

**Infant and young child feeding practices and associated factors among women living with HIV in Gondar town; Ethiopia**



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## ABSTRACT

**Background:** infant and young child feeding (IYCF) practices are sets of recommendations for appropriate feeding of children under two years of age which is more challenging in the context of HIV due to vertical transmission of the virus from mother to child. There is a limited evidence about IYCF in HIV context in the study area. This study was hence designed to assess the entire spectrum of IYCF practices among women living with HIV/AIDS.

**Objective:** To assess infant and young child feeding practices and associated factors among HIV positive mothers with children age 6-24 months in Gondar town.

**Methods:** Institution based cross-sectional study was conducted from March 15 to April 30,2018 on 287 randomly selected HIV positive mothers having a child age 6-24 months. A pre-tested structured interviewer administered questionnaire was used to collect the data. The outcome variable (infant and young child feeding practice) was measured based on core indicators of WHO guideline. Data were entered into Epidata and exported to SPSS for analysis. Bi-variable & multivariable logistic regression models were fitted to identify independent predictors of infant and young child feeding practices.  $p$ -value<0.05 was used to declare statistical significance.

**Result:** A total of 287 mother-child pairs were included in the study with a response rate of 95.7%. More than two-third (67%) of children were breastfeeding within 1 hr. after birth. Two-hundred twenty-two (79.8%), 19(6.6%) and 39(13.6%) of HIV positive mother practiced exclusive breastfeeding, exclusive replacement feeding and mixed feeding respectively. About two third (62.7%) of HIV exposed children age 6-24 months were fed complementary foods inappropriately. knowledge [AOR=0.32, 95%CI (0.17-0.58)], maternal workload [AOR=0.38,95%CI (0.19-0.75)], and information about child feeding [AOR=0.46, 95%CI (0.26-0.81)] were independent predictors of complementary feeding practices at  $p$ -value<0.05

**Conclusion and recommendation:** Appropriate complementary feeding was lower than WHO recommendation for good practice of IYCF, good knowledge, information on child feeding and less maternal workload were encouraging appropriate complementary feeding practices. So, health care providers, community health workers and other non-governmental organizations should focus on counselling mothers on appropriate child feeding practices and researchers should identify potential determinants of inappropriate IYCFPs of HIV positive mothers.

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## TABLE OF CONTENTS

ABSTRACT.....	I
AKNOWLEDGEMENT .....	II
TABLE OF CONTENTS .....	III
LIST OF TABLES .....	V
LIST OF FIGURES .....	VI
ABBREVIATIONS AND ACRONYMS .....	VII
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background.....	1
1.2 Statement of the problems .....	3
CHAPTER TWO: LITERATURE REVIEW .....	5
2.1 HIV/AIDS and IYCF practices .....	5
2.1.1 <i>Breast Feeding</i> .....	6
2.1.2 <i>Replacement Feeding</i> .....	7
2.1.3 <i>Mixed Feeding</i> .....	8
2.1.4 <i>Complementary feeding</i> .....	9
2.2 Factors Influencing Maternal Choice of IYCF practice .....	10
2.2.1 <i>Sociodemographic and Socio-economic factors</i> .....	10
2.2.2 <i>Level of Maternal Knowledge on PMTCT and IYCF</i> .....	11
2.2.3 <i>Maternal and child related factors</i> .....	11
2.2.4 <i>Cultural Norms and Beliefs</i> .....	12
2.2.5 <i>Psychosocial factors</i> .....	12
2.2.6 <i>Obstetric factors</i> .....	13
CHAPTER THREE: OBJECTIVES.....	16
3.1 General objective .....	16
RESEARCH QUESTIONS .....	16
CHAPTER FOUR: METHODS AND MATERIALS .....	17
4.1 Study area and period.....	17
4.2 Study design.....	17
4.3 Source population .....	17
4.4 Study population .....	17
4.5 Eligibility criteria .....	17
4.5.1 <i>Inclusion criteria:</i> .....	17
4.5.2 <i>Exclusion criteria:</i> .....	18
4.6 Sample size determination .....	18

4.7 Sampling procedure .....	18
4.8 Study Variables .....	19
4.8.1 <i>Dependent variables</i> .....	19
4.8.2 <i>Independent variables</i> .....	19
4.9 Data collection procedure and measurement .....	19
4.10 Operational definitions.....	20
4.11 Data quality control.....	21
4.12 Data analysis .....	22
4.13 Ethical clearance .....	22
4.14 Dissemination plan.....	22
CHAPTER FIVE: RESULT.....	23
5.1 Socio-demographic and economic characteristics .....	23
5.2 Infant and young child practices of HIV positive mothers .....	24
5.2.1 Breast Feeding Practices .....	24
5.2.2 Complementary Feeding Practices .....	26
5.3 Mothers' infant and young child feeding knowledge .....	29
5.4 Complementary feeding practices and associated factors .....	29
CHAPTER SIX: DISCUSSION .....	30
6.1 Breast feeding practice of respondents .....	30
6.2 complementary feeding practices of respondents .....	31
CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION .....	33
REFERENCES .....	34
ANNEXI: .....	40

## LIST OF TABLES

Table 1. Socio-demographic and economic characteristics of respondents in north Gondar town, Amhara, Ethiopia, 2018.....	24
Table 2. Prevalence of breast feeding practices of HIV positive mothers in Gondar town, 2018.....	26
Table 3. Prevalence of complementary feeding practices of HIV positive mothers in Gondar town, 2018.....	27
Table 4: Multi-variable logistic regression showing associated factors of mothers' complementary feeding practice in Gondar town, 2018.....	29

## LIST OF FIGURES

Figure 1: Conceptual framework of infant and young child feeding practice of HIV positive mothers adapted from different literatures,2018.....	14
Figure 2. Schematic presentation of sampling procedure, 2018.....	18
Fig 3. Reasons for delayed initiation of breastfeeding among HIV positive mothers in Gondar town, 2018.....	25
Figure 4: Infant feeding options of HIV positive mothers in Gondar town, 2018...26	
Figure 5. proportion of complementary feeding by age category of children in Gondar town,2018.....	28
Figure 6: IYCF status of HIV positive mothers in Gondar town, 2018.....	28



## **ABBREVIATIONS AND ACRONYMS**

AIDS	----	Acquired Immune-Deficiency Syndrome
ANC	-----	Antenatal Care
AOR	-----	Adjusted Odds Ratio
ART	-----	Antiretroviral Therapy
BF	-----	Breastfeeding
CBF	.....	Continued Breast Feeding
CF	.....	Complementary feeding
CI	-----	Confidence Interval
COR	.....	Crude Odds Ratio
CRC	-----	Convention on the Rights of the Child
EBF	-----	Exclusive Breast feeding
EDHS	-----	Ethiopia Demographic and Health Survey
ERF	-----	Exclusive Replacement feeding
FMOH	-----	Federal Ministry of Health
HC	-----	Health Center
HIV	-----	Human Immunodeficiency Virus
IYCF	-----	Infant and Young Child Feeding
MF	-----	Mixed Feeding
MTCT	-----	Mother-To -Child Transmission
NCD	-----	Non-Communicable Chronic Disease
ORS	-----	Oral Rehydration Salt
PMTCT	-----	Prevention of Mother-To -Child Transmission
SDGs	-----	Sustainable Development Goals
SPSS	-----	Statistical Package for Social Science
SVD	-----	Spontaneous Vaginal Delivery
UNICEF	---	United Nations Children’s Fund
USAID	-----	United States Agency for International Development
WHO	-----	World Health Organization

# **CHAPTER ONE: INTRODUCTION**

## **1.1 Background**

Infant and young child feeding (IYCF) practices are sets of well-known and common recommendations for appropriate feeding of new-born and children under two years of age includes mainly early initiation of breastfeeding, exclusive breastfeeding for the first 6 months and appropriate complementary feeding for children 6-23 months while continuing breastfeeding (1,2).

This is more challenging in the context of HIV due to vertical transmission of the virus from mother to child and economic constraints because as studies showed that majority of HIV positive mothers are civil servants and daily laborers which influences purchasing power at household level and affects affordability and access to infants feed (3). So, encouraging appropriate IYCF practices such as early initiation of breastfeeding, exclusive breastfeeding for the first 6 months and appropriate complementary foods, even in the context of HIV/AIDS, is effective approach of improving child survival (4). Hence, the first two years of life provide a critical window of opportunity for prevention of growth faltering and undernutrition through optimal breastfeeding (5,6) and complementary feeding (7).

Breastfeeding is a magic bullet for child health, development and survival (8). It provides all of vitamins, minerals, enzymes and antibodies that children need to grow and thrive in the first 6 months of life, and continues to be a pivotal part of their diet up to the age of 2 or beyond (9,10).

Appropriate complementary feeding promotes growth and prevents stunting and 6% child deaths can be prevented with appropriate complementary feeding among children 6–23 months old. It is especially important for children with mothers who are HIV infected to eat the right kinds and right amounts of safely prepared foods in addition to breastfeeding (11).

HIV exposure and infection increases childhood malnutrition because of HIV-positive women have a higher incidence of preterm and low birth weight deliveries, and as a result, HIV-exposed infants may start life with impaired nutrition (12). In addition to this women in sub-Sahara country often practice a particular feeding method in an attempt to conceal their HIV status to avoid stigma, family conflict or the loss of socioeconomic family support which may lead to increase child

morbidity and mortality, increase risk of chronic disease and fosters poor development overall (13).

According to WHO 2016 IYCF guideline mothers known to be HIV infected (and whose infants are HIV uninfected or of unknown status) should exclusively breast feed their infants for the first six months of life, introducing appropriate complementary foods thereafter and continue breastfeeding for the first 12 months of life as general population while she is fully on ART (8).

However, research indicates that without preventive interventions risk of HIV transmission from an infected mother to the child during pregnancy, labor & delivery and breastfeeding is about 5-10%,10-15% and 5-20% respectively (14). The risk of transmission through breastfeeding is increased especially when mixed feeding is practiced before weaning.

## **1.2 Statement of the problems**

Globally, breastfeeding and complementary feeding practices are poor. Only 43 per cent of the world's infants under 6 months of age are exclusively breastfed and the vast majority of young children are not fed a diverse diet during the complementary feeding period (15). In some African countries including Ethiopia 50% of HIV positive mothers used exclusive replacement feeding and only 30-40% exclusive breast feed and few (5%) practiced expressed breast milk feeding (16).

Malnutrition is responsible for two third of all childhood deaths and it increased significantly in HIV exposed infants and young child (17) which could be due to not only from a lack of food but also from inappropriate feeding practices where the timing, quality and quantity of foods given to infants and young children are often inadequate (17). So, optimal breastfeeding and complementary feeding practices are essential to meet the nutritional needs of children in the first two years of life. Especially it is a crucial factor for HIV exposed children in determining the health, nutrition, survival, growth and development of children (9).

Despite the need of HIV positive mothers to keep their children HIV free, they also face various challenges which contribute to their infant feeding choices. The risk of HIV transmission through breastfeeding poses a dilemma for infant feeding, particularly in a developing country like Ethiopia where the HIV infection prevalence of 5.4% remains a public health concern, and where breastfeeding is the norm and is critical for child survival (19).

HIV exposed children are faced with nutritional challenges, particularly in the first 6 months of life and yet breastfeeding is associated with an up to 20% chance of maternal-to-child-transmission of HIV (MTCT) and this poses a great challenge to parents and health workers alike.

Optimal IYCF influenced by accurate information and skilled support from the family, community and health system, inadequate knowledge about appropriate foods and feeding practices (lack of education of caregivers), beliefs and cultural taboos, the workload of the mothers (associated with paid maternity leave, breastfeeding breaks, and designated breastfeeding spaces), poor access to resources, poverty, and food

insecurity (19,15).

As part of the process of scaling up access to services for comprehensive HIV/AIDS care for both adults and children, the government of Ethiopia has put in place IYCF guideline and a programme (option B<sup>+</sup>) for early diagnosis of HIV among infants and children less than 18 months old (20). This provides an opportunity for getting exposed and infected children onto HIV care and treatment, including counselling and support to mothers for safe feeding.

Despite the efforts made by the Ethiopian government and other stakeholders to overcome these factors & promoting, protecting and supporting optimal IYCF, and the progress that has been made in HIV prevention, none of the previous policies and studies addressed IYCF comprehensively and adherence to these recommendations remains challenging may be a main cause of poor nutritional status of children.

