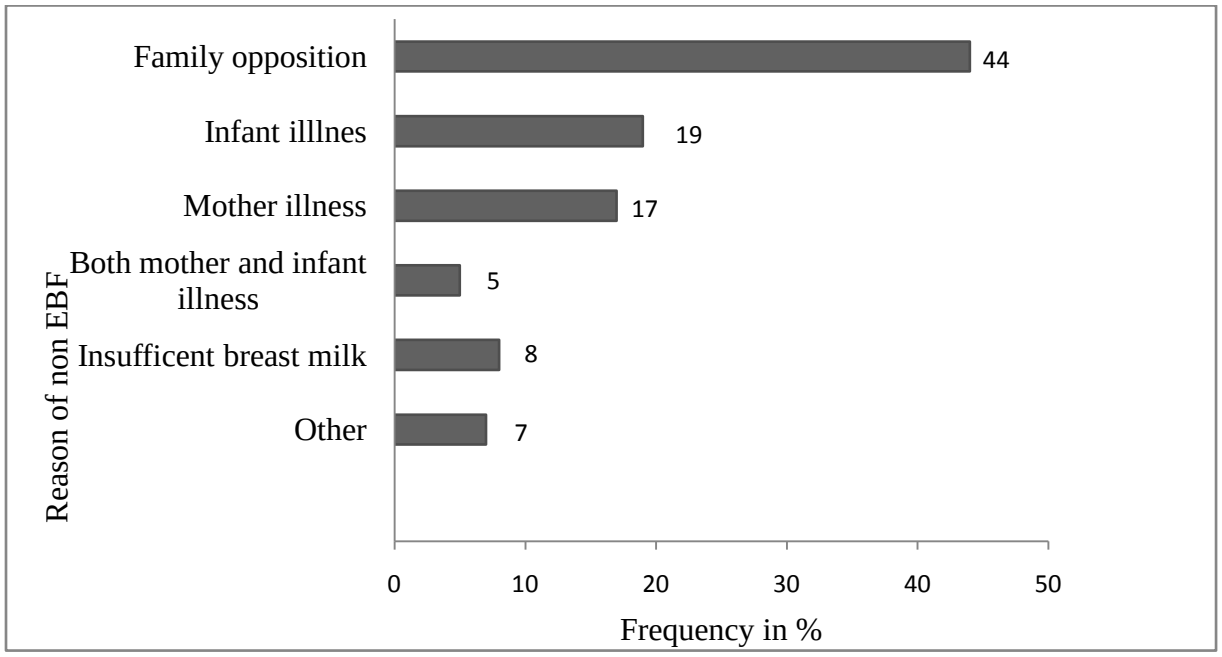

Figure 4: Reason of non EBF, among HIV positive mothers Addis Ababa, 2012

5.7 Decision making power on Infant feeding options

Among 371 respondents, 258(69.5%) infant feeding decision was made by mother only. But, one hundred thirteen respondents reported that infant feeding decision was made by grandmother, husband and neighbors or relatives, 19 (16.8%), 81(71.7%), 13(11.5%) respectively. The commonest reason for why mothers allowed others to decide the feeding options were in 70(61.9%) mentioned because they have more knowledge about infant feeding and 32(28.3%) said they are decision maker in household and other (Eg. because their husband support them...). Most (68.7%) of the respondents' income provider to support EBF were their husband.

Table 6: Decision making power about infant feeding, among HIV positive mothers, Addis Ababa, 2012 (n=371)

Variable	Frequency	Percent
Infant feeding decision made by mother only		
Yes	258	69.5
No	113	30.5
Important person in making decision (n=371)		
Grandmother	19	16.8
Husband	81	71.7
Neighbors or relatives	13	11.5
Why they important in making decision		
Know more about infant feeding	70	61.9
Decision maker in house hold	32	28.3
Other	11	9.7
Income provider to support EBF		
No one support me	90	24.3
Husband	255	68.7
Other	26	7.0

5.8 Maternal and infant health

Among 371 respondents 53(14.3%) encountered health problem; the types of health problems mentioned were breast and nipple problem in 23(43.4%) and 30(56.6%) had other health problem (E.g. cough, skin problems …) As a result of maternal illnesses, 28(52.8%) reported to change their infant feeding from EBF to non-EBF during their illness time.

Out of 371 respondents 65(17.5%) reported that infants had at least one illness since birth and 25(38.5%) of their mothers changed their infant feeding From EBF to non-EBF, during infant illness.

Table 7 : HIV positive mothers and their infant health status, Addis Ababa, 2012 (n=371)

variable	Frequency	Percent
Maternal illness for last 6 month since last delivery		
Yes	53	14.3
No	318	85.7
Type of maternal illness (n=53)		
Breast and nipple problem	23	43.4
Other	30	56.6
Change of feeding during maternal illness		
Yes	28	52.8
No	25	47.2
Infant illness after birth to 6 month		
Yes	65	17.5
No	306	82.5
Change of feeding during infant illness (n=65)		
Yes	25	38.5
No	40	61.5

5.9 Cessation of breast feeding and reason of cessation

From a total of 371 mothers, 152 (41.0%) mothers were stopped breast feeding during the interview and the time of cessation was at the age of less than 3 months in 14 (9.2%) infants and 91(59.9%) of them stopped between 3 and 6 months and the rest 47(30.9%) stopped after 6 month. The commonest reason to stop breastfeeding was fear of transmission in 122(80.3%), and 31(20.4%) mentioned based on health professional advice and the rest 18(11.8%) said to encourage the child to eat other food.

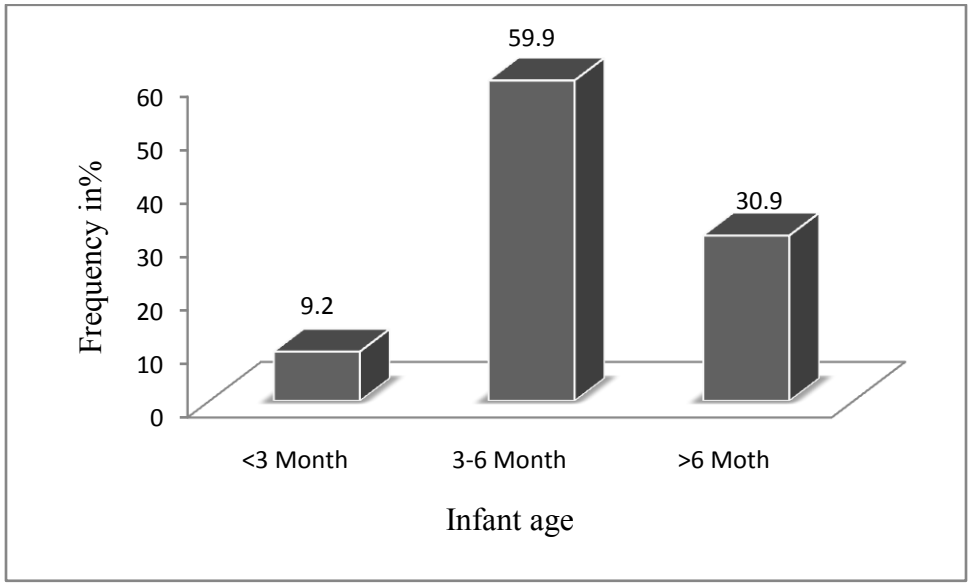

Figure 5: Age of the infant during cessation of breast feeding, Addis Ababa, 2012.

5.10 Factors associated with EBF adherence among HIV positive mothers

In this study different independent factors were tested for their associations with EBF (table 8-10). As shown bellow in the table 7, the effects of socio-demographic variables were tested for their association with exclusively breastfeeding adherence in binary logistic analysis. Only education of the mothers was found to be significantly associated with EBF adherence. (COR=2.18; 95%CI=1.29-3.69**)**. And age of the mothers, marital status of the mothers, occupation of the mothers, education of spouse, occupation of spouse and household monthly income had no significant associated with EBF adherence(P>0.05).