In general, much efforts have been put into the promotion, protection, and support of optimal IYCF both at international and national levels; feeding of the HIV-exposed, infants and young children remains one of the greatest challenges. There is still a deficiency in overall status and predictors on IYCF in context of HIV/AIDS and support for its implementation in Ethiopia specifically in study area. So more evidence is needed to inform prevention and treatment of malnutrition among HIV-exposed and HIV-infected children.

In addition, adoption of innovations to improve IYCF and nutrition status of HIV exposed children requires understanding of factors influencing behavioral and caring practices. This necessitated use of comprehensive tools in identifying the existing IYCF practices in Gondar town and assessing the influence of institutional, community, social, cultural, familial and individual factors.

Hence, current study was proposed to cover the entire spectrum of IYCF practices among women living with HIV/AIDS for enhancing the nutrition, health, growth and development of HIV-exposed, infants and young children in Gondar town.

## **CHAPTER TWO: LITERATURE REVIEW**

According to UNICEF report of HIV/AIDS globally, about 2.1 million children were living with HIV in 2016 with 66% decrease in rate of MTCT since 2000 due to scaled up efforts to prevent mother-to-child transmission. Over 90% of these infections occurring in sub-Sahara Africa, and mainly through mother-to-child transmission. In Ethiopia about 3800 children aged 0-14 years were newly infected with HIV with the average rate of HIV transmission from mother to child 16% (21).

Poor breastfeeding and complementary feeding practices especially among HIV positive mothers are widespread. Worldwide, it is estimated that only 40% of infants are exclusively breastfed for the first 6 months of life, the majority receiving some other food or fluid in the early months (22). Complementary foods are often introduced too early or too late and are often nutritionally inadequate and unsafe (10).

The feeding of infants and young children is crucial in determining the health, nutrition, survival, growth and development of the individual. Nutrition is a key element of the child's right to health as specified in the Convention on the Rights of the Child (CRC) (23). Optimal infant and young child feeding, exclusive breastfeeding for the first six months of life followed by continued breastfeeding with appropriate complementary foods for up to two years or beyond (23,14), is a considerable feeding option for HIV exposed child to ensure the growth, health and development to their full potential (24, 25,11).

### **2.1 HIV/AIDS and IYCF practices**

An estimated 1.6 million children are born to HIV-infected women each year. 90% of HIV-infected children contract HIV from mother-to-child transmission. Without intervention, 10-20% of these children may be infected through breastfeeding (27).

In countries where the prevalence of HIV infection is high, HIV infection has both a direct impact on the nutritional status of women and children who are infected and an indirect effect through alterations in household food security and inappropriate choices of infant-feeding practices in order to prevent mother-to child transmission of HIV (26).

Looking at the 20 children fed only breastmilk, one will die from diarrhea,

pneumonia, or other infections, and one will be infected with HIV, only replacement milk, 4 will die from diarrhea, pneumonia, or other infections, and none will be infected with HIV and children fed breastmilk and other foods and liquids, 3 will die from diarrhea, pneumonia, or other infections, and 3 will be infected with HIV(28). The risk of transmission varies with the duration of breastfeeding, but it is estimated to be about 10-20% for those breastfed for two years (29).

A study conducted in Shashemene hospital, Oromia region showed that the rate of HIV exposed infants positivity was 4.1% at six weeks and 5.5% at 18 months by rapid antibody test (30).

### *2.1.1 Breast Feeding*

Breast milk is universally accepted and always the right temperature, requires no preparation, and is available even in environments with poor sanitation and unsafe drinking water. It has essential nutrients, antibodies and enzymes that protect against infections and strengthens the infant's immune system (9).

Lack of breastfeeding compared to any breastfeeding has been shown to expose children to increased risk of malnutrition and life-threatening infectious diseases other than HIV, especially in the first year of life. The most appropriate infant feeding option for an HIV infected mothers is exclusive breastfeeding (31). Early and exclusive breastfeeding, as part of optimal IYCF practices, are critical to prevent all forms of malnutrition during the first 2 years of life (32). EBF has a potential to reduce under- five mortalities by 11.6%, the prevalence of EBF among HIV positive mothers is still relatively low globally, and in Ethiopia by 2015 it was 30.6%.

A study done in South Sudan shows that 78% of HIV positive mothers exclusively breastfed. This result shows that most mothers provide optimal nutrition and protection against infections which is in line with WHO feeding recommendations (33).

A study done in Kenya found out that 64.5% of HIV positive mothers ever breast fed their infants. A small number 5.5% initiated infants to breast milk within one hour after birth. In regard to EBF 40.6% fully practiced. only 7.3% breast fed for at least 12 months (34).

A study in Adama town showed that majority of HIV exposed infants (96.8%) were ever breastfed. Of those ever breast feed their children 84.7% mothers feed

exclusively up to 6 months and 85.3 % mothers initiated breastfeeding immediately after delivery, 6 % of them initiated with one hour. Majority (62.5%) of mothers who initiated breast feeding after one hour were due to caesarian section, 18.8% of them due to delayed milk secretion, 6.3% of were due to their baby were sick and the rest of the were due to other factor (44).

According to a study done in west Shewa, Oromia region the proportion of HIV mothers' who had practiced EBF for the first 6 months their baby's life was low (23.98%) (36). Where as in Tigray region showed that most HIV positive mothers (90.4%) exclusively breastfed but no one mothers practiced expressed breast milk. In those mothers practicing EBF, being advised by health workers, easily availability of breastmilk and wide community acceptability breast feeding practice were among their main reasons (37).

Another study conducted in DebreMarkos referral hospital east Gojam zone indicated that 91.5% of HIV positive mothers ever breast feed their babies. 77.3% of respondents practiced exclusive breast feeding. The majority of mothers 62.3% breast feed their babies within the first hour after delivery. 6.5% of mothers give foods to their babies before the first breast milk and among these 76.5% of them give butter (38).

In a study conducted in public hospitals of north Gondar revealed that, about 19.1% of HIV positive mothers offered prelacteal feeds to their newborn. The most common prelacteal food given to children was sugar solution (35.7%), water (27.1%) and abish (15.7%). Culture and mothers' breast problems were the most reported reasons for practicing prelacteal feeding. The majority (79.6%) of the children had the first milk (colostrum) within an hour of delivery (43).

### *2.1.2 Replacement Feeding*

In past years there was a strong emphasis on preventing infants from becoming infected with HIV by counseling HIV positive mothers to avoid all breastfeeding. It is known that replacement feeding prevents all transmission of HIV through breastfeeding but in many settings can also increase the risk of death from other causes. There is double the chance that a baby will die from other infections (like diarrhea or pneumonia) by 6 months and now a days no difference in HIV infection and death between a child who is exclusively breastfed and a child that is exclusively



replacement fed (28).

According to a study done in Nigeria and South Sudan 26.0% (3) and 18% (33) of HIV positive mothers practiced exclusive replacement feeding. Exclusive replacement feeding practice was influenced by the factors like Desire to reduce the risk of transmission, Fear of stigmatization, Disclosure of status to spouse, occupation especially being civil servant and age being greater than 30 years.

A study done in Shashemene and Debra Markos referral hospital east Gojam zone hospital shows 2.7% and 8.5% of HIV positive mothers practiced exclusive replacement feeding(ERF) for the first six month (28,34).

### *2.1.3 Mixed Feeding*

This is infant feeding involving combination of breastfeeding with feeding other fluids, solid foods and/or non-human milk, such as infant formula or animal milks. Compared with exclusive breastfeeding, mixed feeding is associated with a greater risk of serious morbidity, such as diarrhea and pneumonia and the related mortality among HIV exposed infants and children. In the absence of ART, it is also associated with an increased risk of postnatal transmission of HIV. However, compared with non-breastfeeding (replacement feeding) in resource-limited settings, mixed feeding in the first six months of life is associated with reduced morbidity among both HIV-exposed and unexposed infants (14).

HIV positive mothers recommended never to mix feed their infants as this may increase risk of HIV transmission and illness or death from diarrhea and other illnesses (39).Mixed feeding is considered responsible for 28 to 50% of HIV infections in children.

A study conducted in southwestern Nigeria revealed that proportion of mothers who practiced mixed feeding was (13.0%) which is an undesirable practice within the first six months. Having two children or less which is related to child rearing experience and infant illness were identified factors to practice mixed feeding. Mothers whose infant were ill were seven times more likely to practice mixed feeding (3).

A study done in south Sudan and Kenya shows that 4% and 59% of HIV positive mothers used mixed feeding (33, 34). Reasons behind practicing mixed feeding in the later one included; insufficient breast milk (85.7%), onset of another pregnancy (4.8%), mothers' engaged in economic or social activities away from home/ child and

deliberately accustoming the baby to family foods (4.8%) (34).

Another study done in shashemene and DebreMarkos Referral Hospital East Gojam zone indicated the prevalence of HIV positive mothers practicing mixed feeding (MF) was 0.7% (30) and 14.2%. Norm of society 48.65% and mother unwell 28.9% were the major reasons cited by respondents who practiced mixed feeding (38).

#### *2.1.4 Complementary feeding*

The foods consumed between 6 months and 2 years of life are called complementary foods because they ideally complement an already breastmilk-based diet, and the 18-month period between 6 months and 2 years is referred to as the complementary feeding period (15). Consequently, it is important that nutritional needs of the infant and young child be met by ensuring that complementary foods are frequent, adequate, dense, utilized and safe (14).

Complementary foods should be introduced at 6 months because after 6 months' breastmilk cannot meet all of the baby's energy and micronutrient requirements. So, complementary feeding is needed to fill the gap between total nutrient needs of the growing baby and the nutrients provided by breastmilk (40). But as a study done in Uganda showed that lack of knowledge about appropriate time to introduce complementary foods, advice by influential cultural elders about complementary feeding, lack of time to feed or monitor child-feeding, lack of knowledge about childhood nutritional requirements, lack of male participation in child-feeding, lack of information and awareness about best foods for young children, lack of access to fortified foods for infants are some factors affecting child feeding practice of HIV positive mothers (41).

A study in Myanmar revealed that HIV exposed children 6-23 months ate from an average of 3.8 food groups (95% CI: 3.6 – 4.0) the previous day. Of those who did not meet minimum dietary diversity requirements, 19% ate foods from three groups the previous day, 11% ate foods from two groups the previous day, 9% ate foods from one group, and 3% did not consume any soft, semi-solid, or solid foods (42).

A study done in Kenya revealed that 70.3% HIV positive mothers correctly reported the recommended age to introduce complimentary foods. Further analysis on practice revealed that 63.1% respondents introduced complementary foods at the age of 4

months, 31.5% at 1-3 months and 5.4% after 6 months (34).

A study conducted in southern Ethiopia shows that the prevalence of timely initiation of complementary feeding practice (6-8 months) among HIV exposed infants was 42% [95% CI: (30%-54%)]. The prevalence of minimum dietary diversity was 34.4% and about 53.3% of HIV exposed children did not have the recommended meal frequency for their age in the last 24 recall. About 46.4% of HIV exposed infants aged 6-8 months and about 42.9% of infants aged 9-11 months received appropriate(recommended) feeding frequency (17). In this study, there was significant difference in bottle-feeding practice among HIV exposed infant between urban and rural residents and the prevalence was 40.7%.

A study in DebreMarkos referral hospital East Gojam zone indicated majority of the respondents 84.67% started complementary food at the age of 6 months (38).

## **2.2 Factors Influencing Maternal Choice of IYCF practice**

### *2.2.1 Sociodemographic and Socio-economic factors*

A study in Nigeria shows that six socio-demographic factors marital status, religious status, mother's educational qualification, mother's occupation, husband's occupation and spouses monthly income were significantly influence the respondents' choice of infant feeding options among HIV + mothers. Income is a factor that influences purchasing power at household level. It affects affordability and access to infants feed (16). Mothers who had secondary educational status were three times more likely to give exclusive breast feeding than those who had no formal education (36)

A study done in Kenya indicated that Age, marital status, religion and education status are socio demographic characteristics which was elucidated as a factor influencing maternal choice of infant and young child feeding. It was noted that young mothers lacked experience on infant feeding and mostly relied on elderly women for advice. The large proportion of the respondents were aged 20-24(34.2%), affiliated to protestants faith (40.5%), single (56.8%) and attend primary level education (87.4%). In the same study 89% respondents agreed that as adequate household food and nutrition security influenced their choice of infant feeding (34).