Table 8 : Socio demographic variables associated in bivariate analysis with EBF adherence among HIV positive mothers, Addis Ababa, 2012 (n=371)

Variable	Exclusive breastfeeding adherence		COR (95%CI)
	Yes (N) (%)	No (N) (%)	
Age in years			
15-24	31(67.4)	15(32.6)	1.0
25-34	204(75.4)	66(24.4)	1.49(0.76-2.94)
35-49	36(65.5)	19(34.5)	0.92(0.4-2.1)
Marital status			
Married	227(75.2)	75(24.8)	1.0
Other	44(63.8)	25(36.2)	0.58(0.33-1.01)
Education			
Informal education	48(60.0)	32(40.0)	1.0
Formal education	223(76.6)	68(23.4)	2.18(1.29-3.69)*
Occupation			
House wife	167(74.6)	57(25.4)	1.0
Employed	67(68.4)	31(31.6)	0.74(0.44-1.24)
Other	37(75.5)	12(24.5)	1.05(0.51-2.15)
Education of spouse (n=351)			
Informal education	36(65.5)	19(34.5)	1.0
Formal education	224(75.7)	72(24.3)	1.64(0.89-3.04)
Occupation of spouse			
Employed	194(74.3)	67(25.7)	1.0
Merchant	44(78.6)	12(21.4)	1.26(0.63-2.54)
Other	22(64.7)	12(35.3)	0.63(0.29-1.35)
House hold monthly income (n=355)			
<=500	85(70.8)	35(29.2)	1.0
501-1000	110(73.3)	40(26.7)	1.13(0.66-1.93)
>=1001	67(78.8)	18(21.2)	1.53(0.79-2.94)

*Significant at P<0.05

As shown in table 9 below, some service delivery factor were associated with EBF adherence. Those who had four and above number of ANC follow up than those had less than (COR=2.24; 95 CI=1.36-3.70). Those delivered by C/S (COR=0.39; 95%CI=0.19-0.59), negative attitude towards EBF (COR=0.34; 95 CI= 0.19-0.59).Were found to be crudely, significantly associated with EBF adherence. But time of 1st ANC visit, place of delivery, and number of PNC attending were not significantly associated with EBF adherence (P>0.05) in this study. And from other factors the crude association of disclosure of HIV status to spouse, person involved in making infant feeding decision, time initiation of breast feeding, income provider to support EBF, mother illness and infant illness are seen in table 9. As shown, with the exception of mothers only (COR=1.17; 95%CI= 0.72-1.92), Husband (COR=2.22:95%CI=0.78-6.28) and other people making the infant feeding decisions (COR=1.16, 95%CI= (0.27-4.92) the rest were crudely associated with EBF adherence.

Table 9: Factors associated in bivariate analysis with EBF adherence among HIV positive mothers in Addis Ababa, 2012(n=371)

variable	Exclusive breastfeeding adherence		COR 95%CI
	Yes (N) (%)	No (N) (%)	
Time of 1st ANC visit (n=316)			
First trimester	75(68.8)	34(31.2)	1.0
Second trimester	172(76.1)	54(23.9)	1.44(0.87-2.40)
Third trimester	20(76.9)	6(23.1)	1.51(0.56-4.10)
No of ANC follow up			
Less than four	62(62.0)	38(38.0)	1.0
Four and above	205(78.5)	56(21.5)	2.24(1.36-3.70)*
Place of delivery			
Home	16(76.2)	5(23.8)	1.0
Health institutions	255(72.9)	95(27.1)	0.84(0.29-2.35)
Type of delivery			
SVD	234(75.5)	76(24.5)	1.0
Instrumental delivery	14(73.7)	5(26.3)	0.91(0.32-2.61)
C/S	23(54.8)	19(45.2)	0.39(0.20-0.76)*
No PNC follow up (n=323)			
Less than six	215(75.4)	70(24.6_	1.0
Six and above	25(65.8)	13(34.2)	0.63(0.30-1.28)
Knowledge of MTCT			
Insufficient	62(79.5)	16(20.5)	1.0
Sufficient	209(71.3)	84(28.7)	0.64(0.35-2.17)
Knowledge of PMTCT			
Insufficient	70(78.7)	19(21.3)	1.0
Sufficient	201(71.3)	81(28.7)	0.67(0.38-1.19)
Attitude towards EBF			
Negative	33(53.2)	29(46.8)	0.34(0.19-0.59)*
Positive	238(77.0)	71(23.0)	1.0
Disclosed HIV status to spouse			
No	45(60.8)	29(39.2)	1.0
Yes	215(77.6)	62(22.4)	2.23(1.29-3.85)*
Mothers only decide how to feed their infant			
No	80(70.8)	33(29.2)	1.0
Yes	191(74.0)	67(26.0)	1.17(0.72-1.92)
Important person in making decision			
Grand mother	11(57.9)	8(42.1)	1.0
Husband	61(75.3)	20(24.7)	2.22(0.78-6.28)
Other	8(61.5)	5((38.5)	1.16(0.27-4.92)

Initiated breastfeeding			
Within 1st hr	260(74.3)	90(25.7)	2.63(1.07-6.39)*
After 8 hrs	11(52.4)	10(47.6)	1.0
Income provider to support EBF			
No support	56(62.2)	34(37.8)	1.0
Husband	196(76.9)	59(23.1)	2.02(2.20-3.37)*
Other	19(73.1)	7(26.9)	1.65(0.63-4.33)
Mother illness			
No	245(77.0)	73(23.0)	1.0
Yes	26(49.1)	27(50.9)	0.29(0.16-0.52)*
Infant illness			
No	231(75.5)	75(24.5)	1.0
Yes	40(61.5)	25(38.5)	0.52(0.29-0.91)*

*Significant at $P<0.05$

Then, to control the confounding effect of one variable over the other multiple logistic regression model was done. To avoid an excessive number of variables and unstable estimate only variables which were identified to have significant association (P<0.05) with EBF adherence in the bivariate regression model were adjusted for multivariate regression model.

In multivariate regression model from nine variable only three variables remained to be associated with exclusively breast feeding adherence (table10). Mothers who attended ANC follow up four or more times were tow times more likely to adhere EBF than those who attended less than four times (AOR=1.89 ;95CI=1.05-3.43). Mothers who had experience illness were 73% less likely to adhere to EBF than who had no experience of illness (AOR=0.27; 95%CI, 0.14-0.53). And those mothers who have negative attitude towards EBF were 68% less likely to adhere to EBF than who have positive attitude. (AOR=0.32; 95%CI= 0.16-0.63).

Table 10: Determinant of exclusively breast feeding adherence among HIV positive mothers in Addis Ababa, 2012 (n=371)

variable	COR(95%CI)	AOR(95%CI)
Education		
Informal education	1.0	1.0
Formal education	2.18(1.29-3.69)*	1.15(0.59-2.23)
No of ANC follow up		
Less than four	1.0	1.0
Four and above	2.24(1.36-3.70)*	1.89(1.05-3.43)*
Type of delivery		
SVD	1.0	1.0
Instrumental delivery	0.91(0.32-2.61)	1.03(0.30-3.47)
C/S	0.39(0.20-0.76)*	0.51(0.23-2.15)
Attitude towards EBF		
Negative	0.39(0.19-0.59)*	0.32(0.16-0.63)*
Positive	1.0	1.0
Disclosed HIV status to spouse		
No	1.0	1.0
Yes	2.23(1.29-3.85)*	1.62(0.82-3.18)
Initiated breastfeeding		
Within 1st hr	2.63(1.07-6.39)*	1.81(0.62-5.25)
After 8 hrs	1.0	1.0
Income provider to support EBF		
No support	1.0	1.82(0.97-3.43)
Husband	2.02(2.20-3.37)*	2.23(0.57-8.73)
Other	1.65(0.63-4.33)	
Mother illness		
No	1.0	1.0
Yes	0.29(0.16-0.52)*	0.27(0.14-0.53)*
Infant illness		
No	1.0	1.0
Yes	0.52(0.29-0.91)*	0.53(0.27-1.02)

*Significant at P<0.05

II Qualitative findings

A total 10 in-depth interview was carried out with HIV positive women. Their education levels were ranging from illiterate to diploma. Seven mothers were adhered to EBF and the other three were not.