A study done in Gondar town revealed occupational status was found to be one of independently associated with recommended way of infant feeding practice (EBF and

ERF) AOR= 14.63 (95%CI = 1.36-15.40) (43).

### *2.2.2 Level of Maternal Knowledge on PMTCT and IYCF*

Increasing the level of general knowledge about transmission of HIV from mother to child and reducing the risk of transmission by using appropriate feeding options are critical in reducing childhood morbidity and mortality of HIV exposed children. Many studies conducted in different countries revealed that mother who had knowledge on optimal IYCF and prevention of mother to child transmission were more feed their infant's appropriately than those who didn't(44). More than half (57%) of women age 15-49 know that HIV can be transmitted by all the three modes of transmission; during pregnancy (65%), labour and delivery (70%) and breastfeeding (74%). More women (51%) know that the risk of MTCT can be reduced by mother taking special medications (45).

A study done in Tigray and shashemene showed 88.1% (37) and 56.8% (30) of HIV positive mothers had sufficient knowledge on IYCF options respectively.

Another study done in north Gondar showed that HIV positive mothers who had sufficient (good) comprehensive knowledge of IYCF were consistently 90% less likely to practice inappropriate breast feeding compared with mothers who had poor comprehensive knowledge (43).

### *2.2.3 Maternal and child related factors*

Maternal and child health status, maternal workload and perception of inadequate breastmilk secretion are some factors under this section influencing optimal IYCF practice of HIV positive mothers. According to a study done in Kenya, insufficient breastmilk or inadequate breastmilk secretion were cited as primary reasons for ceasing to exclusively breastfeed and introducing other foods and liquids, such as porridge and fruit, as a means to satiate infants and to calm cries of hunger or fussiness (46).

Maternal illness like breast infection and whether she is pre/on ART affects options of their infant feeding practice. By the end of 2015,67% of Ethiopia's estimated HIV-positive pregnant women were already on ART or newly put on ART (47). Mothers on chronic HIV care compared with mothers who are newly diagnosed would be with better knowledge of PMTCT and adhered to the recommended feeding (48).

A study done in Gondar town revealed 66% and 34% are on ART and not on ART, respectively. In the same study presence of insufficient breast milk was 85.7% times less likely to have recommended way of infant feeding practice (EBF and ERF). On the other hand child's illness like, poor appetite, liking certain foods only, Stomach pain, feeding difficulties (poor sucking, swallowing, or breathing), nausea, vomiting, diarrhea are also factors affecting their feeding practice (11).

#### *2.2.4 Cultural Norms and Beliefs*

Cultural Norms (Presence of food prohibited for infants) and Beliefs about formula, breast milk, solid foods and infant feeding cues affects IYCF options of HIV positive mothers (49). These cultural feeding beliefs are the main cause of resistance towards the national and international feeding recommendations. In Ethiopia despite prevention of mother-to-child transmission PMTCT programs, still mixed-feeding remains a norm; considering 'breast-milk as salty' mothers add water against current PMTCT education (50).

A study conducted in south Sudan shows that family influence and community influence affects infant feeding options of most HIV positive mothers (33).

A study in DebreMarkos referral hospital east Gojam zone indicated that the commonest reason raised by respondents who practiced mixed feeding was norm of society (48.6%) this highlighted that there was a deep rooted norm that made HIV positive mothers to practice mixed feeding (38).

#### *2.2.5 Psychosocial factors*

Despite women's appreciation for free formula, they indicated that the formula is stigmatizing because the community knew that HIV-positive women received free formula. HIV status disclosure to a partner and/or family members gave women the needed support to practice recommended feeding option, whilst non-disclosure was associated with the practice of mixed feeding within 6 months postpartum (51).

A study conducted in southwestern Nigeria revealed that mothers who disclosed their HIV status to their spouse were five times more likely to practice exclusive replacement feeding than mothers who did not disclose their HIV status to their spouse (3).

A study done in Tanzania showed 83.3% of HIV positive women reported having

disclosed their HIV status to their partner (52).

A study done in Kenya indicated 81% of HIV positive mothers explained that it was difficult to practice exclusive breastfeeding in social conditions. Family members, especially grandmother, mother in-law and men play key role to influence maternal decision on choice of infant feeding practice (34).

A study done in Gondar town revealed 87.6% of the respondents had free discussion or disclosure about their HIV status with their spouse while 12.4% had not disclosed their HIV status with their spouse (43). In this study disclosure of HIV status with their spouse found to be independently associated with recommended way of infant feeding practice (EBF and ERF) AOR = 7.7.

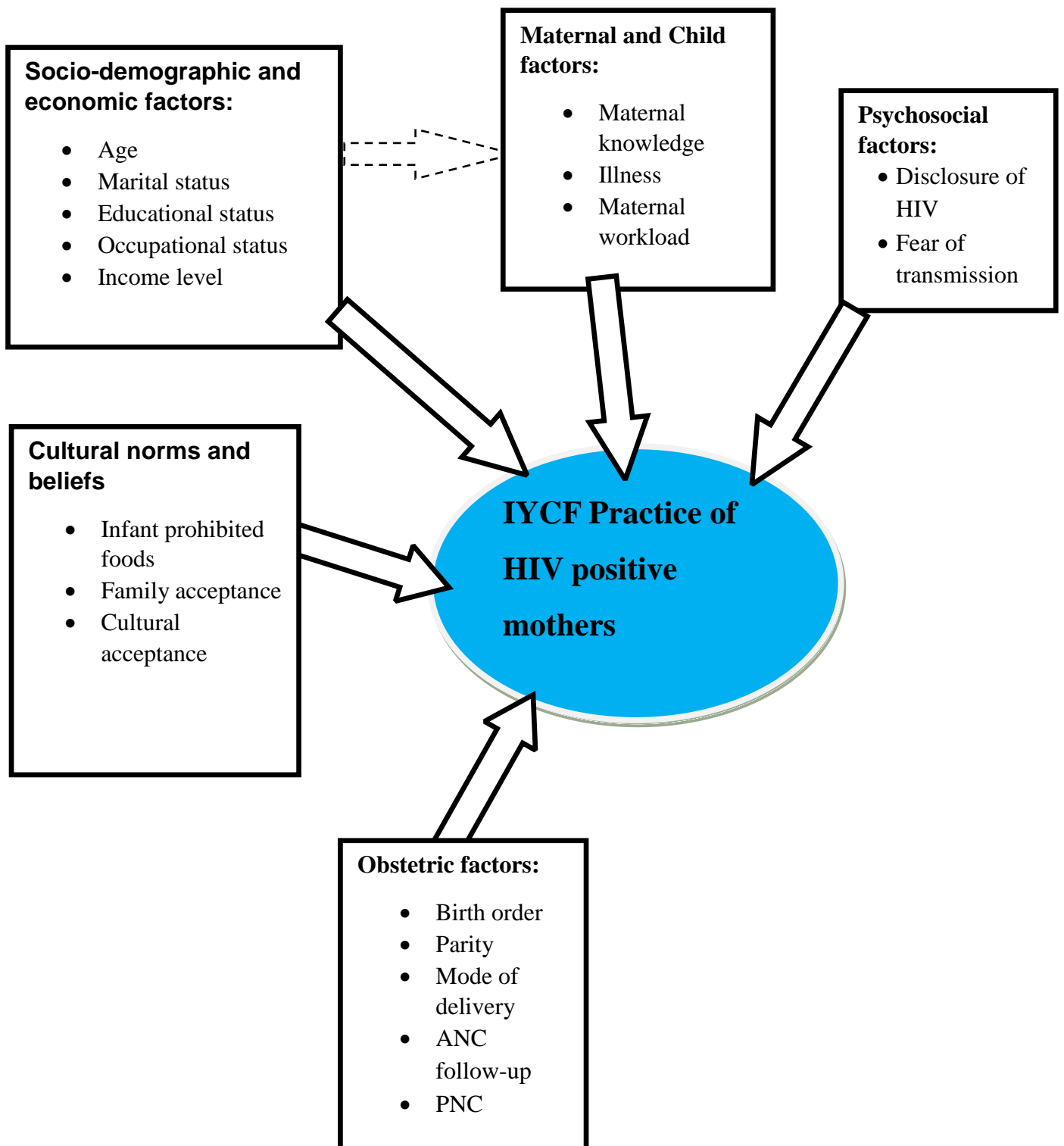
#### *2.2.6 Obstetric factors*

The prevalence of suboptimal IYCF among mothers who had antenatal care visits and counseling on appropriate feeding options were lower compared with their counterparts. This might be due to the fact that behavioral change communication strategies, such as individual and group counseling, increase appropriate and optimal IYCF practices (35).

A study conducted in shashemene hospital Oromia region showed that 94.5% of HIV positive mothers had antenatal follow up, of whom 47.9% attended ANC for 4 times and more in their last pregnancy, of which 92.46% mothers were Institutional delivered (at governmental Hospitals and health centers), while only 4,8% were home delivery among these population (30).

A study in DebreMarkos referral hospital east Gojam zone indicated majority of mothers 86.9% gave birth at government health institutions and the remaining 13.1% deliveries were at home. From those who delivered at health institution most of them were having SVD 85% followed by cesarean section 9.2%. Mothers who had ANC follow up were 5.5 times more likely to follow recommended feeding practice compared to those who had no ANC follow up AOR = 5.5 (38).

Another study done in health facilities of east and west Gojam zones showed 49.1%, 21.7%, 15% and 14.2% of mothers had fourth, third, second and first ANC follow-up respectively (48)



**Figure 1: Conceptual framework of infant and young child feeding practice of HIV positive mothers adapted from different literatures, 2018**

## SIGNIFICANCE OF THE STUDY

Infant and young child feeding in the context of HIV has been a controversial issue until recently between preventing HIV and child survival(18). Knowing IYCF practices and their predictors in the study area is important to inform mothers and other concerned bodies about appropriate evidence-based feeding practices which are essential for attaining and maintaining proper nutrition and health of HIV exposed children and decrease inappropriate feeding practices and their consequences.

The is limited study about IYCF status in HIV context after revision of WHO IYCF recommendations in Ethiopia. Even few studies conducted in the country, to assess either breast feeding or complementary feeding limited study is comprehensively assessed infant and young child feeding practices of mothers living with HIV in the study area generally in Ethiopia. So, identifying factors associated with infant and young child feeding practices in HIV contexts is assumed to facilitate better advocacy and wider coverage in the Ethiopia specifically in Gondar town.

Therefore, the current study will reveal the IYCF practices and factors associated with practice of infant and young child feeding which are crucial for decision-makers at different levels for designing empirical and evidence based intervention and for policy review to comply with the national and global goals.

The findings will also provide evidence based information about IYCF options of HIV positive mothers and related factors in Gondar town to guide project managers who are interested in improving IYCF in HIV context to prevent transmission and malnutrition among HIV exposed infants. To researchers, the findings will contribute as baseline information to conduct further studies.



## **CHAPTER THREE: OBJECTIVES**

### **3.1 General objective**

To assess infant and young child feeding practices and associated factors among HIV-positive mothers in Gondar town; Ethiopia,2018.

### **3.2 Specific objectives**

- 1, To assess infant and young child feeding practices among HIV- positive mothers.
- 2, To identify factors influencing infant and young child feeding practices among HIV- positive mothers.

## **RESEARCH QUESTIONS**

- 1.What infant and young child feeding practices are used in the study area?
- 2.What factors influence the HIV positive mothers' decision on the choice of various infant and young child feeding practices?

## **CHAPTER FOUR: METHODS AND MATERIALS**

### **4.1 Study area and period**

The study was conducted from March 15-April 30/ 2018 in Gondar town public health institutions providing ART and PMTCT service. It is found in northern Ethiopia in the Amhara region at 737 km distance from Addis Ababa city and is 174 km away from Bahir Dar city.

Based on the 2007 Census conducted by the central statistical agency of Ethiopia (CSA), this zone has a total population of 2,929,628, an increase of 40.26% over the 1994 census, of whom 1,486,040 are men and 1,443,588 women with an area of 14,095.19 square kilometers. A total of 468,238 households were counted in this Zone, which results in an average of 4.38 persons to a household. The three largest ethnic groups reported in north Gondar were the Amhara (89.7%), the Qemant (8.3%), and the Tigrayan (0.9%). 95.32% practiced Ethiopian Orthodox Christianity (54).

There are 4 health centers and 1 referral hospital in the town provide ART and PMTCT service. There are 5036 reproductive age mothers (15-49 yrs.) on ART & 418 mothers followed PMTCT service who were eligible for the study.

### **4.2 Study design**

Institutional based cross sectional study design was conducted

### **4.3 Source population**

All HIV positive mothers in Gondar town having children 6-24 months attending ART/PMTCT follow-up at public health facilities of Gondar town.

### **4.4 Study population**

Sampled HIV positive mothers in Gondar town having children aged 6-24 months attending ART/PMTCT follow-up at public health facilities of Gondar town during the study period.

### **4.5 Eligibility criteria**

**4.5.1 Inclusion criteria:** The respondents who were eligible to participate in the study include mothers have children aged 6- 24 months and were residents of Gondar town

for a period not less than 6 months.

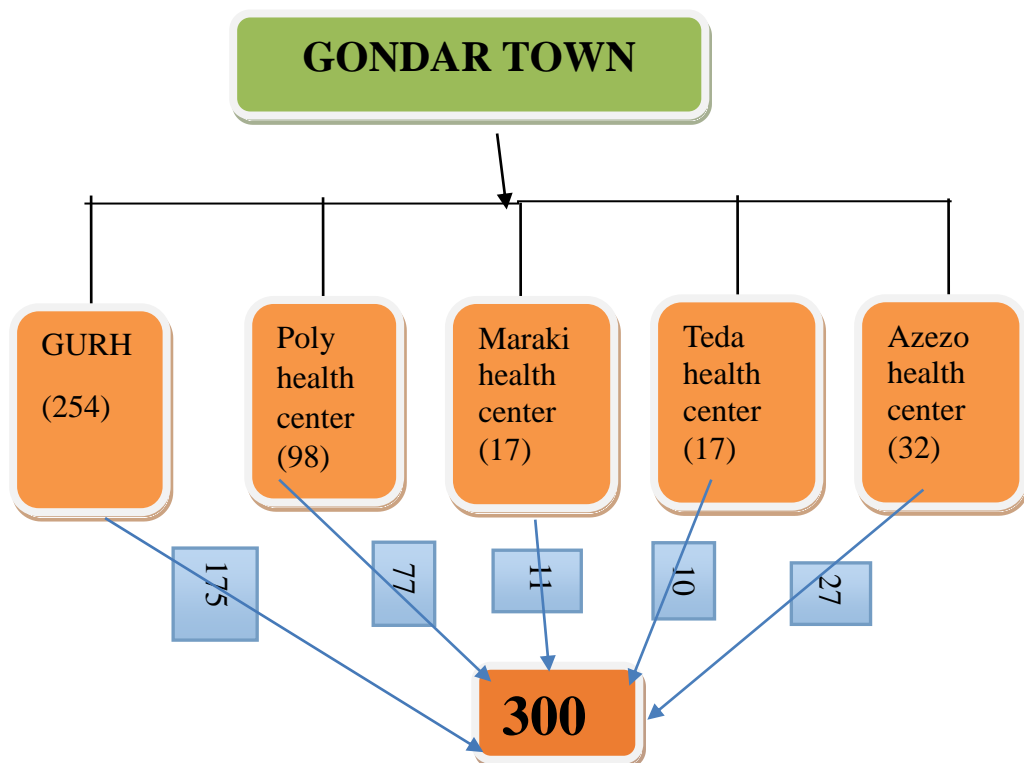
**4.5.2 Exclusion criteria:** Respondents who were Mentally or physically disabled mothers (unable to speak and/or listen), maternal/caregiver serious illness at the time of data collection and children illness during the study period.

#### 4.6 Sample size determination

The sample size was calculated using an epi-info software with considering 95% confidence intervals (CIs), a 5% margin of error, and a 24% proportion of exclusive breast feeding practice among HIV exposed infants estimated based on a study conducted in west Shewa which gave a maximum sample size (36) among different proportions of IYCF indicators among HIV positive mothers in Ethiopia from different literatures. With the incorporation of a 7% non-response rate (found from the same study where the proportion was taken), the total sample size was 300.

#### 4.7 Sampling procedure

The sample size was proportionally allocated for all governmental health institutions providing actively ART/PMTCT service in the town which were 4 health centers and 1 referral hospital and simple random sampling technique was used to select study participants from the register log book.



**Figure 2. Schematic presentation of sampling procedure, 2018**

## 4.8 Study Variables

### *4.8.1 Dependent variables*

- Infant and young child feeding practice.

### *4.8.2 Independent variables*

- Socio-demographic and Socio-economic factors (age, marital status, family size, level of education, occupation, and income level.)
- Maternal knowledge on MTCT of HIV and IYCF.
- Maternal and child related factors [maternal and childhood illness, maternal workload]
- Cultural norms and beliefs (presence of prohibited foods for infants, familial and cultural acceptance)
- Obstetric factors (ANC, PNC, birth order, parity, place of delivery)
- Psychosocial factors (disclosure, fear of transmission of HIV)

## 4.9 Data collection procedure and measurement

After written informed consent was obtained, the data on both IYCF practice and associated factors, were taken by trained degree midwifery at public health institutions using a pre tested structured interviewer administered questionnaire.

Data were collected from all eligible mothers as they attended the institution for follow up from 5 public health institutions.

Infant and young child feeding practice was assessed using eight core feeding practice indicators developed by WHO to assess the adequacy of IYCF practices. The World Health Organization defines optimal IYCF practices using 8 core indicators as the initiation of breastfeeding within one hour of birth, breastfeeding exclusively for the first six months, continuing to breastfeed for one year, initiation of solid and semi-solid food at six months, minimum dietary diversity, minimum meal frequency, minimum acceptable diet, consumption of iron-rich or iron-fortified foods. and seven optional indicators as giving of colostrum, no prelacteal feeding, no bottle feeding years, on demand breastfeeding, age-appropriate breastfeeding, predominant breastfeeding under six months, and milk feeding frequency for non-breastfed

children (51,57,58).

Complementary feeding practice was assessed based on compliance to WHO recommended practices for timely initiation (introduce complementary feed at six months), minimum meal frequency (fed minimum of three meals/day and four times/day for children aged 6–8 months and 9 months and above respectively) and minimum meal diversity (fed four or more foods within 24 hours) using 24 hours dietary recall method. Complementary feeding practice was appropriate if all the three indicators mentioned above was fulfilled otherwise it was considered as inappropriate.

#### **4.10 Operational definitions**

**HIV-exposed infant or child:** an infant or child born to a mother living with HIV until the infant or child is reliably excluded from being HIV infected.

**Infant and young child feeding practice:** defined as exclusive breast feeding in children age less than 6 months, early initiation of breast feeding, minimum meal frequency, minimum dietary diversity, timely introduction of solid, semi-solid and soft foods in 6 months, feeding iron rich/fortified solid, semi- solid or soft foods and breast feeding.

According to the WHO rating on IYCF practices, a prevalence of 0–59% is poor, 60–79% is fair, 80–94% is good and 95–100% is very good (56).

**Exclusive breastfeeding:** the infant receives only breast milk without any other liquids or solids, not even water, except for oral rehydration solution or drops or syrups of vitamins, minerals or medicines for the first 6 months.

**Timely initiation of breast feeding:** Putting neonate on mother breast to suck within 1 hour of delivery (including 1hour).

**Ever breast feeding:** breast feeding any time since birth.

**Complementary foods:** any solid or semi-solid or soft foods which are given to the child.

**Minimum dietary diversity:** children 6 - 24 months of age who consume 4 or more food groups from 7 food groups (grains/tubers/roots, legumes/nuts, milk/diary product, eggs vitamin A rich, flesh foods and other fruits & vegetables) with 24 hours dietary recall.

**Minimum meal frequency:** children age 6 - 24 months fed minimum of three meals/day and four times/day for children aged 6–8 months and 9 months and above

respectively with 24 hours dietary recall.

**Minimum acceptable diet:** a composite indicator of minimum dietary diversity and minimum meal frequency. Proportion of children 6–24 months of age who receive a minimum diversified diet and minimum meal frequency (apart from breast milk).

**Inappropriate complementary feeding:** children 6-24 months didn't introduce complementary feed at six months, fed minimum of three meals/day and four times/day for children aged 6–8 months and 9 months and above respectively and fed four or more foods within 24 hours.

**Appropriate complementary feeding:** children 6-24 months introduce complementary feed at six months, fed minimum of three meals/day and four times/day for children aged 6–8 months and 9 months and above respectively and fed four or more foods within 24 hours.

**Mixed feeding:** an infant younger than six months of age is given other liquids and/or foods together with breast milk. This could be water, other types of milk or any type of solid food..

**Continued breast feeding at 1 year:** children 12 - 15 months of age who are breast feed.

**Replacement feeding:** feeding an infant, commercial infant formula milk for the first 6 months and appropriately prepared and nutrient enriched complementary foods who is not receiving any breast milk until they can be fully fed on family foods.

**Good knowledge of IYCF:** when the respondents correctly answer 60% or above 60% of questions about MTCT and IYCF knowledge questions.

**poor knowledge of IYCF:** when the respondents correctly answer below 60% of questions about MTCT and IYCF knowledge questions (60).

**Young child:** child less than 24 months of age.

**Infant:** child less than 12 months of age.

#### **4.11 Data quality control**

The questionnaire was adapted first in English by the investigator and then translated to Amharic by another individual who is native to Amharic and has an experience in translation. The questionnaire was translated back to English by another individual in order to maintain its conceptual equivalence.

Two days training was given to the data collectors on how to collect the data and keep confidentiality of the respondents. In addition to this the questionnaire was pre-tested

4 days before the actual data collection days on 5% of the sample on similar study populations in Aykel general hospital. But no corrections made to the questionnaire. Moreover, during data collection principal investigator was closely supervise the activity on daily basis. At the end of each data collection day the principal investigator was also checked the completeness of filled questionnaire and whether recorded information makes sense or not to ensure the quality of data collected.

#### **4.12 Data analysis**

After data were collected entered in to Epidata software version 3.1(Lauritsen JM & Bruus M., Odense, Denmark, 2003-2005.), and were exported to SPSS version 23(IBM® SPSS® Statistics, Armonk, NY: IBM Corp) software for analysis & have cleaned and checked for any missing and its consistency.

Descriptive statistics like frequency, proportions, mean and standard deviation was computed accordingly. The result was described using table, chart, graph and narration. Bi-variable logistic regression was carried out to screen candidate variables for the multiple logistic regression analysis and  $p$ -value  $\leq 0.25$  was taken as a cut-off point. Then multivariable logistic regression was computed to identify independent predictors of infant and young child feeding practices. A  $p$ -values  $< 0.05$  was used to declare statistical significance.

#### **4.13 Ethical clearance**

The study was approved by Institutional Review Board of Jimma University. A letter of permission was received from Gondar town health office. Written informed consent was taken from participants. Privacy and confidentiality were maintained throughout the study period by excluding personal identifiers during data collection.

#### **4.14 Dissemination plan**

The findings of this study will be submitted to population and family health department and distributed to north Gondar Zonal Health office and to other organizations working on related area. The findings may also be presented in different seminars, meetings and workshops. Finally, all effort will be made to publish the thesis in scientific journals.

## **CHAPTER FIVE: RESULT**

### **5.1 Socio-demographic and economic characteristics**

A total of 287 mother–child pairs were included in the study with a response rate of 95.7%. The mean ( $\pm$  SD) age of the mothers was 31.5( $\pm$ 4.99) years. The mean ( $\pm$ SD) family size of the households was 4.42 ( $\pm$ 1.52), and about more than of households had  $\leq$ 5 family members. Most of the mothers had primary education (34.8%), married (67.9%) and housewife (32.4 %). Regarding to economic status about more than half of respondents (57.3%) averagely earned more than 3000ETB monthly whereas 11.3% earned less than 1000ETB (**Table 1**). About 245 (85.4%) mothers were disclosed their HIV status for their families.