Infant feeding options for HIV positive mother

From the in-depth interview, most of the participant knows about exclusively breast feeding (1st six months to give breast milk) and replacement feeding (giving formula milk as a method of infant feeding for HIV positive mothers).

A 22 years old HIV positive mother stated that *"I practice only to breastfeed for six moth others can buy powder milk if they have money, but not god to mix both at the same time".*

Another 32 years old HIV positive interviewer said that *"baby feed only breast for the first six month but if the mother is capable to buy NAN (formula milk) mother should continue with it".*

Health professional advice about exclusively breast feeding

All most all participants had health professional advice about the importance of EBF. Health professionals give more emphasis to EBF than other feeding options but few Saied that they were not told how to continue with other options and how to stop breastfeeding.

A 29 years old HIV positive mothers reported that *"health professional give me a strong advice about the importance of EBF for the first six months; how to feed the infant, during the follow up. For example this is my first child In ever had idea about the importance of EBF previously, however when they taught me I accepted it because they are professionals, but I asked myself why they taught only for six month and not for one year because breastfeeding is important for the infant".*

Another 36 years old HIV positive mother said that *"health professional advice is an important thing to adhere to EBF. In my case I was advised about EBF at mother support group services during the weekly coffee ceremony, - the conversation includes how EBF is important and problem of mixed feeding, further, the informant said if I could meet the cost of infant formula it would have been better. Since I have no money to buy the formula I am advised to breastfeed only for the first six months''*

Experience of EBF adherence and factors influencing

The majority of the mothers were adhered to EBF and some of them did not. According to the responses obtained during the interview, mothers said that they adhered to EBF because of the health professional advice, decision making ability of the mother, and the support from their spouse and family. On the other hand a few non adherent mothers mentioned because of mother illness, external factor pressure from husband, family, neighbors and dryness of breast had were some of the reasons forwarded for not adhering to EBF.

A 29 year old HIV positive mother stated that *"I feed my child only breast milk until six month. My baby is now 7 month old. Because I know the importance of EBF, even when I faced problem I tried to cope with it. One day the infant was very ill and he was crying then my mother said that 'he is crying because of abdominal cramp, so give him water with* ***tenadam'*** *then I said ok. She gave me the* ***tenadam*** *with spoon when she turned a round I drunk it"*

Another 36 years old HIV positive mother reported that *"I feed my child only my breast milk up to now, because I believed breast milk can prevent my child from being positive, after I decided, I told my husband and he accepted me, he was also positive (he already knew his status). Then he said 'you should get food and drink better than us to have enough breast milk, and try to buy some foods and drink for you as well'."*

A 26 year old HIV positive non- EBF adherent mother stated that *"I feed my child breast milk only for three months in the mean time I became sick and told to have TB, my breast stopped producing milk then I sought advice from health professional what to do, they said it is better to continue breastfeeding unless you afford to buy infant-formula to replace your BF. Even if I have no extra money to buy formula milk I decided to buy it despite my poor financial status. Formula milk is expensive and gets finished in 3 or 4days and no one is supporting me. I wish I had continued breast feeding if I was not sick.*

Another 32 years old HIV positive mother reported that *"I already decided to feed breast milk only to my baby but I faced several problems to adhere EBF. To mention a few, when I was going to work I left my baby with my family then, when baby cries they give him sugar and water. This happened because they believed my breast milk is not sufficient to the baby and babies experience burning sensation. One day my husband bought formula milk to the baby I gave it to the baby in front of him, because my husband does not know my HIV status and also he did not know why I chose to exclusively breastfeed to my baby and exposed my baby to unwanted health consequences."*

Government support to promote EBF

All most all participants said that government should support us and get involved in giving food, allow more time for maternal leave, enabling the women to have her own income source.

A 36 years old HIV mother reported that *"government should involve in several ways, to mention a few, mother should get extra food of good nutritional value to have enough breast milk, and a women need to have her own income source so government can help the mother by providing simple work like work as tailor then she can support herself and her baby too.*

Another 32 years old HIV positive mother stated *"that in some health facility there is such a support, but it is not free from biased. If you are good looking (being clean, not thin), they said you are rich and you are denied to be helped. Therefore such misconception needs the attention of the government.*

6 Discussion

This study is probably first of its kind that has tried to assess the prevalence and factors influencing adherence to exclusive breastfeeding among HIV positive mothers in selected health institution of Addis Ababa, with a very good response rate of 96.6%.

In this study, like in some previous study done in Adds Ababa among selected health facilities, with different objective, the majority of Participants were young age group ranging from 25 to 34 (23) suggesting that such age groups need more attention. In terms of the occupation of the respondents, the majority of them were housewives and similar finding was documented in Jima, Uganda and Addis Ababa study (12, 16, 23) again underlines the need for more focused intervention among these groups.

Although breastfeeding by HIV positive mothers is a topic of debate, it is still documented that exclusive breastfeeding is shown to give the best chance of survival even for babies born to HIV-positive mothers. Despite the enormous benefit of EBF, many women's practicing mixed feeding which increase the risk of HIV transmission to the infant. Nevertheless, in the present study, A large proportion of study participants (97.3%) had ANC follow up during their last pregnancy which is concordant with some previous studies done in Uganda (99.2%) and Addis Ababa (94.2%) (15, 23) indicating that ANC is a good opportunity for mothers to be informed about appropriate breastfeeding for their infants. Mothers who had ANC check up for four times or more adhered to EBF than those mothers who had less than for ANC check up. Those who had four and above number of ANC follow up were 1.9 times more likely to adhere to EBF than their counterpart. This could be due to as number of ANC visit increases mother gate more information about the importance of EBF. Comparable findings were also reported with earlier research work done in Uganda (16) supporting the importance of frequent ANC visit as favorable factor to adhere to EBF and therefore the recommended ANC follow-up needs to be promoted in all health education sessions held in health facilities. Similarly, the majority of the participants interviewed had also said that increased numbers of mothers' to adhere to EBF has happened because of the health workers education/advice and mother support group which consisted of encouraging frequent ANC follow-up. The implication of this finding is that in order to assure the success of EBF adherence it is important to strengthen the reproductive health services in the country at all

levels which includes the promotion of frequent ANC services as recommended by WHO during each visit.

In this study it was found that more than half of the study subjects had sufficient knowledge of MTCT and PMTCT (79.0% and 76.0%) respectively. However this finding was higher than the study done in Jima (38.8% and 41.8%) and Addis Ababa (59.9% and 56.6%) (12, 23). These marked differences could be probably due to the fact that at the time of the current study, more promotion activities were done through different channels that included the health facilities (MTCT and PMTCT) and mass media.

This study revealed that the majority of the mother (83.3%) had positive attitude towards EBF. And those mothers who had negative attitude towards exclusively breast feeding were less likely to adhere to EBF than who had positive attitude towards EBF. This could be due to when mothers had negative attitude towards EBF they prone to feed other food. This observation is similar with previous study findings of Uganda (17, 30). The lesson to be drawn from this study is that still more efforts are needed to change the negative attitude of mothers that they have towards exclusive breastfeeding through BCC.

In the current study the prevalence of EBF adherence was high when we compared with previously reported figures for most developing country like Uganda (40.0%,28.0%) (16, 17), South Africa (35.6%) (18) and earlier study in Ethiopia (30.6%) (19). This could be probably explained by the fact that current study included only ever breastfeed mothers by excluding mothers who already opted for replacement feeding. It can also be attributed to the situation that the current study was conducted at the time of MSG program scaled-up and several other programs in the country were launched among which the mass media (TV, Radio, posters etc.) advocates exclusive breastfeeding frequently. This finding suggests that to promote EBF, strengthen and ongoing of further supportive strategies needed for better EBF adherence.