**Table 1. Socio-demographic and economic characteristics of respondents in Gondar town, Ethiopia, 2018.**

<b>Variables</b>	<b>Frequency</b>	<b>%</b>
Age of respondents:		
20 – 24	17	5.9
25 - 29	88	30.7
30 - 34	92	32.1
≥35	90	31.4
Family size:		
<3	93	32.4
3-5	141	49.1
>5	53	18.5
No of children:		
<2	192	66.9
2-4	87	30.3
>4	8	2.8
Marital status:		
Married	207	72.1
Un married	80	27.9
Educational status:		
No formal education	51	17.8
Primary education	100	34.8
Secondary education	74	25.8
College and above	62	21.4
Occupational status:		
Governmental worker	66	23.0
Merchant	58	20.2
House wife	93	32.4
Daily labor	27	9.4
Unemployed	43	14.9
Average monthly income:		
≤999	31	11.3
1000-2999	86	31.4
≥3000	157	57.3

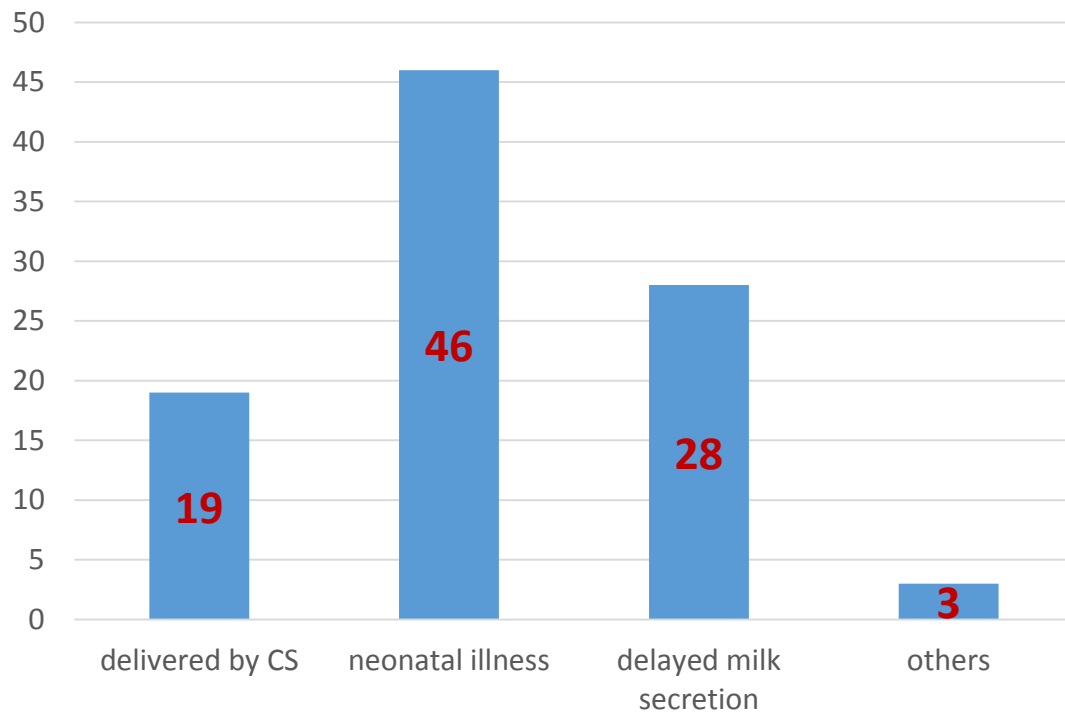
## **5.2 Infant and young child practices of HIV positive mothers**

### **5.2.1 Breast Feeding Practices**

Result of this study showed that considerably high proportions of (93.7%) children were breastfed at least once in life. Among those who ever breast fed children 56.4%

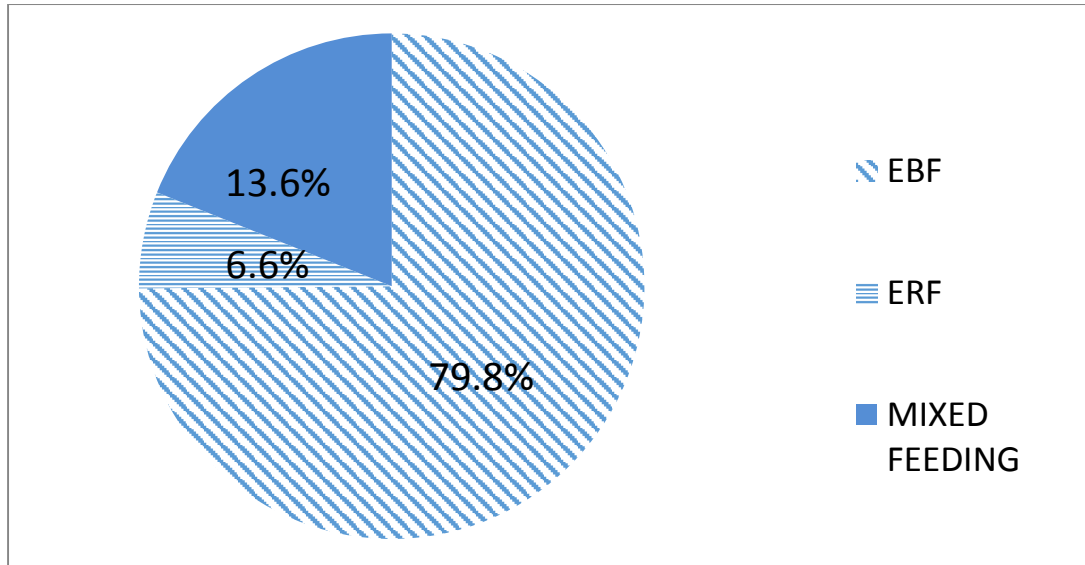
were still breastfeeding at the time of data collection. More than two-third (67%) of the HIV positive mothers initiated breastfeeding within 1 hr. after birth.

The main reason for delayed initiation of breastfeeding was neonatal illness followed by delayed milk secretion.



**Fig 3. Reasons for delayed initiation of breastfeeding among HIV positive mothers in Gondar town, 2018**

Two hundred twenty-two (79.8%), 19(6.6%) and 39(13.6%) of HIV positive mother practiced exclusive breastfeeding, exclusive replacement feeding and mixed feeding respectively. The major reasons behind mixed feeding were inadequate breast milk and maternal workload related to short maternal leave and engaged into different activities.



**Figure 4: infant (0-6 month) feeding options of HIV positive mothers in Gondar town, 2018.**

Among children age greater than 1 year 73.6% of them were breastfed up to at least 1 year of age. About 44 (42.7%) of HIV mothers were reported that the main reason to stop breastfeeding were fear of transmission followed by the milk was not enough 29 (28.1%) and maternal work away from the home 20 (19.4%).

**Table 2. prevalence of breast feeding practices of HIV positive mothers in Gondar town, 2018**

Variables category		Frequency	%	95% CI
Ever breastfed	Yes	269	93.7	90.7,96.5
	No	18	6.3	
Breastfed within 1 hr.	Yes	191	67	61.8,72.6
	No	96	33	
Infant feeding options up to 6 month	Exclusive breastfed	229	79.8	75,84
	Exclusive replacement feeding	19	6.6	
	Mixed feeding	39	13.6	
Continued breastfed	Yes	118	73.7	67.7,80.
	No	42	26.3	
Currently breastfed	Yes	162	57	51.5,63.4
	No	122	43	

### 5.2.2 Complementary Feeding Practices

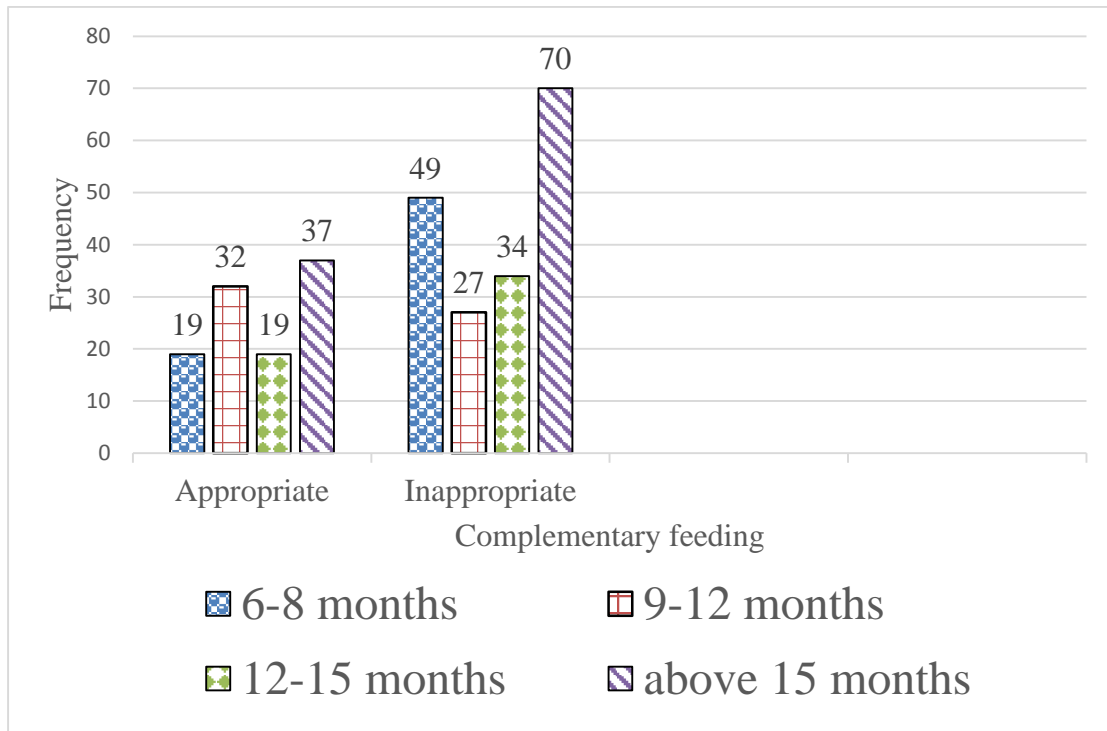
During the survey mother with children age of 6 - 23 months were also asked retrospectively about complementary feeding practices. From the total interviewed mothers, about more than two third (68.3%) of them started CF at the infant's sixth

month, whereas about 20.6% and 11.1% of mothers introduced CF before and after the sixth month, respectively. About 76 and 58.2% of children were fed with appropriate meal frequency and recommended dietary diversity respectively. One hundred (34.8%) children were fed minimum acceptable diet and 59.9% of children consumed iron rich or fortified food (Table 3).

**Table 3. prevalence of complementary feeding practices of HIV positive mothers in Gondar town, 2018**

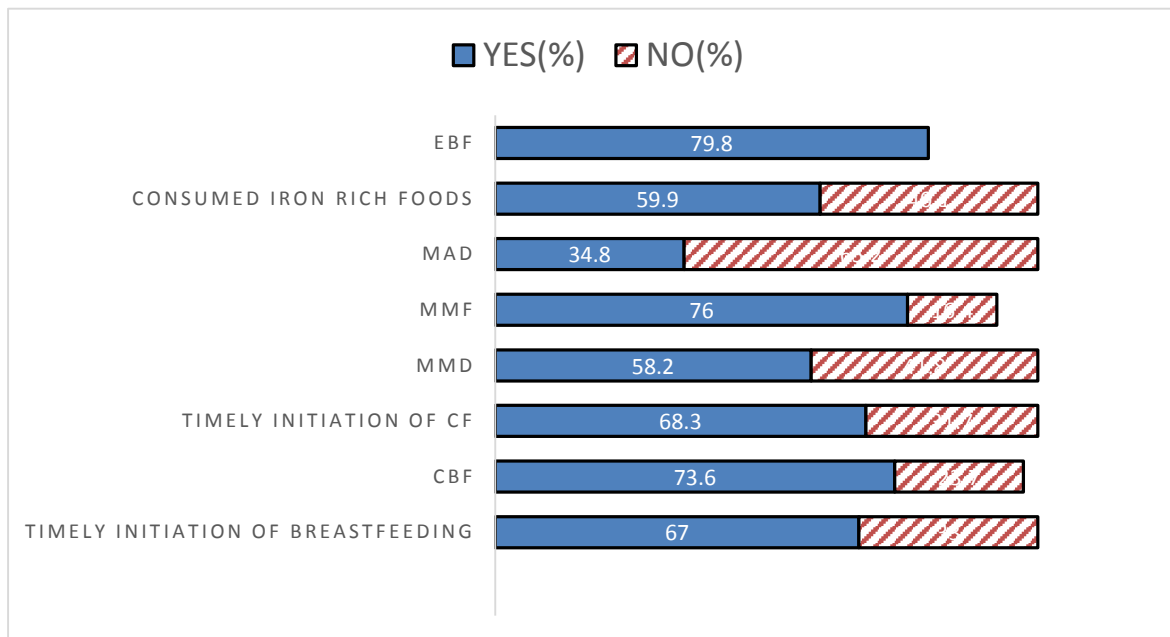
Variables		Frequency	%	95%CI
Initiation of complementary feeding	Timely	196	68.3	63.4,74.2
	Before 6 month	59	20.6	
	After 6 month	32	11.1	
Minimum dietary diversity	Adequate	167	58.2	53.0,68.3
	Inadequate	120	41.8	
Minimum meal frequency	Adequate	218	76.0	70.8,80.8
	Inadequate	47	16.4	
Minimum acceptable diet	Adequate	100	34.8	29.3,40.4
	Inadequate	187	65.2	
Consumption of Iron rich/fortified food	Yes	172	59.9	54.0,65.9
	No	115	40.1	

Based on the above indicators of CF 180 (62.7%) of 6-24 months' children were fed inappropriately while 107 (37.3%) were fed appropriately.



**Figure 5. proportion of complementary feeding by age category of children in Gondar town, 2018**

Proportion of all infant and young child feeding practices among HIV positive mothers are summarized graphically as follow.



**Figure 6. IYCF status of HIV positive mothers in Gondar town, 2018**

### 5.3 Mothers' infant and young child feeding knowledge

A total of ten questions were included to assess the knowledge status about IYCFPs. Out of the total 203(71.0%) of the respondents had good knowledge on IYCFPs and 83(29.0) of respondents had poor knowledge.

### 5.4 Complementary feeding practices and associated factors

The bi-variable logistic regression analysis showed that knowledge, breast infection/problem, ANC follow-up, disclosure of HIV status, child feeding difficulties, information about child feeding, maternal workload, income, and fear of transmission were found to have association ( $P<0.25$ ) with inappropriate complementary feeding. In multi-variable logistic regression poor knowledge with [AOR=0.32, 95%CI (0.17-0.58)], maternal workload with [AOR=0.38, 95%CI (0.19-0.75)] and inadequate information about child feeding from health care providers with [AOR=0.46, 95%CI (0.26-0.81)] were statistically significant predictors of complementary feeding practice of HIV positive mothers in a study area.

**Table 4: Multi-variable logistic regression showing associated factors of mothers 'complementary feeding practice in Gondar town, 2018.**

Predictor variables	Complementary feeding [n (%)]			
	Appropriate 107(37.3)	Inappropriate 180(62.7)	COR[95%CI]	AOR[95%CI]
<b>Knowledge**</b>				
poor	16 (19)	68 (81)	0.29(0.12,0.54)	0.32(0.17,.59)
Good	91 (44.8)	112 (55.2)	1	1
<b>Maternal workload*</b>				
Yes				
no	20 (27.4)	53 (72.6)	0.55(0.31,0.99)	0.38(0.19,.75)
	87 (40.6)	127 (59.4)	1	1
<b>Gain information*</b>				
about child feeding				
no	41 (30.1)	95 (69.9)	0.56(0.43,1.1)	0.46(0.26,.81)
Yes	66 (43.7)	85 (56.3)	1	1

\*p-value=0.001-0.05, \*\*p-value<0.001

Hosmer and lemeshow test=0.86

## **CHAPTER SIX: DISCUSSION**

### **6.1 Breast feeding practice of respondents**

Inappropriate infant and young child feeding practices may affect the health and survival of HIV exposed children. Infants and young children who are not breastfed or stop early and don't have adequate and nutritious complementary foods are at increased risks of malnutrition, illness and death.

In this study about ninety-four percent of HIV exposed infants were breastfed at least once in their life. This was almost in line with a study conducted in DebreMarkos (92%) (38) but lower than what was reported in Adama (97%) (35) and higher than from Kenya (64.5%) (34). This may be due to the cultural difference in accepting breastfeeding as a norm. Breast feeding practice is a common, accessible and norm in the society of Ethiopia. Among those who ever breastfed 67% of children breastfed within one hour of delivery which is found to be less than what was reported in Adama (85.3%) (35) but greater than what was reported in DebreMarkos (62.3%) (38) and Kenya (5.5%) (34).

The proportion of mothers practicing EBF (78.9%) for the first 6 months of age was almost in line with studies conducted in DebreMarkos (77.3%) (38) and South Sudan (78%) (33). It is almost good practice according to WHO rating of IYCF. But lower than from Tigray (90.4%) (37) and it was higher than from north Shewa (24%) (36) & Kenya (40.6%) (34). This increment can be due to the current guidelines of WHO stated that HIV positive mothers should exclusively breast fed as a general population (8) and most infant feeding decisions (54%) were made by health care providers. Based on this study, optimal proportion of children were provided everything from breast milk only to grow well during the first 6 months of life and antibodies which ultimately protects children against infection and also could have important health, social, and economic benefits for children, mothers, family and community (31). However, considerable proportion (13.6%) of HIV positive mothers were practice mixed feeding which may increase transmission of HIV/AIDS and may increase risk of diarrhea and other illnesses for children and 6.6% children were fed exclusive replacement feeding which may lead to double the chance that HIV exposed children will die from other infections (like diarrhea or pneumonia and other respiratory infections) by 6 months and no difference in HIV infection and death between

children who were exclusively breastfed and exclusively replacement fed. Because it could be difficult for women to feed their children replacement foods in a clean and safe environment.

## **6.2 complementary feeding practices of respondents**

The first indicator used to assess IYCFPs status in this part was the time to introduce solid and semi-solid foods for children age 6-24 months. In this study the proportion of mothers timely introduced complementary feeding for their children was 68.3% which is consistent with a study conducted from Kenya (70%) (34) but the finding was lower than reported from DebreMarkos (84.7%) (38) and it was higher than from southern Ethiopia (42%) (17). This difference could be explained by better maternal education and utilization of institutional delivery in the latter study areas and improved living style.

In this study the prevalence of MDD, and MMF was 58.2%, and 76% respectively which was higher than finding from southern Ethiopia (MDD=34.4% & MMF=42.7%). The discrepancy might be due to the time between studies and could be due to the same reason explained above which is higher maternal literacy rate and utilization of institutional delivery in the latter study areas may increase exposure of health information and improved mothers' knowledge about infant and young child feeding.

About two third (62.7%) of HIV exposed children age 6-24 months were fed inappropriate complementary feeding which is considerable proportions and needs serious attention. This result indicates that large proportion of children were in a risk of poor body building, inadequate energy intake and poor protection against infection. This study also showed that appropriate CF were notably deficient among children in the lowest age bracket (6-8 months) which is also a period of greatest growth faltering. This could be due to the fact that inexperience of children to Cf since the age is transition period and maternal perception of breast milk is still enough.

The bi-variable logistic regression analysis showed that knowledge, breast infection/problem, ANC follow-up, disclosure of HIV status, child feeding difficulties, information, maternal workload, income and fear of transmission were



found to have association  $P < 0.25$ ). In multi-variable logistic regression, poor knowledge, maternal workload and inadequate information about child feeding from health care providers were statistically significant predictors of complementary feeding practice of HIV positive mothers in a study area at  $p\text{-value} < 0.05$ .

As the logistic regression illustrated that the appropriate complementary feeding was 68% less likely practiced by respondents who had poor knowledge about MTCT of HIV, benefit of breastfeeding and appropriate complementary feeding compared to mothers who had good knowledge. Many studies conducted in different countries revealed that mother who had knowledge on optimal IYCF and prevention of mother to child transmission were more feed their children appropriately than those who didn't (43,44,45).

Appropriate CF was negatively influenced by maternal workload which was 62% less likely to practice by mothers who had workload than mothers those who had no workload. This could be due to quality of the alternative child care or a relationship between poverty and the necessity of working much.

In addition, appropriate complementary feeding was 54% less likely practiced among mothers who didn't gain any information about child feeding recommendations from health care providers as compared with those who gain. That is because mothers who had exposure to health information from health care providers and educational materials that might lead to avoiding inappropriate feeding practices. Complementary feeding counseling during critical periods of pregnancy, including antenatal care visits discourages sub optimal IYCF and promotes appropriate and optimal child feeding practices. It may improve mothers' knowledge and change negative culture which is the main fertile grounds to increase mothers' confidence in challenging the community attitude towards inappropriate feeding practices which ultimately improves the likelihood mothers' adherence to optimal IYCF recommendations. The 24-h recall method may cause overestimation of the proportion of complementary feeding practices due to recall and social desirability biases. Respondents were asked retrospectively about breast feeding practices so there may be recall bias which may affect the result.

## **CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION**

In conclusion, this study revealed that timely initiation of breast feeding & complementary feeding, the proportion of infant and young child received minimum dietary diversity and minimum meal frequency were lower than the WHO recommendation for good practice of IYCF. Knowledge, maternal workload and information related to IYCF were associated factors with complementary feeding practices of HIV positive mothers.

### **Recommendations:**

**Health care providers and Health Care Institutions:** in Gondar town should continue to promote and support recommended IYCF. They Should support HIV-positive women to exclusively breastfeed and be sure that they know about the dangers mixed feeding through increasing maternal awareness on breast feeding and complementary feeding activity.

**Community health workers (Health Development Army) and expert patients:** Counsel and provide technical and practical information focusing on locally accessible and nutrient rich foods. Follow and evaluate timely mothers' compliance to WHO recommendations. it may improve compliance to appropriate feeding.

### **Non-governmental organizations and project managers:**

Designed nutrition intervention aimed at changing a nutrition-related behavior, risk factor and/or health status of HIV positive mothers & their children.

**Researchers:** should study potential determinants of infant and young child feeding practice of HIV positive mothers, that explains lack of recommended progress in indicators in order to better contextualize, and assess of nutritional status of children

**FMOH:** Should adopt supportive national policies and legislations such as long (6 month) paid maternity leave, breastfeeding breaks and breast feeding spaces.

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**ANNEXI: SURVEY QUESTIONNAIRE ENGLISH VERSION  
JIMMA UNIVERSITY**

**INSTITUTE OF HEALTH**

**Questionnaire for interview the study participants to collect data on child feeding introduction**

My name is ----- . I am working as data collector in a research conducted by Population and family health department, public health faculty, of Jimma University for partial fulfilment of masters' degree. The aim of this study is to determine number of HIV positive women who optimally feed their babies aged between 6 to 24 months old and understand the factors that influence and support the decision made by mothers. So, we are interviewing mothers here about infant and young child feeding related knowledge, practice and associated factors in order to generate information necessary for the planning of appropriate strategies (interventions) to prevent mother to child transmission of HIV and promote appropriate infant and young child feeding practice in the zone and the country. To attain this purpose, your honest and genuine participation by responding to the question prepared is very important & highly appreciated.

**Confidentiality and consent**

I would like tell your answers are completely confidential. Your name will not be written on this form. You do not have to answer any question if you don't want to respond and you can stop the interview at any time. However, your honest answer to these questions will help us to better understand the experience of mothers related to infant and young child feeding practices. I would greatly appreciate your help in responding to this study. The interview will take about 10 - 20 minutes.

Would you be willing to participate?

If yes, proceed

If no, thank and stop here.