Furthermore, the current study revealed that when the primary decision makers on feeding the infant were the mother followed by their spouse, EBF adherence was good. This observation however, was not similar when compared with previous study done in Jimma (12). In Jimma case the primary decision makers were husbands followed by mother. The observed difference may be attributed to empowerment of women to decide for themselves on the available options of infant

feedings in the context of HIV. Because of such informed decisions, women developed self confidence to choose what is best for them and their infants. On the contrary, participants interviewed mentioned that mentioned that it was hard for the mother to decide EBF by herself alone especially when the women concealed her HIV seropositivity.

When mothers do not disclose her status to the family/spouse, the family members force the mother to formula feed as well which is similar with some previous findings in South Africa and Nigeria (7, 26). This finding implies that promoting EBF through empowerment of women and education about EBF should include both spouses as well as families.

In this study 43.4% of the mother had encountered breast and nipple problem. This findings however is higher than the study done in Uganda (17). In the case of Uganda, only 19% of the mother encountered breast and nipple problem .The reason for this discrepancy may be attributed probably due to traumatizing of the breast. In this study 38.5% of infants had encountered at least one illness since birth. Similar finding was reported by study done in Addis Ababa (23) where One-third of the infant (42.2%) had encountered at least one illness since birth. And those mothers who had encountered breast related illness and other illness like cough had adhered less to EBF, this finding was in line with the study done in Uganda (17, 28). Interestingly, the observed result was supported by qualitative findings as well where mothers reported that their illnesses were one of the reasons for not adhering to EBF, after opting to practice EBF. This finding underlined the need for more advices to mothers to get a timely treatment whenever they experience illness.

Another noticeable finding in the current study is that 41.1% of the mothers completely stopped breastfeeding at the time of interview and the commonest reason mentioned to stop their EBF was fear of HIV transmission. Therefore, health workers should advice and encourage the infant to start other food after the age of six months. This finding was comparable with Uganda study 49.3% of mothers where stopped breastfeeding completely at the time of interview (17). The implication of this finding is that policy makers should give more emphasis to create awareness on the importance of EBF and its low transmission rate of HIV through EBF and adhere to continue EBF for the 1st six month.

7. Strengths and limitations of the study

Strengths of the study

- Methodological triangulation used in the study
- The data collection tool was pre tested prior to actual data collection time

Limitations of the study

- The study used non-probability sampling; it is not possible to generalize for the whole population.
- As it was cross-sectional, causality between compared variable cannot be concluded.
- Recall bias since the study assessed breastfeeding history recall since birth; mother could have forgotten events that happened in the past.
- Social desirability bias may occur because the data was collected by health's professional who were working in the area.

8. Conclusions

- In this study the majority of mothers adhered to exclusively breast feeding.
- The majority of the mothers had sufficient knowledge of MTCT, PMTCT and had positive attitude towards EBF.
- The commonest reason for non-adherent to EBF was opposition of family, infant illness, maternal illness and insufficient breast milk.
- EBF adherence was significantly associated with having frequent ANC visit; Mothers who had four and above ANC follow up were more likely to adhere to EBF than those who had less than four.
- Mothers who had negative attitude towards EBF had adhered less to EBF compared to those mothers who had positive attitude.
- Maternal illness was significantly associated with EBF adherence. Mothers who had encountered illness were less likely to adhere to EBF.

9. Recommendations from the study

In order to improve and sustain the observed adherence to EBF among HIV positive mothers, the following recommendations are made based on the finding of this study.

- Strengthen and widen the MSG (mother support group) in each health facility that focuses on the importance of ANC follow-up.
- Effort should continue to change the negative attitude of mothers towards EBF through BCC.
- Advise mothers to get a timely treatment whenever they experience illness.
- Efforts should be made to support HIV positive mother and involve them to participate in income generating activities so that they could be empowered and be in a position to decide for themselves to adhere to EBF.
- It is recommended to involve both spouses and families in health education sessions to be informed about the importance of EBF.

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Annex I. English version of the Questionnaire

I. Study Information Sheet:

Good morning/afternoon, my name is --------- and I am one of the data collectors for the study being conducted by Addis Ababa University, College of Health Sciences, and School of Public health. You are selected scientifically to be participant of this study if you give me consent after you have understood the following information.

The aim of this study: Is to assess factors which has an influence on HIV + mothers to practice (feed) child their breast only for the last six months.

Benefit of the study: The participant will not get any direct benefit for being participant but the information obtained through this survey will be help full for the study population (individual women) by identifying contributing factors to make feeding breast only for the last 6 month, is best choice for HIV+ mothers who did not afford replacement feeding. And also the result of the study will be used for decision making purpose at government level to help HIV positive mothers on strictly adherence on EBF once they opt it. The result can be used as a baseline for further studies that can be done in this town.

Harm of the Study: The study has no any harm except that participant will spend up to 30 minutes in the interview.

Rights of the Participant: Participation has full right , Not participate The participant can stop participating in the study at any time , can skip question which she does not want to respond During the interview, the participant can also ask questions which are not clear .

Confidentiality: I am going to ask you a question which will help us, to gate information about the above mentioned issue. All the information, which you are being, asked to provide in this questionnaire will be kept strictly confidential (your personal information including your name) and the information will be used only for study purposes.

If you have any problem, my contact addressee is

Mobile phone: 0912798523, Email: medu_h@yahoo.com

II Consent form for Study Subject

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

To be voluntary⟶ sign below and conduct interview

Not to be voluntary⟶ thank and stop'

Signature of the study subjects ----------

Questionnaire identification number _____

Name of the Interviewer _____Signature_____ date _____

Name of the supervisor _____Signature _____date _____

III Questionnaires

Identification

001. Id number of Questionnaire_____ 002 sub city _____ 003 Keble _____

Date of interview: _______________

Day Month Year

Time of start of the interview: _____:_____

Hour Minute

Part one: Socio Demographic Data

Ser NO.	Questions	Response and Coding	Skip to
101	How old are you?	_____Age in completed years	
102	What is your current marital status	Married (living together) 1 Single 2 Divorced (separated) 3 Widowed 4	
103	What is the highest level of education you completed?	Unable to read and write 1 Able to read and write 2 Grade 1-8 3 Grade 9-10 +2 4 College/university 5	
104	What is your religion?	Orthodox Christian 1 Muslim 2 Protestant Christian 3 Catholic Christian 4 Other (specify) 5	

105	To which ethnic groups do you belong to?	Amhara 1 Oromo 2 Gurage 3 Tigre 4 Other (specify) 5	
106	What is your current occupation?	Government employ 1 Private employ 2 Hose wife 3 Merchant 4 Other (specify) 5	
107	What is your husband highest educational status?	Un able to read and write 1 Able to read and write 2 Grade 1-8 3 Grade 9- 10 +2 4 (College/university) 5	
108	What is your husband current occupation?	Government employ 1 Private employ 2 Merchant 3 Other(specify) 4	
109	What is your family monthly income?	(Approximately)_____Eth. birr	

Part Two: Socio Economic Status of the Mothers

Ser.N0	Questions	Response and coding	Skip to
201	Do you have Radio?	Yes 1 No 2	
202	Do you have Television?	Yes 1 No 2	
203	Do you have Refrigerator?	Yes 1 No 2	
204	Do you have Table or Chair?	Yes 1 No 2	
205	What is the main source of drinking water for the members of your household?	Pipe / tap/ 1 Open well / spring/ 2 Covered well /spring/ 3 River / pond/ 4 Other (specify) 5	

Part three: Obstetric History

Ser NO.	Questions	Response and coding	Skip
301	Did you attend antenatal care follow-up during your last pregnancy?	Yes 1 No 2	If no skip to Q. 304
302	At what gestational age started ANC?	___ weeks____month	
303	For how many times did you attend follow-up	One 1 Two 2 Three 3 Four 4 Five and above 5	
304	Where did you deliver?	Home 1 Health institution 2	
305	What was your type of delivery?	SVD 1 Instrumental delivery 2 C/S 3	
306	Did you attend postnatal counseling?	Yes 1 No 2	If no skip to Q.308
307	For how many times did you attend?	One 1 Tow 2 Three 3 Four 4 Five 5 Six 6	