---

(Signature of interviewer certifying that respondent  
has given informed consent verbally)

**SECTION I: SOCIO-DEMOGRAPHIC AND ECONOMIC INFORMATION OF MOTHERS /CARE GIVERS**

**Identification**

1. Age\_\_\_\_\_
2. Family size\_\_\_\_\_
3. No of children \_\_\_\_\_
4. Disclosure of the status to the family. 1.yes 2.no
5. Name of the hospital/health center\_\_\_\_\_

<b>101.Religion</b>	<b>102.Ethnicity</b>	<b>103.Marital status</b>	<b>104.Educational status</b>	<b>105.Occupational status</b>	<b>106.Annual income level</b>
1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Other specify	1. Amhara 2. Oromo 3. Tigray 4. other specify	1. Single 2. Married 3. Divorced 4. Widowed 5. separated	1. No formal education 2. Primary education 3. Secondary education 4. Tertiary education	1. Governmental worker 2. Farmer 3. Merchant 4. House wife 5. Daily labor 6. Student 7. Unemployed 8. other specify	1.In cash_____ 2.Crop production in quintals_____ 3.Livestockes_____ 4.Additional source of income_____ 4.Others _____

**SECTION II: INFANT AND YOUNG CHILD FEEDING  
PRACTICE OF MOTHERS/CARE GIVERS.**

<b>201.</b>	During this pregnancy, did you attend antenatal care in any health institution?	Yes.....0 No.....1	
<b>202.</b>	What information (advice) on infant feeding was given to you during the antenatal visits?  (Circle if she was informed)	1. About Breast feeding only 2.About bottle feeding 3.About supplementary feeding 4.About replacement feeding 5.Other (specify)_____	
<b>203.</b>	Where was the place of the last child's delivery?	1.Governmental Hospital 2.Governmental Health Center 3.Governmental Clinic 4.Private Clinic 5.Own home 6.Other (specify)_____	
<b>204.</b>	Ethiopian date of birth? (Reported by the mother)	1.  _ _ / _ _ / _ _  (did/mm/yy)	
<b>205.</b>	Sex of the child	Male.....1 Female... 0	
<b>206.</b>	What was infant feeding option	1.exclusive breastfeed 2.exclusive replacement feeding 3.mixed feeding	IF 2 → 212
<b>207.</b>	Who influenced your decision on your feeding practice?	1. Husband/spouse 2. My mother 3. Mother in law 4. Health worker 5. My own decision 6. Others mention	
<b>208.</b>	Is the child ever breastfed?	Yes.....0 No.....1	1 →
<b>209.</b>	Is the child currently breastfed?	Yes.....0 No .....1	
<b>210.</b>	For how long the child continue to breastfed?	.....	
<b>211.</b>	Is the child breastfeed within one hour of birth	Yes.....0 No .....1	

212.	If no, what were reasons that made you delay in breastfeeding initiation?	1. Caesarian section 2. Baby was sick 3. Mother was sick 4. Delayed milk secretion 5. Others (Mention).....	
213.	Is the child given something other than breast milk during the first three days of life.	Yes.....1 No .....0	
214.	For how long after birth was the child fed only breast milk? (Probe the mother: for the additional foods, water, tea, fenugreek, etc.) Please use the local calendar to assist the mother to remember the duration	_ _ -days/ months  Don't know-----99	
215.	Why did you stopped breastfeeding?	1. The milk was not enough 2. Work away from home 3. Breast problems 4. Fear of infecting the child 5. Others (specify)_____	
216.	When was the child start to fed mashed or pureed food or solid or semi-solid food?	Month/year_____	
217.	now I would like to ask you about the types of foods [name] has been fed over the last 24 hours.(circle if [name] has been fed over the last 24 hours)		
218.	<b>Grains /tubers/ roots;</b> 1. Any porridge or gruel (made from grains other than teff)? 2. Bread, pasta, rice, biscuits, cookies or any other food made from oats, maize, barley, wheat, sorghum, millet, or other grain? 3. Any food made from teff, like injera, kita or porridge? 4. Any white potatoes, white yams or any other foods made from roots? <b>Legumes/nuts;</b> 5. Any foods made from beans, peas, chickpea, lentils or pulses? 6. Any nuts or seeds such as peanuts (lewiz), sesame (selit) or sunflower seeds? <b>Milk and dairy products</b> 7. Milk? 8. Any cheese or yogurt? 9. Any Cerifam, Fafa, Milupa, 10. Babylac, Mother's Choice or		

	<p>other commercially fortified baby food?</p> <p><b>Eggs</b></p> <p>11. Any eggs?</p> <p><b>Vitamin A rich fruits and vegetables</b></p> <p>12. pumpkin, carrot, sweet potato that are orange inside + red and yellow sweet</p> <p>13. pepper, ripe mango, ripe papaya, dried peach, cantaloupe, tea fruit, and</p> <p>14. 100% fruit juice made from these</p> <p><b>Other fruits and vegetables</b></p> <p>15. Any pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside?</p> <p>16. Any ripe mangoes, papayas?</p> <p>17. Any dark green, leafy vegetables like kale (gomen), spinach (kosta), lettuce (salata)</p> <p>18. Any other fruits or vegetables?</p> <p><b>Flesh foods;</b></p> <p>19. Any liver, kidneys, heart or other organ meats?</p> <p>20. Any beef, lamb, goat?</p> <p>21. Any chicken, duck or other birds?</p> <p>22. Any fresh or dried fish or sea foods</p>		
219.	How many times was [name] fed mashed or pureed food or solid or semi-solid food yesterday during the day or at night?	No. of times  _ _  Didn't know... 99	
220.	Yesterday, during the day or night, did [name] consume any [list ironrich/fortifiedsolid, semi- solid or soft foods designed specifically for infants and youngchildren available in the local setting]?	Yes 1 No 0	

**Section III. knowledge questions on MTCT and infant & young child feeding in the context of human immunodeficiency virus**

s.no	Questions	Yes	No	I don't know
301	Feeding only breast milk is adequate to HIV exposed babies in the 1st 6months?			
302	Breast milk prevents childhood illnesses?			
303	HIV infection can be transmitted from HIV infected mother to her baby through breast feeding?			
304	Feeding only formula or other food to babies may increase childhood illness?			
305	Feeding only formula or other food to baby prevents transmission of HIV from an infected woman to her baby.			
306	Feeding breast milk from birth up to 12 months is important for infant health and nutrition?			
307	Giving both breast milk of the mother and complimentary food (other foods) starting the 6th month is important for the healthy growth of all babies of HIV positive mothers.			
308	Giving both breast milk of the mother and complimentary food (other foods) before the 6th month will increase transmission of HIV from infected mother to her baby.			
309	Is feeding minimum of three meals/day and four times/day for HIV exposed children aged 6–8 months and 9 months and above respectively adequate for normal growth and survival?			
310	fed four or more foods within 24 hours for HIV exposed children will prevent nutrient deficiency of children?			

## Section IV: Other associated factors related to feeding options

What was the main reason for your choice of child feeding method?

401. Maternal and child related factors

- A. workload of the mothers associated with
  - short paid maternity leave
  - no breastfeeding breaks, and
  - no designated breastfeeding spaces
- B. The mother/care giver cannot breast feed due to Mastitis and subclinical mastitis and Cracked and/or bleeding nipples
- C. I had HIV
- D. The child cannot breast feed due to feeding difficulties
- E. Inadequate breastmilk secretion

402. Cultural norms and beliefs

- A. Presence of food prohibited for infants
- B. All women do the same
- C. This is accepted way in my family
- D. This is accepted way in my culture

403. Psychosocial factors

- A. Fear of transmission of HIV to the child
- B. Disclosure of HIV status
- C. Support from families and/or community during pregnancy, delivery and postnatal

Comments or suggestions if any?

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**Thank you very much for sparing your time to answer these questions**

Name and signature the interviewer:	
Name and signature of the supervisor	
Day/month/year of interview:	_ _ / _ _ / _ _  (dd/mm/yy)

AMHARIC VERSION

በሰሜንንደርዞንከተማላሚገኙኤች.አይ.ቪ.ያላቸውእናቶችየልጅአመጋገብንበተመለከተየተዘጋጀመጠይቅ

ጅማዩኒቨርሲቲ

የጤናኢንስቲቲዩት

መግቢያ፤

ስሜ..... ይባላል። በጅማ ዩኒቨርሲቲ ህክምና ፋካሊቲበሚገኘውየህብረተሰብ ጤና ክፍል እየተካሄደ ላለው ጥናታዊዳሰሳመረጃ ሰብሳቢ ነኝ።እናቶችንየህፃንአመጋገብንተግባርንበተመለከተ ቃለ መጠይቅ እያደረግንሲሆን ፤ ዓላማውም ትክክለኛ የሆነየህፃንአመጋገብን ለማጠናከርናኤች.አይ.ቪ.ንከእናትወደ ልጅ እንዳይተላለፍለመከላከልየሚያስችሉ ስልቶችን /አሠራሮችን/ ለመቀየስ የሚጠቅም መረጃ ለማግኘትነው። ይህንን አላማ ለማሳካትለተዘጋጁት ጥያቄዎች የሚሠጡን እውነተኛና በጣም ጠቃሚ ስለሆኑትመልስዎትበቅድሚያልናመሰግንዎትእንወዳለን።

ሚስጥርን የመጠበቅናየፈቃደኝነትመግለጫ፡

የሚሠጡን ማናቸውም ዓይነትመልሶችዎበሚስጥርእንደሚያዙናስምዎንወይምየእርስዎን ማንነትየሚገልጽ ማናቸውም

ዓይነትነገርእንደማይፃፍበጣምእንዲረዱልንእንፈልጋለን።ስለዚህስምዎከሰጡን መልሶች ጋር ፈጽሞእንደማይያያዝና ለሐኪሞችለነርሶችምሆነለማንምሰውስምዎፈጽሞሊገለጽምሆነ ሊታወቅአይችልም።በመጠይቁ ወቅትመመለስየማይፈልጉትን ማንኛውንም ዓይነት ጥያቄመተውወይም በማንኛውም ስዓት ማቋረጥ ይችላሉ።ነገር ግን ለጥያቄዎቹ የሚሠጡን የእርስዎመልሶችእናቶችበዚህወቅትያላቸውንየህፃንአመጋገብናበፈቃደኝነት ላይ የተመሠረተየኤች.አይ.ቪ. ምርመራንበተመለከተያላቸውንአመለካከትናልምዶችይበልጥ መረዳት እንድንችል ይጠቅመናል።ስለሆነምበቅድሚያለሚያደርጉልን ትብብር ምስጋናችን ከልብየመነጨ ነው።

መጠይቁ ከ10 እስከ 20 ደቂቃ ሊወስድ ይችላል። በዚህ ጥናት ላይ መሳተፍይችላሉን?

መልሱ አዎከሆነወደ ሚቀጥለው እለፍ/ፊ

አይደለም ከሆነ አመስግኑ/ሽ አቁም/ሚ።

(የመረጃ ሰብሳቢው ፊርማ የተሳታፊዎችን ፈቃደኝነት የሚያረጋግጥ)



ከፍል አንድ የእናትየዋ ማህበራዊና ኢኮኖሚያዊ መረጃ

የመጠይቁ መስዋዕቲ

1 እድሜ-----

2 የቤተሰብ አባላት ብዛት-----

3 በህይወት ያሉ የልጆች ብዛት-----

4 የኤችአይ ቪ ሁኔታን ለቤተሰብ አሳውቀዋል 1.አዎ 2.አላሳውቅሁም

5 የሆስፒታሉ/የጤናጣቢያው ስም-----

101. ሀይማኖት ስምን ድነው?	102 የዘር ሀርጎት ስም ድነው?	103 የጋብቻ ሁኔታ ስም ድነው?	104 የትምህርት ደረጃ ስም ድነው?	105 ስራ ስም ድነው?	106 የቤተሰብ የአመት ገቢ ስም ድነው?
1. ኦርቶዶክስ 2. ሙስሊም 3. ፕሮቴስታንት 4. ካቶሊክ 5. ሌላ----- -----	1. አማራ 2. ኦሮሞ 3. ትግሬ 4. ሌላ-----	1. ያሊገባ 2. ያገባ 3. የተፋቱ 4. የሞተባት 5. አብሮ የማይኖሩ	1. ምንም መደበኛ ት.ት ያልተማሩ 2. መጀመርያ ደረጃ 3. ሁለተኛ ደረጃ 4. ከላይ ከከዚያ በላይ	1. የመንግስት ተቀጣሪ 2. አርሶአደር 3. ነጋዴ 4. የቤት እመቤት 5. የቀንሰራተኛ 6. ተማሪ 7. ስራ ፈላጊ 8. ተማሪ----- -----	1. በገንዘብ _____ 2. በእህል ምርት በኩንታል _____ 3. በኩብት _____ 4. ተጭማሪ የገቢ ስም _____ 5. ሌላ _____