308	What type of feeding advice did you gate from the councilor	**(Only one answer)** No advice 1 To practice exclusive breast feeding 2 To feed formula milk 3 To practice mixed feeding 4 Other (specify) 5	

Part Four: Knowledge about MTCT and PMTCT

Ser NO.	Question		Skip to
401	Can an HIV positive woman transmit HIV to her baby?	Yes 1 No 2	
402	When does HIV transmission occur from infected mother to her baby?	**(More than one answer is possible)** During pregnancy 1 During labor 2 During breast feeding 3 I don't know 4 Other specify 5	
403	Haw can HIV transmission from a positive mother to her baby be prevented?	**(More than one answer is possible**) By taking medicine 1 By safe delivery 2 By not breast feeding 3 By exclusive breast feeding 4 Other specify 5	
404	Have you told to your husband about your HIV status?	Yes 1 No 2	

Part Five: Breast feeding practice

No	Question	Response and Coding	Skip
501	How old is your child?	_____Days _____Weeks _____Months	
502	Sex of your child?	Male 1 Female 2	
503	Did you ever breast feed your child?	Yes 1 No 2	
504	How long after birth did you first put to the breast?	Within first hour 1 Within first eight hours 2 After eight hours 3 Other specify 4	
505	Did your infant receive any thing to drink or eat Before first put to the breast?	Yes 1 No 2	
506	Have you give any food/fluids other than breast milk for your child since birth (with in the first six month for older child?)	Yes 1 No 2	If no skip to Q.601
507	Why did you provide foods or fluids other than breast milk?	**(Probe for more)** Infant illness 1 Mother illness 2 Both infant and mother illness 3 Imposition of husband 4 Family opposition 5 It is a norm of the society 6 Other (specify) 7	

Part Six: Decision making power on infant feeding and financial support

Ser No.	Question	Response and Coding	Skip to
601	Are you the only one to choose/decide the feeding option to your child?	Yes 1 No 2	If yes skip to Q.604
602	Who is the most important when making a decision on how you should feed your infant?	My mother 1 My husband/partner 2 My father 3 My neighbors 4 My relatives 5 Other specify 6	
603	Why did you allow them to make a decision?	Because I didn't tell them my HIV status 1 Because they are decision maker in hose hold 2 Because They know more than me about feeding 3 Because It is our culture 4 Other specify 5	
604	From whom did you have monitory support to feed your child breast milk only?	No one support me 1 My husband 2 My family 3 My neighbors 4 Other (specify) 5	

Part Seven: Maternal health and Infant health

Ser No.	Question	Response and Coding	Skip to
701	Have you ever had breast related problem or other illness since your last delivery? (Within the first six month for older child?**)**	Yes **1** No **2**	If no skip to Q. 704
702	What was your illness?	Brest problem **1** Nipple problem **2** Other specify **3**	
703	Did you change the way you feed your child during your illness time?	Yes **1** No **2**	
704	Has the infant ever been sick**?(with in the first six month for older child**)	Yes **1** No **2**	If no skip to Q 801
705	Did you change the way you feed your infant when infant ill?	Yes **1** No **2**	

Part Eight: Attitude towards Exclusive breast feeding

I will read the following sayings and you will respond 1**) Very agree 2) Agree 3) I don't have any idea 4) Disagree** 5**) Very disagree**

	Question	Response and Coding	Skip
801	It is important to give food other than breast milk for new borne baby immediately after birth.	1 2 3 4 5	
802	Since it is not enough giving breast milk only for the 1st 6 month infant should eat extra food.	1 2 3 4 5	
803	Pre lacteal feeding is important by preventing infants from evil and cleans their abdomen.	1 2 3 4 5	

Part Nine: Cessation of Breast feeding

Ser .No.	Question	Response and coding	Skip to
901	Are you currently breast feed your child?	Yes 1 No 2	If no skip to Q 902
902	Have you completely stopped breastfeed?	Yes 1 No 2	
903	How old was your infant when you completely stopped breast feeding?	_____Days _____Weeks _____Months	
904	Why did you stop breast feeding your child?	Infant no longer wanted to breast feed 1 To in courage infant to eat solid food 2 Pregnancy 3 Fear of transmission 4 Advised by health provider 5	

This is the end of the questionnaire. Thank you very much for taking time to answer these questions. We appreciate your help.

Time end of the interview: _____:_____

Hour Minute

Name of the interviewer_____

Interviewer signature_____

Date _____

Result Codes: Completed 1

Partially completed 2

Other (specify) _____ 3

Checked BY SUPERVISOR – Name _____

Signature _____

Date _____

Annex II Amharic version of the Questionnaire

ለጥናቱ ተሳታፊዎች አጠቃላይ መረጃ

እንደምን አደራችሁ/ዋላችሁስሜ----- ይባላል በአዲስ አበባ ዩኒቨርስቲ እየተካሄደ ባለው ጥናት መረጃ ከሚሰበስቡት አንደዋ ነኝ. አንቺ/እርሶ ከዚህ በታች የሚነበበውን የጥናቱን አላማ/መግለጫ ተገንዝበው መረጃ ለመስጠት ፈቃደኛ ከሆነ ሳይንሳዊ/አሳማኝ በሆነ መንገድ የዚህ ጥናት ተሳታፊ እንዲሆኑ ተመርጠዋል.

የጥናቱ አላማ ፤ ይህ ጥናት ከ ኤች አይ ቪ ጋር የሚኖሩ እናቶች ለሚወልዷቸው ለጆች ለስድስት ወራት ያህል የእናት ጡት ብቻ ለማጥባት ከወሰኑ በኃላ በውሳኔቸው ተግባራዊነት ላይ ተጽኖ ያላቸውን ነገሮች/ጉዳዮች ስመዳሰስ ነው፤፤

የጥናቱ ጥቅም፡በ□ህ ጥናት በመሳተፎ የሚያገኙት ቀጥተኛ የሆነ ጥቅም የለም ሆነም የጥናቱ ውጤት የጡት ተተኪ የሆነውን የህጻናት ምግብ መመገብ ስማይችሉ ከ ኤች አይ ቪ ጋር የሚኖሩ እናቶች የእናት ጡትን ብቻ ለ 6 ወራት ያህል እንዲጠቡ የሚያበረታቱንናወይም የሚስቸግሩ ጉዳዮችን በመለየት መንግስት በሚያወጣቸው ህጎችና እቅዶች እነዚህን ጉዳዮች ከግንዛቤ እንዴያስገባ ይረዳል፡፡በተጨማሪም ወደፊትበዚህ አካባቢ ስሚደረጉ ተመሳሳይ ጥናቶች እንደመረጃ ያገለግላል፡፡

የጥናቱ ጉዳት፤ ይህ ጥናት 30 ደቂቃ ከመውሰድ ውጪ፣ በጥናቱ ተሳታፊዎች ላይ ምንም አይነት ጉዳት አያስከትልም፡፡

የተሳታፊዎች መበት፡ተሳታፊዎቹ በዚህ ጥናት ላይ ያለማሳተፍ፣በማንኛውምሰአት ላይ መጠይቁን የማቆም፤ያልፈለጉትን ጥያቄ ያለመመለስ፤እንዲሁም የልገባችውን የመጠየቅ ሙሉ መብት አላቸው፡፡

የጥናቱ ሚስጥራዊነት፡ከዚህ በታች የምትጠየቁት ጥያቄ ምሰጥራዊነቱ የተጠበቀነው (ግላዊ መረጃንጨምሮ)፤ቃለመይቁ በፈቃደኝነት ላይ የተመሰረተ ሲሆን ያለመሳተፍ ብትወስኑ በናንተም ሆነ በቤተሰባችሁ ላይ ምንም አይነት ጉዳት አይደርስባችሁም፡፡

አንዳች ችግር ከገጠማችሁ አድራሻዬ እንደሚከተለውነው

የሞባይል ቁጥር: 0912-79-85-23 : የኢሜል አድራስ: medu_h@yahoo.com

2 የጥናቱ ተሳታፊዎች የስምምነት ቃል

እኔ ስለጥናቱአላማና ጥቅም በደንብ ከተነገረኝና ከተረዳሁ በኃላ እንዲሁም የግል መረጃዬ ምሰጥራዊነት ካወኩ በኃላ በጥናቱ ለመሳተፍ በፈቃደኝነት ወስኛለሁ፡፡

□ቃ□ኛ ከሆኑ ⟶ ከዚህ በተችደፈርሙና መጠይቁን ይቀጥሉ

□ቃ□ኛከልሆኑ ⟶ አመሰግነው ጥያቄዎትን ያቁሙ

□ተሳተ□ዘ□ርማ ----------

□□ጸ ቂ□ስም---------.□ርማ---------.ቀን-------

□ተቆ□□ሪ□ ስም----------□ርማ----------ቀን---------

3.መጠይቅ

በአዲስአበባከተማ ከ ኤች አይ ቪ ጋር ለሚኖሩና ከአንድአመትበተች ልጅ ሳሳችው አናቶች ጡትን ብቻ ሰለማጥባት መረጃ ለማግኝትየተዘጋጀ መጠይቅ.

መለጸ *□መ□□ቅ ቁ□ር------*

ክፍለከተማ ------

ክበለ□----

ክፍል አንድ፤ማህበራዊና ስነህዝባዊ መረጃ

ቁ□ር	□ጸ ቄ	ኮ□/አማራ□	□ለል
101	ሰንት አመቶት ነው?	--------አድሜ	
102	□ት□ር ሁኔታ□	*1.* □□ባች *3* .□ተ□ታች *2* .ያላገባች *4* .ባሏሞተባት	
103	ያጠናቀቁት ከፍተኛ የትምህርትደረ□ሰንትነው?	*1.* ማንበብና መ□□ □ማይችል *3.* ከ1-8ኛ □□ል *2.* ማንበብና መ□□ □ማችል *4.* ከ9-12ኛ □□ል 5.ኮሌ□/ዩኒቨርስቲ	
104	ሃጁማኖቶት ምንድነው?	*1.* ኦርቶዶክስ □ርስቲያን *3.* □ሪተስተንትክርስቲን *2.* እስልምና *4.* ከቶሊ□ □ርስቲያን *5.* ሌላ ከለ □□ቀሱ	
105	ብሄሮ ምንድነው?	*1.* አማራ *3.* □ራ□ *2.* ኦሮሞ *4.* ትግሬ *5.* ሌላ ከለ ጁ□ቀሱ	
106	አሁን □ማሰሩት ስራ ምንድ ነው?	*1.* መንግስት ሰራተኛ *3.* □ቤት አመቤት *2.* □□ል ተቀ□ሪ *4.* ነገዴ *5.* ሌላ ከለጁ□ቀሱ	
107	የትዳር ጓ□ኛ- የትምህርት □ረ□ ስንት ነ□?	*1.* ማንበብና መ□□ □ማይችል *3.* ከ1-8ኛ □□ል *2.* ማንበብናመ□□□ማ□ይችል *4.* ከ9-12ኛ □□ል *5.* ኮሌ□/ዩኒቨርስቲ	
108	የትዳር ጓ□ኛ- ስራ ምነድነው?	*1.*መንግስት ሰራተኛ *3.* ነገዴ *2.*□□ልተቀ□ሪ *4.* ሌላ ከለጁ□ቀሰ	
109	□ቤተሰቦ □ርሃዊ □ሀ. ስንት	----------የአ.□□ጸ ብር	

	ነው?		

ክፍል ሁለት፤የአናቶች ማህበራዊ ና ኢኮኖሚያዊ ሁኔተ

ተ.ቁ	□ጸ ቄ	ኮ□/አማራጭ	□ስል
201	እቤት ውስጥ ራዲዮ አሎዎት?	1.አዎ 2. □ልም	
202	እቤት ውስጥተሌቪዝን አሎዎት?	1.አዎ 2. □ልም	
203	እቤት ውስጥ ፍርጅ/ማቀዝቀዣ አሎት?	1.አዎ 2. □ልም	
204	እቤት ውስጥ ጠረጴዛ ወይም ወንበር አሎት?	1.አዎ 2. □ልም	
205	እቤት ውስጥ ለመጠጥ የምትጠቀሙበትን ውሃ ከየት ታ□ኘሳችሁ?	1.ከቧንቧ 3. ከተከደነጉድጓድ ውሃ 2.ካልተከደነ ጉድጓድ ውሃ 4. ከወንዝ 5.ሌላ ከስ ይጥቀሱ	

ክፍል ሶሰት፤ **የፅንስና የወሊድ ሁኔታ**

ተ.ቁ□ር	□ጸ ቄ	ኮ□ሜማራ□	□ስል
301	በመጨረሻው አርግዝነም የፅንስ ክትትል አድርገው ነበር?	1. አዎ 2. አይደለም ⟶	□□ □ቁ.304 ጁሂ□
302	በስንተኛው የእርግዝናዎ ጊዜ የፅንስክትትል ጀመሩ?	-------ሳምንት --------ወራት	
303	የጽንስ ክትትል ያደረጉት ለምን ያህል ጊዜ ነው?	1. አንድ 3. ሶስተ 2. ሁስት 4. አራት 5. አምሰትና ከዚያ በሳይ	
304	□መጨረሻ ልጆትን የት ወለዱ?	□1. አቤት ውስጥ 2. በጤና ድርጅት	
305	የወለዱበት መንገድ ምን አይነት ነበር?	1. በማሃ□ኝ 2. በሚጸን ሆኖ አጋዥ መሳሪያን በማከም 3. በቀዶጥገና	
306	ከወሊድ በኃላ ክትትል ነበሮት?	1. አዎ 2. አይደለም ⟶	□□ □ቁ.308 ጁሂ□

307	ስንት ያህል ገዜ ክትትል አደረጉ?	1.አንድ 4. አራት 2.ሁስት 5. አምስት 3 ሶስት 6. ስድስት	
308	የህፃናትን አምጋገብን አስመልክቶ ከ ጤና ባለሙያዎች ምን አይነትምክር አገኙ?	(አንድ መልስ ብቻይሰጡ) 1. ምንም ምክር አላገኘሁም 2. ጡት ብቻ አንዳጠባ 3. የጡት ምትክ ወተት አንዳጠባ 4. ሁስቱንም በማቀያየር አንድሰጠው 5. ሌላ ከስ ይጥቀሱ	

ክፍል አራት፤ ኤችአይቪ ከእናት ወደልጅ የሚተላስፍበትን መንገድ *በተመለከተ ያለቸው* **መሰረተዊ □እውቀት**

ቁጥር	ጥያቄ	ኮ□/አማራጭ	□ክል
401	ከኤች አደ ቪ ጋርየምትኖር እናት ቫይረሱን ወደልጇ የምተስተላልፍ ጁመሰሎ- ታቂ?	1. አዎ 2. አይመሰለኝም	
402	ከኤች አደ ቪ ጋር የምትኖር እናት ቫይረሱን ወወደ ህፃኑ የምተስተላልፈው መቼ ይመስለዎታል?	(ከ አንድ በላይ መልስ መስጠት ይቻላል) 1. በእርግዝና ጊዜ 3. በጡት ማጥባት ጊዜ 2. በ□ሊ□ □□ 4. አላውቅም 5.ሌላካለይጥቀሱ	
403	ኤች አይቪከእናት ወደ ልጅአንዳይተላፍ የሚደረግበት መከላከያ መንገድ መንድነው?	(ከ አንድ በላይ መልስ መስጠት ይቻላል) 1. መድሃኒት መውሰድ 3. ጡት ያስማጥባት 2. የጥንቃቄ ወሲድ 4. ጡት ብቻ ማጥባት 5. ሌላ ከስ ይጥቀሱ	
404	የኤች አይቪ ውጤቶን ለባለቤቶ ነግረዋል?	1. አዎ 2. አይደለም	