**ክፍልሁለት፡ የልጅአመጋገብንበተመለከተ**

<p>201.</p>	<p>በመጨረሻው የእርግዝና ጊዜዎ በጤና ድርጅቶች ውስጥ የነፍሰጡር ምርመራ ክትትል አድርገው ነበርን?</p>	<p>አዎ 1 አላደረሱም 2 ስለምርመራው አላውቅም 99</p>	
<p>202.</p>	<p>ልጅ አመጋገብንበተመለከተ በየትኛው /በምን/ ርዕስ ላይ የጤና ትምህርት /ምክር/ ተሰጥቶት ነበር? /ምርጫዎቹ ይነበቡ ላቸው። በተመከሩት ትክክል ክብ ይደረግ።/</p>	<p>1. ስለ ጡት ማጥባት ብቻ 2. ስለ ጡጦ 3. ጡትን እያጠቡ በተጨማሪ ሌላ ስለመመገብ 4. ጡትን ሳይሰጡ ሌላ ስለመመገብ 5. ሌላ /ይገለጹ/.....</p>	
<p>203.</p>	<p>የመጨረሻ ልጅዎን የወለዱት የትክክል ነበር?</p>	<p>በመንግስት ሆስፒታል 1 በመንግስት ጤና ጣቢያ 2 በመንግስት ክሊኒክ 3 የግል ክሊኒክ 4 በቤቴ ውስጥ 5 ሌላ /ይገለጹ/ ..... 6</p>	
<p>204.</p>	<p>የመጨረሻ የወለዱ ጊዜዎ መቼ ነበር?</p>	<p>1.       /       /       (ቀን/ወር/ዓም)</p>	
<p>205.</p>	<p>የልጁ ጾታ</p>	<p>ወንድ ..... 1 ሴት ... 0</p>	
<p>206.</p>	<p>ልጁ እስከ ስድስት ወር ምን ድንገት የተመጣ በው</p>	<p>1. የጡት ወተት ብቻ 2. ሌላ ምግብ ብቻ 3. ቅልቅል</p>	<p>IF 2 → 212</p>
<p>207.</p>	<p>ልጅዎን እንዴት መመገብ እንዳለብዎ ውሳኔ ሲያደርጉ በጣም የሚጠቅምዎ /ውሳኔ ለማድረግዎና ሚና ያለው/ ማን ነው? ክብ ይደረግ/</p>	<p>1. ባለቤቴ 2. እናቴ 3. እንጅራ እናቴ 4. ጤና ባለሙያ 5. በራሴ 6. ሌላ.....</p>	
<p>208.</p>	<p>ልጁ ጡት ጠብቶ ያውቃል</p>	<p>1. አወ 2. አይደለም</p>	<p>1 → 212</p>

209.	ልጁበአሁኑሰአትጡትእየጠባነው	1.አወ 2.አይደለም	
210.	ልጁበተወለደባንድሰአትውስጥጡትጠብቷል	1.አወ 2.አይደለም	
211.	መልሱ 2 ከሆነምክንያቱ	1.በቀዶ ጥገናስለወለድኩ 2.ህጻኑ ስለታመመ 3.እናትየዋ ስለታመመች 4.ወተት ዘገይቶስለመነጨ 5.ሌላ	
212.	ህፃኑ እንደተወለደበሦስትቀናት ውስጥ ማለትም የጡት ወተትዎ /ነጨ/ በደንብ ከመውጣቱ በፊትለልጅዎሌላ ምግብ ሰጡት/መገቡት/? /ደጋግሞ ከዚህ ሌላስ? በማለት ይጠጠዩቅ::በገለፁት ትክክል ክብ ይደረግ/	1.አወ 2.አይደለም	
213.	ጡትብቻለምንያህልጊዜጠባ	□□□ቀን/ወር  አላቅም-----99	
214.	ለምንጡትማጥባትአቆሙ	1.የጡት ወተቱስለማይበቃ 2.በስራ ምክንያት 3. ጡቴችግርስለነበረበት 4.እንዳይተላለፍ ፈርቶ 5.ሌላ.....	
215.	ለልጅዎከእናት ጡት ወተት ሌላ ተጨማሪ ምግብ መቼጀምሩለት	ወሩ/አመቱ_____	
216.	አሁንደግሞህጻኑባለፉት 24 ሰአታትውስጥየተመገባቸውንየምግብአይነትልጠይቀዎትነው		
217.	1.አህልና የአህልዘሮችእንዲሁም ሥራ-ሥሮችናግንዶች <ul style="list-style-type: none"> <li>• በቆሎ ፣ ሩዝ ፣ ሰንዴ ፣ ማሸላ፣ ዳጉሳእናማንኛውምከእነዚህየሚዘጋጅ የምግብዓይነት ( እንጀራ ፣ ገንፎ ፣ ቂጣ ...ወዘተ)</li> <li>• ማንኛውም ከጤፍየሚዘጋጅየምግብዓይነት ( እንጀራ ፣ ገንፎ ፣ ቂጣ ...ወዘተ)</li> <li>• ዳቦ፣ ፓስታ፣ ሩዝ፣ ብስኩት</li> <li>• ድንች ፣ ቦዬ ፣ ካሳቫ ፣ እናሌሎችከስራስሮችየሚሰሩምግቦች</li> </ul> 2.ጥራጥሬዎች ባቄላ ፣ ሸምብራ ፣ አተር ፣ አቾሎኒ፣ ሰሊጥ፣ ሱፍ እናከእነዚህየሚሰሩምግቦችበሙሉ		

	<p><b>3.ወተትና የወተትተዋጽዖዎች</b>  ወተት፣ አይብ፣ ዕርጎ ፣ አሬራ ፣  ወይምሌላየወተትተዋጽዖ</p> <p><b>4.የዶሮ እንቁላል ፣ የዳክዬ ፣ የቆቅ ፣ የጅግራ</b>  <b>...ወዘተእንቁላል</b></p> <p><b>5.በቫይታሚን «ኤ» የበለጸጉአትክሎችና</b>  <b>ስራስሮች</b>  ካሮት ፣ ቀይሰር ፣ ስኳርድንች ፣ ዱባ ፣ ሚጥሚጣ  ማንጎ (የበሰለ) ፣ ፓፓያ ፣ ግሽጣ ፣ ኮክ ፣ 100%  የአትክልትና ፍራፍሬ ጁስእናሎሎች</p> <p>6:  <b>ሌሎችፍራፍሬዎችናየጓሮአትክልቶች</b>  ቲማቲም ፣ ሸንኩርት ፣ እናየዱርአትክቶችምጭምር  ሌሎችፍራፍሬዎችበተለይየዱርሆኑ ( እንጀሪ ፣ ቀጋ  ፣ ኮሽም )ካሮትስኳርድንች፣  ቅጠላቸውየሚበላደማቅአረንጓዴቅጠላቅጠልያላቸ  ውተክሎችጎመን ፣ ሳማ ፣ ጥቅልጎመን</p> <p><b>7.ስጋ(የሰውነትክፍል)</b>  ጉብት ፣ ኩላሊት ፣ ልብ ፣ ወይምሌላአካል  የበሬስጋ ፣ የአሳማስጋ ፣ የበግስጋ ፣ የፍየልስጋ ፣  የዶሮስጋእናከእነዚህየተሰሩማናቸውምምግቦች  ትኩስ (ፍረሽ) አሳወይምደረቀወይምየባህርአሳ</p>		
218.	<p>በትላንትናው ዕለት /ቀንም ሆነ ሌሊት/  የመጨረሻውንልጅዎን ስንት ጊዜ  የተፈጨ /የደቀቀ/ ወይምደረቅወይም  ግማሽደረቅ ምግብ ተመግቧል?</p>	<p>የጊዜ ብዛት _ _   አላቅም... 99</p>	
219.	<p>በትላንትናው ዕለት /ቀንም ሆነ ሌሊት/  የመጨረሻውንልጅዎንበብረት የበለጸጉ  ምግቦችን መግባዎል</p>		

**ክፍል 3 የህፃንአመጋገብናእውቀትናአመለካከትመረጃ**

ከዚህበመቀጠል ደግሞየህፃንአመጋገብንበተመለከተስለማነብልዎአረፍተነገሮች ትክክል ነውብለው ካሰቡ «እውነት» ትክክል ካልሆነ «ሐሰት» በማለትይመልሱ።

ተ.ቀ	ጥያቄዎች	እውነት	ሀሰት	አላቅም
301	ማንኛውም እናት ልጇን በመጀመሪያወቹ 6 ወራት ውስጥ ጡቷን ብቻ ብትመግበውበቂ ነው			
302	የእናት ጡት ወተትየህፃናት በሽታዎችን ይከላከላል			
303	ኤች.አይ.ቪ ጡት በማጥባት በበሽታው ከተያዘች እናት ወደ ህፃኗ ሊተላለፍ ይላችል			
304	ህፃናትን የዱቄትወተትወይምሌሎችምግቦችመመገብከእናት ጡት ወተት ይልቅ ዋጋቸው ውድ ነው			
305	ህፃንን የዱቄትወተትወይምከእናት ጡት ወተትበቀርሌሎች ምግባችን ብቻ መመገብኤች. አይ. ቪ በበሽታው ከተያዘችሴትወደ ህፃኗ እንዳይተላለፍለመከላከል ያስችላል			
306	ለማንኛውምበኤች .አይ.ቪ ለተያዘች እናት ህፃን ከእናቱ ጡት ወተትበተጨማሪ የዱቄትወተትወይምሌሎችምግቦችን /ፈሳሾችን/ በጠርመሱመመገብየልጅነት በሽታዎችን ሊጨምር ይችላል			
307	በኤች .አይ.ቪ ለተያዘች እናት ህፃን ከ6 ወሩ ጀምሮ ጡት ወተት እና ሌሎች ተጨማሪ ምግቦችንመመገብ ጤናማ እድገትእንዲኖረው ይጠቅማል			
308	በኤች .አይ.ቪ ለተያዘች እናት ህፃን ከ6 ወሩ ጀምሮየእናቱን ጡት ወተት እና ሌሎች ተጨማሪ ምግቦችንመመገብኤች.አይ.ቪንከእናትየዋደህፃኑ የመተላለፍን መጠን ይጨምረዋል			
309	በትንሹ በቀን 3 ጊዜ ለ6_8 ወር ህፃን ወይም 4 ጊዜ ለ9ና ከዛ በላይ ወር ህፃንመመገብ ጤናማ እድገትና ህይወትእንዲኖረው ይጠቅማል			
310	አራትና ከዛ በላይ የምግብ አይነቶችን በ 24 ሰአት ውስጥ መመገብ ህፃኑን ከምግብ እጥረት ይከላከለዋል			

ክፍልአራት፣ ከህጻኑ አመጋገብ ጋር ሌሎች ተያያዥ ጉዳዮች የህጻኑን አመጋገብ ሲመርጡ በዋናነት ምክንያት የሚሏቸው

401, ከእናትና ህጻኑ ጋር ተዛማጅ ምክንያቶች

ሀ. ከ አጭር እናትነት ፈቃድ

    \_ የጡት ማጥባት እረፍት አለመኖር

    \_ የጡት ማጥቢያ ቦታ አለመኖር ጋር ተያይዞ የእናት የስራ ጫና መኖር

ለ. እናት ጡት ማጥባት ስለማትችል ምክንያቱም የሚያተኩስ የጡት ህመም ፣ የተሰነጠቀ/ የሚደማ የጡት ጫፍ ስላለ

ሐ. ኤች.አይ.ቪ ስላለብኝ

መ. ህጻኑ የመጥባት ችግር ስለነበረበት

ሰ. በቂ ወተት ስላልነበረኝ

402: ባህላዊ ልማዶችና እምነቶች እንደ

ሀ. ለህጻኑ የሚከለክል ምግብ ስላለ

ለ. ሁሉም ሴቶች ይህንን ስለሚያደርጉ

ሐ. በቤተሰቦች ተቀባይነት ያለው ይህ ስለሆነ

መ. በባህላችን ተቀባይነት ያለው ይህ ስለሆነ

403: ስነ አእምሮአዊ እና ማህበራዊ ምክንያቶች

ሀ. መድሎና መገለል ስላለ

ለ. ኤች.አይ.ቪ እንዳይተላለፍ ፈርሮ

ሐ. ኤች.አይ.ቪ ሁኔታን ግልጽ ስላደረኩ

መ: ከቤተሰቦች እና/ ከማህበረሰቡ ድጋፍ ስላለ

ማንኛውም ሃሳብ ወይም አስተያየት ካለዎት

ይህ የመጠይቁ ማጠቃለያ ነው። ጊዜዎን መስዋት አድርገው ላደረጉልኝ ትብብር አመሰግናለሁ።

መጠይቁ ያለቀበት ሰዓት.....: ደቂቃ.....

የጠያቂ ፊርማ ቀን