ክፍል አምስት፤ ጡትን □መመ□ብ ሁ□ታ

ቁ□ር	□ጸ ቄ	ኮ□ማራ□	□ክል

501	የልጆዎ አድሜ ስንትነው?	---------- ቀናት ----------ሳምንተት ----------ወራት	
502	የልጆዎ ፃተ ምንድነው?	1. ወንድ 2. ሴት	
503	ልጆትን ጡት አጥብተው ያውቃሉ?	1. አዎ 2. አይደለም	
504	መጀመርያ ልጆዎን ጡትያጠቡት ከወሰዱ ከምንያህል ጊዜ በኋላ ነው?	1.በመጀመሪያዎቹ አንድ ሰአተት 3. ከ ሰምንትሰአት በኋላ 2. በመጀመሪዎችስምንትሰአታት ወሰጥ 4. ሌላ ካለ ጹ□ቀሱ □	
505	ል□ መ□መሪያ እንደተወለደ ጡት ከመጥባቱ በፊት የሚጠጣ ወይም ሌላ ምግብ □ስ□ል?	1. አዎ 2. □ስም	
506	ለልጆዎት ከተወለደ ጀምሮ ከእናት ጡት ወተት በተጨማሪ ሌለ ምግብ ወይም መጠጥ ሰጥተውት ያውቃሉ? **(ህጻኑ ትልቅ ከሆነ ለመጀመሪያዎቹ 6 ወራት)**	1.አዎ 2. የለም →	መልሱ□ስም ከሆነ □□□ቁ601 ጹሂ□
507	ስምን ከጡትወተት □□ ሌላ ም□ብ ሰጡት ?	1. ልዓ ሰለተመመ 4. በባል ተፅኖ 2. አናትየው ስለተመመች 5. በቤተሰብ ተፅኖ 3.አናትየው ና ህጻኑ/ኗ ሰለተመሙ 6. በአከባቢው ሰለ ተስመደ 7. ሌላከለ ይጥቀሱ	

ክፍል ስድስት፤ የልጅን አመጋገብ ሁኔታ/አይነት ስለ መ□ሰን

ቁ□ር	□ጸ ቄ	ኮ□/አማራጭ	□ክል
601	የልጆዎት አመጋገብ ሁኔታ የሚወሰነው በአርሶ ብቻነው?	1. አዎ 1 2.አይደለም 2	መልሱ አዎ ከሆነ ወደፕ.ቁ604አስፍ
602	ልጆትን አንዴት መመገብ አንዳለቦት የሚወስነው ማነው?	1. እናቴ 3. አባቴ 2. ባለቤቴ 4 ጎረቤቶቼ 5. ዘመዶቼ 6. ሌላ ከለ ይጠቀሱ	
603	የልጆትን የአመጋገብ ሁኔታ አንዲወስኑ ለምንፈቀዱላቻው	1. የኤች አይ ቪ ውጤቴን ስላልነገርኳቸው 2. በቤት ውስጥ ወሰኔ የሚሰጡት አነሱ ስለሆኑ 3. ስለአመጋገብ ከኔ የተሻለ ስለሚያውቁ 4. በኛባህል ጡት ማጥባትን ቢተሰብ ሰለሚወስን 5. ሌላከለ ይጥቀሱ	
604	ልጆዎትን ጡት ብቻ እንዲያጠቡ የገንዘብ ድጋፍ የሚያደርግሎት ማነው?	1. ማንም አያደርግልኝም 3. ቤተሰቦቼ 2. ባለበቴ 4.ጎረቤቶቼ 5. ሌላ ከለ ይጥቀሱ	

□□ል ሰባት፤ □እናትቲቱና የህፃኑ/ኗ የጤንነት ሁኔታ

ቁ□ር	□ጸ ቄ	ኮ□/አማራጭ	□ክል

701	የመጨረሻ ልጆትን ከ□ስ□በኋላ ተመ□ ጸ□ቃሱ? **(ህጻኑ ትልቅ ከሆነ ለመጀመሪያዎቹ 6 ወራት)**	1. አዎ 2.□ስም →	□□□.ቁ 706 ጁሂ□
702	ህመሞት ምን ነበር?	1.የጡት ህመም 2.የጡት ጫፍ ህመም 3. ሌላከስ ይጥቀሱ	
703	በህመሞ ወቅት የስጆወን አመጋገብ ሁኔተ ቀየረ?	1. አዎ 2. □ስም	
704	ህፃኑ/ኗተሞ ጸ□ቃል? **(ህጻኑ ትልቅ ከሆነ ለመጀመሪያዎቹ 6 ወራት)**	1. አዎ 2. □ስም →	□□□.ቁ 801 ጁሂ□
705	በህፃኑ/ኗ የህም ጊዜ አመጋገብ ቀደረውስት ነበር?	1. አዎ 2. □ስም	

ክፍል ስምንት ጡትን ብቻ ስለማጥባት ያሳችው አመለከከት

ቀጥሎጥቂትአባባሎችን አነብሎታለሁ አስተያየትዎን 1) በጣምአስማማለሁ 2) እሰማማለሁ

3) ምንምአሰተያት የለኝም 4) አልሰማም 5) በጣም አልስማም በማለት ይግለጹ

ቁ□ር	□ጸቄ	ኮ□/አማራጭ	
801	አንድ ህጻን እንደተወለደ ሌላምግብ መስጠት ጠቃሚ ው፡፡	1 2 3 4 5	
802	የናትን ጡት ብቻ ስ6 ወራት ማጥባት በቂ ስሳልሆነ ህጻናት ተጨማሪ ምግብ መማገብ አለባቸው፡፡	1 2 3 4 5	
803	ህጻናት እነደተወልዱ ከጡት በፊት የሚማቡት ምግብ ከሰይጣን የጠበቃቸዋል እንዲሁም ሆዳቸወን ያፀዳዋል፡፡	1 2 3 4 5	

ክፍል ዘጠኝ፤ ጡትን ብቻማጥባት የማቆምሂደት

ቁ□ር	□ጸቄ	ኮ□/አማራጭ	□ስል

901	አሁን ልጆትን ጡት እያጠቡ ነው?	1. አዎ 2. ¾ነም	መልሱ አይደለም ከሆነ ወደ □.ቁ.902
902	ሙሉለሙሉ ጡት ማጥባት አቁመዋል?	1. አዎ 2. ¾ነም	
903	ሙሉለሙሉ ጡት ማጥባት ሲያቆሙ የልጆት አድሜ ስንትነበር?	----------ቀናት ----------ሳምንተት ----------ወራት	
904	ስምን ጡት ማጥባት አቆሙ?	(ከአንድ በላይ መልስ መሰጠት ይቻላል) 1. ህፃኑ/ኗ ምግብ መብላት ስላልፈለገ 2. ሌላ ምገብ አንዲለምድ ስማበረታታት 3. በአርግዝና ምክናየት 4. ኤች አይ ቪ አነዳይ ተላለፍበት በመፍራት 5. በጤና ባለሙያዎች ምክር	

ጥያቄዎችን ጨርሰናል ስለትብብሮ ከልብ አናመሰግናለን!!

¾ሙ□ጁቁ ማብቂጸ ሰአት-------□ቂቃ-------

የውጤት መለያ ፤ ሙሉለሙሉ የተጠናቀቀ ----- 1

በከፊል የተጠናቀቀ-------- 2

ሌላ ---------- 3

¾□ጸቂ¨ ስም :----------□ርማ----------ቀን----------

በተቆ×× ሪ¨ ¾ኮረÒÑÖ ፤ ¾ኮቆ×× ሪ¨ ስም---------□ርማ----------ቀን---------

Annex III. Guide for in depth interview

Introduction and consent form

Greeting: my name is _____ I 'am a student of Addis Ababa University, school of public health. I 'am doing study on the factors influencing adherence to EBF among HIV positive mothers, this interview is being conducted to get your input about the contributing factors to EBF among HIV positive mothers. The result of the study will be used for decision making purpose at government level to help HIV positive mothers on strictly adherence on EBF once they opt it. You have been invited to participate in this interview due to your involvement and knowledge on the issues. Your participation is entirely voluntary and you will not receive a direct benefit for participating**.** I am especially interested in any problems you have faced or are aware of and recommendations you have. If it is okay with you, I will be tape recording our conversation. The purpose of this is so that I can get all the details but at the same time be able to carry on an attentive conversation with you. I assure you that all your comments will remain confidential. If you agree to this interview and the tape recording, please sign this consent form.

I agree to be interviewed and to have the interview audio tape recorded.

Respondent signature_____ Date_____

If person is an able to read and sign but agree to be a participant:

I [the interviewer] will sign here indicating that the information above was read to you, that you agree to participate in this interview and that your consent is given voluntarily.

Interviewer signature _____ Date_____

If they agree to participate continue discussion, but if not stop here.

Question for In-depth interview

001 Sub city_____

Kebele _____

Place of interview _____

Time and Date _____

I'm now going to ask you some questions that I would like you to answer to the best of your ability. If you do not know the answer, please say so."

Q1.Please tells me about the feeding options for HIV positive mothers to feed their infant?

Q2.Did you attend any feeding counseling sessions? (If so what advantage did you got from the sessions?)

(Now let's talk about your experience on EBF for your current child)

Q3. What did you give immediately after birth to your infant?

Q4. Did you have any help to adhere on EBF from your family member? (If so what was that?)

Q5.Did you come across any influence from your family, neighbors, and relatives not to adhere to EBF? (If so please explain)

Q6. Do you think government involvement is important on adherence to EBF? (If so in what way government should participate /involve bringing change on adherence of EBF among HIV positive mothers?)

We are finished the Interview.

Thank you very much!!!

Time end of the interview: _____:_____

Hour Minute

የግላዊ መጠየቅ መመሪያና መተማመኛ ቅፅ

አንደምን አደሩ/ዝሱ ስሜ------ ይባላል የአዲስአበባ ዩኒቨርስቲ የህብረተሰብ ጤና ክፍል ተማሪ ነኝ የመመረቂያ ጥናተ ከ ኤች አይ ቪ ጋር የሚኖሩ እናቶች ለሚወልዷቸው ለጆች ለስድስት ወራት ያህል የእናት ጡት ብቻ ለማጥባተ ከወሰኑ በኃላ በውሳኔቸው ተግባራዊነት ላይ ተጽኖ ያላቸውን ነገሮች/ጉዳዮች መዳሰስን ይመለከል ። የጥናቱ ውጤት የጡት ተተኪ የሆነውን የህጻናት ምግብ መመገብ ስማይችሉ ከ ኤች አይ ቪ ጋር የሚኖሩ እናቶች የእናት ጡትን ብቻ ለ 6 ወራት ያህል እንዲጠቡ የሚያበረታቱንናወይም የሚስቸግሩ ጉዳዮችን በመለየት መንግስት በሚያወጣቸው ህጎችና እቅዶች እነዚህን ጉዳዮች ከግንዛቤ እንዲያስገባ ይረዳል።እርሶ በዚህ ጥናት ላይ እንዲሳተፉ ሲመረጡ በጉዳዩ ላይ ያሎትን ቀጥተኛ ተሳታፊነትእና እውቀት ከግምት በማስገባት ነው።በቃለመጠይቁ መሳተፍ ሙሉ ለሙሉ በርሶ ፈቃደኝነት የተመስረተ ሲሆን ከመጠይቁ ቀጥተኛ የሆነ ጥቅም አያገኙም ።በዚህ ጥናት በመሳተፎ ምንም አይነት ጉዳት አይደርስቦትም።የርሶ ፈቃድ ከሆነ ንግግሮቻችንን (ቃለመጠይቁን) በቴፕ/በመቅረጫ ደምጽ እቀርጸዋለሁ። ይን የማደርገው የተነጋገርናቸውን ነገሮች መጠይቁ ካበቃ በኃላ ሙሉበሙሉ ለማገኘትና በንግግራችን ወቅት ከርሶ ጋር በደንብ ለመነጋገር እንዲያመቸኝ ነው።የምትሰጪያቸው መረጃዎች ሁሉ ሚስጥራዊ እንደሆኑ ላረጋግጥልሽ እወዳለሁ።

ድምጸት ተቀርጾ በቃለመጠይቁ ለመሳተፍ ፈቃደኛ ከሆኑ እበኮይህንን የስምምነት ውል ይፈርሙ።

ድምጼ እየተቀረፀ ቃለመጠይቁን ለማካሄድ ተስማምቼለሁ።

የተሳታፊዋ ፊርማ----------

ማንበብና መፃፍ ለማይችሉ ግን በውሉ ለተሰማሙ ተጠያቂዎች ።

«እኔ (ጠያቂዋ) አፈርምላችዋለሁ/ይህ የሚያሳየው ተጠያቂዋ ስመሳተፍ ፈቃደኛ መሆናችውን ነው»

የግላዊ ቃለመጠየቅ ጥያቄዎች

ክፍለከተማ ----------ከበለ----------የቃለመጠይቁ ቦታ---------

ሰአት---------- ቀን----------

ከዚህ በመቀጠል የተወሰኑጥያቄችን አጠይቆዎተስሁ መልሶቻቸውን ስሚውቁት ጥያዎች ብቻ ጁመልሱልኛል፤

ጥ.1. ከኤችአይ ቪ ጋር ስሚኖሩ አናቶች ያስውን የህጻናት አመጋገብ አማራጭ ሲነግሩኝ ይችሳሱ?

☐2.የህጻናትአመጋገብን አስመልክቶ ከጤና ባስሙያ የምክርአገልግሎትአግኝተዋል?(አግኝተው ከሆነ ያገኙትን ☐ቅም ቢጸ ብራሩልኝ)

(አስኪ አሁን ደግሞ በመጨረሻ ሳጆት ሳይ የተገበሩትንየአርሶዎን ልምድ አንመልከት)

☐3. ልጆ ወዲያው አንደተወለደ ምንሰጡት/ጧት?

☐4. ጡቶትን ብቻ ስ 6ወራት የህል አንዲያጠቡ ከ ባስቤቶና ከብተሰቦ የተደረገሎት ድጋፍ ስ?(ከስ ድጋፉ ምን ነበር?).

☐5. ጡቶትን ብቻ ስ 6 ወራት አንዳያጠቡ ከባስቤቶ፤ከቤተሰቦአነዲሁም ከጎረቤት ያጋጠሞት ጫና ነበር?(ከነበረ ቢያብራሩስኝ)

☐ቁ.6 ከ ኤችአይ ቪ ጋር የሚኖሩ አናቶች ጡተቸውን ብቻ ስ 6 ወራት ያህል አንዲያጠቡ ስማገዝ የመንግሰት አገዛ ያስፈልጋል ብስው ያምናሉ?(ከሆነ በምን መልክ መሳተፍ አንዳስቦት ያብራሩ).

መጠይቁን ጨርሰናል ሲለነበረን ቆይታ ከልብ አመሰግናሁ!!.

መጠይቁ የተጠናቀቀበት ሰአት --------- ደቂቃ----------

List of Hospitals and Health centers included in this study

St.paulos Hospital

Yekatit 12 Hospital

Gandi memorial Hospital

Gulele Health center

Addis ketema Health center

Addis ketema woreda7 Health center

Teklehaymanot Health center

Kazanchies Health center

Yeka Health center

Bole woreda 17 Health center

Nifas silk N2 Health center

Kolfe Health center

Saris Health center

Shiromeda Health center

ASSURANCE OF PRINCIPAL INVESTIGATOR

I, the undersigned, declare that this thesis is my original work in partial fulfillment of the requirement for the Degree of Masters of Public Health and has not been presented for a degree in this or any other university. All source of materials used for this thesis have been duly acknowledged.

Name of the student: Medina Mukerem

Place: School of Public Health, Addis Ababa University

Date:_____ Signature _____

Approval of the primary Advisor

This thesis has been submitted for examination with our approval as the university advisors.

Name of the primary advisor: Jemal Hidar (MD, MSc, CRM, CME)

Date._____ Signature _____